

Final
Fifth Operational Phase Non-Air Media Monitoring
June 2014

Montgomery County, Maryland Solid Waste Resource Recovery Facility
Dickerson, Maryland

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October 2015

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EXECUTIVE SUMMARY

The Maryland Solid Waste Resource Recovery Facility (RRF) in Dickerson, Montgomery County, Maryland became operational in the spring of 1995. During the planning process for this facility, nearby residents voiced concerns regarding the potential effect(s) of the facility's emissions (primarily dioxins/furans and trace metals) on human health and the environment. In response to these concerns, the County initiated a multi-media monitoring program both before and after the facility became operational. The programs were conducted in both air media and non-air environmental media. This report presents the results obtained in the most recent non-air media monitoring program conducted in 2014 and compares these results with the previous results obtained in the 1994-95, 96-98, 2001, 2004, and 2007 programs. The primary objective of the non-air environmental media sampling program and this report is to determine whether or not there are measurable changes in the concentrations of dioxins/furans and trace metals in selected non-air media in the actual environment over time.

This monitoring program, and this report, are not intended to provide a health risk assessment. The County conducted a human health risk assessment under USEPA protocols and reported those results in a separate report, entitled "2014 Update of the Montgomery County Resource Recovery Facility Health Risk Assessment" (HRA). However, a secondary objective of this is non-air environmental media monitoring report is to assess, to the extent possible, the consistency (or lack of consistency) of non-air environmental media field observations with the results of the air dispersion modeling and other technical protocols performed by TRC in preparation of that HRA that was recently updated in 2014 (TRC, 2014a).

The following is a summary of non-air environmental media sampling program events conducted by the County to date:

- Pre-operational phase – sampling conducted over a period of twelve months in 1994-95 before the facility was operational,
- First operational phase - sampling conducted over a period of eighteen months in 1996-98 after full operations commenced in 1995,
- Second operational phase - sampling conducted in the fall of 2001 approximately six years after the RRF became operational,
- Third operational phase - sampling conducted in July-October 2004 approximately nine years after the RRF became operational, and
- Fourth operational phase - sampling conducted in June 2007 approximately 12 years after the RRF became operational, and

- Fifth operation phase – sampling conducted in June 2014 approximately 19 years after the RRF became operational.

During the 2014 monitoring program, data were collected to determine the presence of various organic and inorganic chemicals in several media. Media evaluated in the 2014 sampling effort include hay and cow's milk as well as surface water, sediment, and fish from three farm ponds located in the vicinity of the RRF. The chemicals analyzed in non-air environmental media samples included polychlorinated dioxins and furans (PCDDs/PCDFs) and selected metals (arsenic, beryllium, cadmium, chromium, lead, mercury, and nickel).

Dioxins and furans consist of a class of 210 chlorinated organic compounds (i.e., PCDDs and PCDFs). Of these, 17 specific PCDD/PCDF compounds, called congeners, are considered to be toxic and have been assigned relative toxicity factors known as Toxic Equivalency Factors (TEFs). A TEF reflects the relative toxicity of an individual PCDD or PCDF compound compared to 2,3,7,8-TCDD, the most toxic and well-studied congener among the PCDDs/PCDFs. The overall concentration of a sample is calculated by multiplying the concentration values for each of the 17 PCDDs/PCDFs by its TEF. The sum of the products of the TEFs and associated congener concentrations then becomes the 2,3,7,8-TCDD toxic equivalent (TEQ), a value which can be used to evaluate a sample containing a mixture of PCDDs/PCDFs. Many of the dioxin/furan results discussed in this report are expressed as TEQ values.

This report evaluates the 2014 5th operational-phase data relative to earlier 1994-95 pre-operational and 1996-98, 2001, 2004 and 2007 operational phase sampling events for the chemicals in non-air media samples to determine whether evidence exists that facility operations may have measurably influenced the levels of the sampled chemicals in the terrestrial or aquatic environment. The 2014 data are evaluated relative to historical measurements, and statistical trend analyses are also conducted where sufficient data were available. In addition, the data collected during the 2014 monitoring program are also compared to media-specific benchmark levels. These benchmarks levels are derived from a variety of sources and represent benchmarks pertinent to human health or the environment.

Over the many years of these sampling programs, the ability of laboratory methods to detect chemical concentrations have improved, resulting in the ability to detect lower concentrations recently compared to in the past. These changing detection limits complicate evaluation of sampling data over time. For the second operational (2001), third operational (2004), fourth operational (2007) and the fifth operational (2014) phase monitoring programs, detection limits were lower than the pre-operational (1994) and first operational (1996) phase monitoring programs. Due to lower detection limits, several chemicals that had been previously

undetected were detected in 2001, 2004, 2007, and 2014. Therefore, the presence of these chemicals in more recent (i.e., 2001, 2004, 2007 or 2014) data does not suggest that there has been an increase in concentration of such chemicals; rather it indicates that the more sensitive and precise methods used for analysis allowed the laboratory to detect and quantify concentrations which may be lower than the detection limits from previous years monitoring programs.

Undetected congeners are a source of considerable uncertainty in this study, particularly for PCDDs/PCDFs for which many results were non-detects. An undetected compound may exist at any level between zero and its laboratory detection limit. When interpreting the results, the actual concentration of the compound may be assumed to be zero, or it may be assumed to exist at the detection limit. Other than stating the assumptions used, there is no “standard” way to handle non-detects in the calculation of TEQ values. In order to take into account this uncertainty, non-detected chemical concentrations were evaluated in two ways: assuming zero values for all non-detects and assuming non-detects are present at a concentration equal to the detection limit. This provides a bounding range for the reported concentrations. The potential uncertainty associated with non-detect sampling results is amplified when calculating TEQ concentrations for all 17 congeners – any number of which may be non-detects.

The 2014 data presented in this report do not indicate measurable facility impacts upon the presence or concentration of chemicals in the various sample types. The media evaluated in this program contain various metals and organic compounds that are either part of their natural composition or may be associated with numerous anthropogenic sources that include coal-fired electric power generating stations, municipal waste combustion facilities, home wood burning and vehicle emissions. Reports from the Centers for Disease Control and Prevention (2005) and U.S. EPA (2005) indicate that dioxin emissions and resulting ambient levels of dioxins have been on a downward trend in the U.S. since the 1980’s. Although dioxin/furan concentrations have significantly decreased in surface water/sediment samples collected from several of the nearby ponds, these declines may be attributed to decreasing detection limits. Dioxin/furan levels appear to be declining in the remaining environmental media sampled, however, significant statistical decreases are not present.

The following is a summary of findings based on review of the data collected in the 2014 monitoring program.

Surface Water

- Water quality measurements of pH and dissolved oxygen content were found to be in the normal range at all three ponds with the two deeper ponds exhibiting

thermal stratification with very low dissolved oxygen levels near the pond bottoms;

- Mercury was not detected in any of the surface water samples;
- Surface water concentrations of metals detected in all three ponds were generally consistent with, or lower than, historical data collected in previous monitoring programs. Significantly decreasing concentrations of cadmium and nickel were noted at Pond 3 and for cadmium, chromium and nickel at Pond 5. However, these decreases are likely attributable to lowered detection limits in latter sampling events;
- Assuming that non-detected PCDD/PCDF congeners are equal to zero, no statistical trends in TEQ concentrations are present for the three ponds for the 2014 and historical sampling results. Although a statistically decreasing trend is present for TEQs for Pond 4 assuming that non-detected congeners are equal to their detection limits, this is due to decreasing detection limits;
- For those PCDD/PCDF congeners detected in one or more samples collected during each operational phase, a statistically significant decrease in OCDD concentrations was noted at Pond 3;
- A comparison of the dioxin/furan distribution (by number of chlorines) in surface water samples with the RRF air emission profile indicates little similarity which is consistent with the circumstance of other contributing dioxin/furan sources.

Sediment

- All seven metals were detected in the sediment samples collected from the three ponds. The concentrations of the metals were generally consistent among the three ponds;
- Pond 4 has results from only three years of sampling. However, concentrations of all metals detected in 2014 in Pond 4 sediments are comparable or lower to previous sampling events;
- A statistical trends analysis was conducted for Ponds 3 and 5. Pond 3 sediment concentrations of cadmium have significantly decreased when evaluating the 2014 and historic data collected in previous monitoring programs. Mercury levels in Pond 5 sediment have also declined significantly although this is attributable to lower detection limits;
- When assuming a zero value for all non-detected PCDD/PCDF congeners, sediment TEQ concentrations in 2014 are comparable to TEQs noted in the 1990's and lower than TEQs noted in 2007. The statistical trend analysis concluded that no significant increasing/decreasing trends are present for dioxin/furan TEQs

when non-detects are assumed to equal zero. If assuming non-detects are equal to detection limits, a significantly decreasing trend was noted in Pond 3 TEQs. No significant trends were noted in Pond 5 when non-detects were assumed to be equal to the detection limits;

- No statistically significant increasing or decreasing trends were noted in PCDD/PCDF congeners detected in one or more sediment samples collected during each operational phase;
- Little similarity was noted when comparing sediment dioxin/furan profiles with the RRF air emission profile. A comparison of HxCDF congeners detected in sediment samples from Ponds 3 and 4 with RRF air emission data of these congeners indicates that the source of the HxCDFs within the sediment is likely from open refuse burning, wood combustion or other undetermined sources.

Fish

- Each of the seven metals were detected in one or more of the fish tissue samples collected from the three ponds;
- Bluegill and largemouth bass fillet and whole body samples have detected concentrations of metals in 2014 that are comparable or lower than data collected in previous programs. Due to lower detection limits in latter sampling events, the bluegill whole-body concentrations of cadmium and mercury at Pond 3 and lead at Pond 5 exhibit significantly decreasing concentrations;
- Bluegill whole-body concentrations of chromium at Pond 4 have significantly increased if assuming all non-detects are equal to the detection limit although no significant trend is evident for chromium if assuming non-detects are equal to zero;
- TEQ concentrations in bluegill and largemouth bass fillet and whole body samples detected in 2014 at all three ponds are comparable or lower than data collected in previous sampling events. The trend analysis concluded that no significant increasing or decreasing trends are present for dioxin/furan TEQs for bluegill/largemouth bass whole-body samples or fillet samples when non-detects are assumed to equal zero or if non-detects were assumed to be equal to the detection limits;
- No statistically significant increasing or decreasing trends were noted in PCDD/PCDF congeners detected in one or more fish tissue samples collected during each operational phase;
- The dioxin/furan distribution profile (by number of chlorines) in fish tissue (whole-body and fillet) samples is not consistent with the RRF air emission profile which is suggestive of other contributing dioxin/furan sources.

Hay

- Metals concentrations in hay collected in 2014 from the Johnson Dairy Farm are generally consistent with concentrations detected in previous sampling events and the 2014 background results. Statistical trends analyses were conducted for hay samples collected from the Lermond Farm and the reference location in Lucketts, Virginia. No significant increasing/decreasing trends were noted in the Lermond Farm or background hay samples.
- For the 2014 hay sampling results, the TEQs are comparable to or lower than TEQs noted in 2001, 2004 and 2007. The trend analysis concluded that no significant increasing or decreasing trends are present for dioxin/furan TEQs for hay samples from either the Lermond Farm or the background location in Lucketts, Virginia when non-detects are assumed to equal zero or if non-detects were assumed to equal the detection limits;
- No statistically significant increasing or decreasing trends were noted in PCDD/PCDF congeners detected in one or more hay samples collected during each operational phase;
- Little similarity was noted when comparing hay dioxin/furan profiles with the RRF air emission profile. As dioxins/furans are expected to be present on vegetation from air deposition and direct air-to-plant transfer, this suggests a lack of impact of the RRF on the surrounding community.

Cow's Milk

- Beryllium, lead, and mercury were not detected in the 2014 milk samples. Arsenic and cadmium were each detected in one milk sample while chromium and nickel were detected in both samples;
- Metals concentrations in milk from 2014 are consistent with, or lower than, historic metals concentrations from previous monitoring programs. The trend analysis concluded that no significant increasing/decreasing trends are present for arsenic, cadmium, chromium and nickel;
- Two dioxin congeners (1,2,3,4,6,7,8-HpCDD and OCDD) and one furan congener (1,2,3,7,8-PeCDF) were detected in one of the two milk samples. No dioxin/furan congeners were detected in the other milk sample;
- The 2014 milk TEQs are comparable to earlier results when including the detection limits in the calculation of TEQs (i.e. ND = DL). The trend analysis concluded that no significant increasing or decreasing trends are present for dioxin/furan TEQs for milk samples from the Johnson Dairy Farm when non-detects are assumed to equal zero or if non-detects were assumed to equal the detection limits. Including all milk samples from both the Kingsbury and

- Johnson Dairy Farms in the trend analyses also showed that there are no significant increasing/ decreasing trends present for dioxin/furan TEQs;
- No statistically significant increasing or decreasing trends were noted in PCDD/PCDF congeners detected in one or more milk samples collected during each operational phase;
 - Little similarity was noted when comparing milk dioxin/furan profiles with the RRF air emission profile. The dioxins/furans present in the cow's milk samples differ from the hay profiles and may be attributed to other sources or transformation/elimination due to metabolic processes after ingestion by the cow.

Recommendations for further non-air environmental media monitoring include:

- Monitor surface water, sediment and fish from Ponds 3, 4 and 5 during the 6th operational phase monitoring program. Pond 2 should also be included for sampling if it has been restored and contains fish populations at the time of the next sampling event;
- Fish tissue sampling for both whole-body and fillet samples using largemouth bass and sunfish (bluegill preferred) at all of the ponds where these species are present;
- Hay samples to be collected at the Lermond Farm and Johnson Dairy Farm as well as the background location;
- Cow's milk samples collected from the Johnson Dairy Farm;
- All media monitored for dioxins/furans as well as the same seven metals of potential concern;
- A reference location similar to the hay background location should be considered for collecting surface water, sediment and fish tissue samples from an area not located within the deposition area of the RRF. Background samples would provide context for the detected concentrations of metals and dioxin/furans within these media in RRF depositional areas; and,
- The results of the RRF air emission testing for metals (XRF analysis) should be reviewed to determine if there are specific metals being emitted that may assist with determining a potential source of metals within the non-air media samples. Such an indicator should ideally be identified in the RRF emissions but not be ubiquitously present in the environment.

Section 1

Introduction

1.1 Background

The Division of Solid Waste Services, in the Montgomery County Department of Environmental Protection, is responsible for the County's solid waste facilities which include a municipal waste Resource Recovery Facility (RRF) located in Dickerson, Maryland. During the planning process for this facility, which became operational in the spring of 1995, the County made commitments to conduct human health risk assessments relative to RRF emissions and conduct ambient environmental monitoring during both pre-operational and post-operational phases of the RRF in response to concerns from the local community.

The pre-operational phase of the non-air media monitoring was conducted between May 1994 and April 1995 (i.e., time zero monitoring). The pre-operational program was designed to provide baseline data for dioxins/furans and various metals (arsenic, beryllium, cadmium, chromium, lead, mercury and nickel) in herbaceous crops (hay), farm pond surface water, sediment, fish tissue, and dairy cow milk. Subsequent to the facility becoming operational, an operational phase non-air media monitoring was conducted in 1996 with limited supplemental data collected in 1998. The County's Dickerson Area Facilities Implementation Group (DAFIG) Air Quality Subcommittee subsequently recommended that the program be conducted with a focused scope once every three years. Since then, three more non-air media monitoring programs have been conducted (2001, 2004 and 2007).

1.2 Purpose

The primary objective of this ambient monitoring work is to determine whether or not there are measurable changes in the concentrations of certain constituents in the actual environment, and a secondary objective was to assess, to the extent possible, the consistency of field observations with the air dispersion modeling results presented in TRC's "2014 Health Risk Assessment Update for the Montgomery County Resource Recovery Facility (RRF)."

This report has been prepared to be consistent with the previous post-operational sampling and reports to the extent possible and is intended to support the monitoring program by providing concentrations of the same target chemicals in the same environmental media that are representative of aquatic and terrestrial food chains. In this 2014 program, samples were collected from several farm ponds which represent the aquatic food chain and include surface

water and sediment as well as fillet and whole-body fish samples from sunfish (e.g., bluegills) and largemouth bass. Terrestrial food chain samples were collected from herbaceous crop vegetation (hay) and dairy cow's milk. The sampling was intended to be consistent to the extent possible with previous sampling in order to facilitate conducting statistical trend analyses relative to existing pre-operational and operational phase data.

1.3 Historical Sampling

The pre-operational phase of the non-air media monitoring was conducted between May 1994 and April 1995 (i.e., time zero monitoring). The pre-operational program was designed to provide baseline data for dioxins/furans and various metals in herbaceous crops (hay) and cow's milk from a nearby dairy farm (Kingsbury Dairy Farm) as well as surface water, sediment, and fish tissue samples from five farm ponds located in the vicinity of the RRF that were named as follows: Pond 1 (Kephart Pond); Pond 2 (Evans Pond); Pond 3 (Lermond Pond); Pond 4 (Yates Pond); and Pond 5 (County Pond). The locations of the historic sampling locations are depicted in Figure 1-1.

Non-air media sampling was subsequently conducted by Roy F. Weston in 1996 after the RRF became operational with limited supplemental sampling also performed in 1998. This 1st post-operational phase of the monitoring program provided data for the target chemicals in the same environmental media as the pre-operational monitoring. The County's Facilities Implementation Group Air Quality (DAFIG) Subcommittee subsequently recommended that the monitoring program for non-air media be conducted once every three years. The 2nd, 3rd, and 4th post-operational sampling events were subsequently conducted by ENSR in 2001, 2004 and 2007, respectively. The locations, numbers and types of samples collected during the pre-operational and 1st through 4th operational phase monitoring are presented in Table 1-1.

The 2nd and 3rd operational phase sampling events were conducted in 2001 and 2004, approximately 6 and 9 years after the RRF became operational, respectively. These sampling events focused on the same target chemicals (dioxins/furans and seven metals) within surface water samples collected from four ponds (Ponds 2 through 5) while hay samples were collected from the Lermond Farm (where Pond 3 is located) and a reference hayfield in Lucketts, Virginia. Cow's milk samples were also collected from a nearby dairy farm (Johnson Dairy Farm as the Kingsbury Dairy Farm ceased dairying operations prior to 2001). In 2004, hay samples were also collected from the Johnson Dairy Farm. Sediment samples were not collected during the 2nd and 3rd operational phase sampling events. Fish tissues consisting of sunfish fillet and whole-body samples were collected from Ponds 2 and 3 during the 2001 sampling event and from Ponds 2, 3, 4 and 5 during the 2004 sampling event. Largemouth bass fillet and whole-body tissue samples were collected from Ponds 4 and 5 in 2004 only.

The 4th operational phase sampling event was conducted in 2007, approximately 12 years after the RRF became operational. Surface water samples were collected from three ponds (Ponds 2, 3 and 5) and fillet and whole-body fish tissue samples were collected from Pond 2 (sunfish only) and Ponds 3 and 5 (sunfish and largemouth bass). Farm pond sediment sampling was re-introduced to the program in the 4th operational phase monitoring program at the recommendation of the DAFIG Air Quality Sub-Committee and samples were collected from Ponds 2, 3 and 5. No non-air environmental media samples were collected from Pond 4 at the recommendation of the DAFIG Air Quality Sub-Committee. In addition, hay and cow's milk samples were collected from the same locations as sampled in 2004. All samples were analyzed for the same target chemicals.

This report summarizes the results of the 5th operational phase sampling effort which was conducted from June 17 – 19, 2014 (details provided in Section 2) approximately 19 years after the RRF became operational. The 5th operational phase sampling was conducted to provide analytical data for statistical trend analysis relative to existing pre-operational and operational phase data. The locations, numbers and types of samples collected in the 5th operational phase event are shown in Table 1-1. Additional details regarding the 2014 sampling are also provided in Table 1-2.

Section 2

Sampling Methods

The 2014 sampling program included a pre-sampling site reconnaissance to inspect the proposed sampling locations which was conducted by TRC in May 2014. Although the sampling was proposed to duplicate the last operational sampling conducted in 2007, Pond 2 was inexplicably drained (and thus not available) shortly before the site reconnaissance. Therefore, it was decided to collect samples from Pond 4 as a replacement for Pond 2. Otherwise, all of the non-air environmental samples were subsequently collected in accordance with the Work Plan for Conducting the 5th Operational Phase Non-Air Media Sampling Program (TRC, 2014b) on June 17 – 19, 2014.

The aquatic food chain monitoring program focused on the collection of sediment, surface water, and fish tissue samples from three farm ponds (Ponds 3, 4 and 5). The locations of these farm ponds are depicted in Figure 2-1. The terrestrial food chain sampling involved the collection of cow's milk and forage items for dairy cows (hay). The locations of the farms where the forage (hay) samples were collected are presented on Figure 2-2. These include the Lermond Farm (location of Pond 3), the Johnson Dairy Farm, and a reference hayfield in Lucketts, Virginia (background). Cow's milk was only collected from the Johnson Dairy Farm. Historically, hay and cow's milk samples were also collected at the Kingsbury Dairy Farm which ceased dairying operations in 2001.

Sampling locations are situated within areas associated with primary air emission deposition associated with the RRF based on recent air modeling conducted by TRC (see Appendix A). Based on the modeled deposition, Pond 5 would receive greater deposition associated with the RRF compared to Ponds 3 and 4 while Pond 4 would appear to receive slightly greater deposition than Pond 3. Hay samples collected from the Lermond Farm would be located within an area of greater deposition associated with the RRF than the Johnson Dairy Farm.

All of the samples were analyzed for dioxin/furan congeners and the following metals: arsenic, beryllium, cadmium, chromium, lead, mercury and nickel. In addition, factors that affect the bioavailability or toxicity within specific environmental media such as total organic carbon (TOC), water hardness and lipids were analyzed as appropriate for each matrix. Alpha Analytical Laboratory in Westborough, Massachusetts prepared all samples for metals, TOC, water hardness and lipid analyses of sediment, surface water, fish tissue, hay, and cow's milk

while dioxins and furans were analyzed in all media by Cape Fear Laboratory in Wilmington, North Carolina.

Specific details regarding the sampling locations are presented in the following sections.

2.1 Surface Water Sampling

Surface water sampling was conducted within three farm ponds with two surface water samples collected from each pond. One duplicate surface water sample was also collected from one of the ponds. Each of the farm ponds (Ponds 3, 4 and 5 as depicted on Figure 2-1) represent aquatic habitats that were previously sampled during one or more of the post-operational sampling events. Ponds 3 and 4 were sampled on June 17, 2014 while Pond 5 was sampled the following day.

Prior to collection of the surface water samples, water quality parameters including temperature, pH, dissolved oxygen and specific conductivity were measured using a calibrated water quality meter. Results of the water quality parameters are discussed in Section 3. Water quality readings were collected at a depth of 1.0 foot below the surface and approximately 0.5 feet above the bottom using boats that were available at Pond 3 and Pond 5. Measurements at Pond 4 were conducted from shore and were only taken at a depth of 1.0 foot due to the shallow water present at this pond.

Each surface water sample was collected by submerging the capped sampling bottle below the water surface, removing the cap, and allowing the bottle to fill before slowly lifting the full bottle from the water. Sample bottles containing preservative (HNO_3 for metals and hardness analyses) were not immersed in the surface water but were filled by decanting water from unpreserved bottles. All filtering for dissolved metals analysis was conducted at the laboratory.

Each surface water sample was submitted to the laboratories for dioxins/furans, total and dissolved (or filtered) the seven metals of concern (arsenic, beryllium, cadmium, chromium, lead, mercury and nickel), and water hardness analysis. The sample volume and containers were presented in the Work Plan (TRC, 2014b).

2.2 Sediment Sampling

Sediment sampling was conducted within the three farm ponds with two sediment samples collected from each pond as well as one duplicate sample from one of the ponds. Each of the

farm ponds (Ponds 3, 4 and 5 as depicted on Figure 2-1) represent aquatic habitats that were previously sampled during one or more of the post-operational sampling events. Ponds 3 and 4 were sampled on June 17, 2014 while Pond 5 was sampled on June 18, 2014.

At each sediment sample location, sediment core(s) were collected following surface water sample collection and prior to collecting fish tissue samples. Sediment was sampled from the upper four inches of the soft pond sediment using a coring device pushed by hand into the sediment. This is based on the assumption that chemical contamination from the RRF is not present at depth in the vicinity of these samples. Several cores were collected from each sample location to provide sufficient volume for the target chemical analyses.

Sediment samples collected from the upper 4-inch interval at each location were analyzed for dioxins/furans, target metals (same seven metals as discussed above for surface water) and TOC. The sample volumes, containers, and analytical methods were presented in the Work Plan (TRC, 2014b).

2.3 Fish Sampling

Fish sampling was conducted within the same three farm ponds as shown on Figure 2-1. A scientific collection permit was obtained from the Maryland Department of Natural Resources – Fisheries Service prior to fish sample collection (see Appendix B). Fish sampling was initiated following the collection of surface water and sediment samples.

Trend analyses for the fish tissue evaluations have assumed that the fish collected are comparable across all sampling events. However, fish may accumulate chemicals at different rates, depending on factors such as age, size, trophic level or feeding guild (e.g., insectivorous or piscivorous), temperature, population density, and amount of food available to the fish. This variability and uncertainty is inherent in field tissue collection, and not all factors can be accounted for in any sampling program. The non-air monitoring sampling program has been designed, however, to help control some of this variability. Fish have been generally collected from the same ponds throughout the sampling program. One lower trophic level species and one higher trophic level species have been targeted from each pond to demonstrate potential differences in accumulation of chemicals in the fish based on feeding guild and size. Although fish age has not been determined for each fish caught, size has been measured. Finally, fish tissue data for dioxins have been adjusted to reflect the fat content of each fish (the lipid-normalization of the data), which helps control for the changing nutritional status in the ponds.

The target species included largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*) which were the primary target species collected during the previous non-air environmental monitoring programs. Bluegills represent omnivorous lower trophic level fish while largemouth bass represent a higher trophic level predator fish that forages on invertebrates and vertebrates such as frogs and fish (including bluegills). Both bluegills and largemouth bass may be caught and consumed by recreational fishermen.

Fish were collected using hook and line (i.e., angling) only at Pond 5 while fish were collected at Pond 4 through seining only. Pond 3 fish were collected using both angling (largemouth bass and one bluegill sample) and seining (one bluegill sample). One bluegill and pumpkinseed (*Lepomis gibbosus*) sample were each collected at Pond 5. Fish samples were collected from Pond 4 on June 17, 2014 while samples at Pond 5 were collected on June 18, 2014. Three of the four fish samples from Pond 3 were collected on June 17, 2014 while one largemouth bass sample was also collected on June 19, 2014.

The sizes of the fish retained for chemical analyses varied by pond although the lengths are generally consistent with previous sampling. Although one largemouth bass usually provided sufficient volume for preparing both fillet and whole-body samples, bluegill samples were typically comprised of a composite sample consisting of three individual fish. The following number and sizes (inches) comprised the fish tissue samples during the 5th operational sampling event conducted in 2014.

Species/Sample	Pond 3		Pond 4		Pond 5	
	No.	Size	No.	Size	No.	Size
Bluegill-1	3	5", 5", 5.25"	3	4.25", 4.25", 4.75"	3	6.75", 7", 7"
Bluegill-2	3	5.5", 5.5", 5.75"	3	4.5", 4.75", 4.75"	3	6.5", 7", 7"
Largemouth Bass-1	1	12"	0	Not Applicable	1	13.5"
Largemouth Bass-2	2	8.75", 9"	0	Not Applicable	1	17.5"

Each fish retained was euthanized, wrapped in aluminum foil (rinsed in hexane and air dried), placed in a plastic sealable bag (i.e., Ziploc) and placed in coolers containing ice where they were shipped overnight to Alpha Analytical Laboratory for sample preparation. Each sample was analyzed by Alpha Analytical Laboratory for target metals (same seven metals as discussed

above) and lipid content. Alpha Analytical Laboratory prepared aliquots of the fish samples which were subsequently shipped (under chain of custody) to Cape Fear Analytical for dioxins/furans analyses.

Fish tissue samples included both fillet and whole-body analyses for the two target species. Previous operational sampling programs used the right side of the fish for the fillet sample while the remainder of the fish comprised the “whole-body” sample. The goal of the fish tissue sampling was to collect two fillet and two whole-body samples of bluegills and largemouth bass from each pond. All fish filleting was done at the analytical laboratory under controlled laboratory conditions. If sufficient mass was available from a single fish then compositing of fish tissue was unnecessary. Although largemouth bass samples usually were of sufficient body mass that each fish was analyzed as an individual for both the fillet sample and whole-body sample, the smaller bass comprising the second sample at Pond 3 were composited into a single sample. The bluegill samples needed to be comprised of a composite sample consisting of three fish in order to provide sufficient mass for analysis. For all fish samples, the right fillet was first removed with the remaining portion of the fish representing the whole-body sample. However, if sufficient mass was not available for the fillet sample, the left fillet was also removed and composited with the right fillet. This was required for the bluegill samples collected from Pond 3 and Pond 4 and for one of the largemouth bass samples collected from Pond 3. In order to be consistent with the previous operational sampling programs, it was necessary to account for the left fillet portion of the fish that is typically included with the whole-body sample. This was done by factoring in the respective weights of the whole-body and left fillet samples as follows:

$$\text{Whole-Body Concentration} = \frac{[(\text{Concentration in Whole-Body} \times \text{Whole-Body Weight}) + (\text{Concentration in Fillet Sample} \times \text{Left Fillet Weight})]}{\text{Total Weight of Whole-Body and Left Fillet}}$$

2.4 Forage (Hay) Sampling

Forage that is grown in the vicinity of the RRF and is potentially fed to dairy cows was sampled from three farms. Although bioaccumulation of dioxins/furans and metals from soil to vegetation is likely to be low, deposition associated with the RRF may result in these constituents adhering to the surfaces of plants. Therefore, five forage samples in the form of herbaceous crop vegetation (hay) were collected from three farms as depicted on Figure 2-2. Two hay samples were each collected from the Johnson Dairy Farm and the Lermond Farm on June 17, 2014. One hay sample was collected on June 18, 2014 from the McKenny Farm in Lucketts, Virginia which represents the reference area for the RRF. Samples were collected by

hand using disposable gloves and scissors. Samples of hay were previously collected from these farms in the earlier monitoring programs.

Each hay sample was analyzed for dioxins/furans, metals (the same seven metals) and lipids. The sampling volumes, containers and additional details are summarized in the Work Plan (TRC, 2014b).

2.5 Cow's Milk Sampling

Two dairy cow's milk samples were collected from the Johnson Dairy Farm which represents the closest dairy farm to the RRF (see Figure 2-2). The milk samples were collected directly from the milk collection/mixer tank and placed into clean laboratory-supplied sample bottles.

The milk samples were collected on June 17, 2014, placed into coolers containing ice and shipped overnight to the analytical laboratories. Each sample was analyzed for dioxins/furans, select metals (same seven as discussed previously) and lipids. The sampling volumes and containers are summarized in the Work Plan (TRC, 2014b).

Specifics regarding the age of milk cows, how long each milking cow has been at the Johnson Dairy Farm, and what proportion of the forage provided to the cows during the period prior to the sampling event are unknown from each operational phase sampling event.¹ However, based on an earlier discussion with Mr. Johnson during the pre-sampling site reconnaissance, local hay is provided to the dairy herd for approximately nine to ten months of the year with the remaining hay coming from non-local sources. All silage is reported to be from the Johnson Farm or another local source.

The actual age of the cows present within the herd at the time of the milk sampling during each of the operational phases is unlikely to be a contributing factor when evaluating differences in dioxins/furans between different sampling events. This is due to the fact that dioxin/furan congeners have a half-life time of 35 to 80 days (European Commission, 2000; Firestone et al., 1979; Huwe and Smith, 2005). Therefore, assuming that the diet sources and milk lipid content are similar between younger and older cows, the steady-state dioxin/furan congener concentrations would be similar between all cows at the time of the milk sample collection.

¹ Attempts to obtain detailed information on dairy herd from Mr. Johnson were unsuccessful.

2.6 Analytical Methods

Alpha Analytical Laboratory, Mansfield, Massachusetts conducted analyses for metals, lipids, TOC and water hardness while laboratory services for dioxins/furans were provided by Cape Fear Analytical, Wilmington, North Carolina. Filleting and tissue preparation for all fish samples was undertaken by Alpha Analytical Laboratory which subsequently sent sub-samples to Cape Fear Analytical for the dioxin/furan analysis.

Laboratory duplicate samples for each medium were analyzed for metals and dioxins/furans. Matrix spike/matrix spike duplicate (MS/MSD) samples were collected for each medium sampled. A summary of duplicates and MS/MSD samples is provided in Table 1-2.

All of the collected samples were analyzed for dioxins/furans using EPA Method 1613B by Cape Fear Analytical. Alpha Analytical Laboratory analyzed arsenic, beryllium, cadmium, chromium, lead, nickel and water hardness via EPA Method 6020A while mercury was analyzed using EPA Method 7470A. Total organic carbon (TOC) within sediment samples was analyzed using USEPA (1988). Lipids (fish tissues, hay and cow's milk) were determined using the methodology provided in NOAA (1998).

Data validation was conducted by TRC on the dioxin/furan sampling results using the USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (USEPA, 2011). The inorganic and wet chemistry sampling data were also validated by TRC using the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2010). In general, although several minor issues were noted by TRC, the data appeared valid as reported and can be used for decision-making purposes. The data validation memorandums prepared by TRC are presented in Appendix C.

The actual detection limit achieved by each of the analytical laboratories is dependent on a number of factors, including potential matrix interferences. The estimated detection limit (EDL) for dioxins/furans or method detection limit (MDL) for inorganics was calculated for each analyte measured in each sample. EDLs are adjusted for the amount of sample prepared and may vary by sample. A summary of EDLs or MDLs for each medium and target analyte achieved for previous sampling events and the recent 2014 sampling is presented in Table 2-1.

Section 3

2014 Monitoring Results

Results of the 2014 5th operational phase sampling are presented below for surface water, sediment, fish tissue (fillet and whole-body), hay and cow's milk samples. All samples were analyzed for dioxins/furans and the following metals: arsenic, beryllium, cadmium, chromium, lead, mercury and nickel. The summary tables for analytical results as well as the complete laboratory reports for all analyses are presented in Appendix D. In this section, the 2014 data are summarized and evaluated relative to media-specific screening levels. These screening levels were derived from a variety of sources and represent benchmarks pertinent to human health or the environment.

Dioxins and furans (i.e., PCDDs/PCDFs [polychlorinated dibenzodioxins and polychlorinated dibenzofurans]) is the abbreviated or short name for a family of substances that all share a similar chemical structure. These chemicals contain one to eight chlorine atoms attached to the carbon atoms of the parent chemical (dibenzodioxin and dibenzofuran). The most widely studied of these compounds, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), is one of the most toxic and has received the most attention. Often referred to as "dioxin", 2,3,7,8-TCDD serves as a reference compound for this class of compounds. The chlorinated dibenzo-p-dioxins (CDDs) include 75 individual compounds and the chlorinated dibenzofurans (CDFs) include 135 compounds. These individual compounds are referred to as congeners. Of these 210 individual chemicals, 7 PCDDs and 10 PCDFs with 4 to 8 chloride atoms are considered to be toxic and have been assigned relative toxicity factors by USEPA. These toxicity factors, known as Toxic Equivalency Factors (TEFs), are based upon the relative toxicity of an individual PCDD or PCDF compared to 2,3,7,8-TCDD. The overall toxicity of a sample is calculated by multiplying the concentration values for each of the 17 PCDDs/PCDFs by its TEF. The summed products of the TEFs and associated congener concentrations for the sample then becomes a toxic equivalent concentration (TEQ) value which can be used to evaluate a sample containing a mixture of PCDDs/PCDFs.

To facilitate interpretation of the data, the dioxin/furan data presented in this section are expressed as concentrations of the homologues (i.e., the sum of individual congeners with the same number of chlorine atoms such as all penta-chlorinated dioxins; PCDD) and as TEQs. TEQs were calculated using TEFs updated in 2005 (Van den Berg et al., 2006) which differ than the TEFs presented for several PCDDs/PCDFs in the earlier monitoring reports (i.e., pre-2006). TEFs relate the toxic potency of each congener to 2,3,7,8-TCDD. TEFs are presented in Table 3-1. Consistent with prior sampling program reports, TEQs presented in this Section were

calculated assuming that non-detected concentrations are equal to zero. In Section 4, where historical results are reviewed and trends over time explored, non-detected congeners are treated in this manner, representing a base assumption, but also assuming that non-detected congeners were present at laboratory detection limits. Before presenting that trend analysis, this Section of the report presents, in tabular form, the laboratory results from the 2014, 5th operational phase monitoring of non-air environmental media.

3.1 Benchmark Values

In order to add context, the 2014 5th operational phase program monitoring results data are presented alongside medium-specific benchmark levels. Benchmark levels represent conservative reference threshold concentrations that are medium-specific and that were derived to be protective of human health and/or the environment. These values include Maximum Contaminant Levels (i.e., MCLs and U.S. EPA drinking water standards) and water quality criteria (i.e., levels published by USEPA that indicate a concentration of water considered non-harmful to human health or the environment). However, since such initial benchmarks are not available for all constituents in all media, other types of benchmark levels were also used to lend context to the sample results. These include values derived from studies that documented “typical” concentrations of certain contaminants in non-air media, and values from the literature that were associated with concentrations where adverse effects were first noted in laboratory or field studies. Exceeding a benchmark level does not necessarily indicate a potential risk to human health or the environment, and benchmarks presented here are not intended to trigger warning of a potential problem. The benchmark values listed are only intended to provide meaningful reference for presentation alongside the actual results observed during the 2014 monitoring.

Table 3-2 summarizes the benchmark levels used in this report and reflects updated values to reflect current regulatory guidance. The following sources of information are included in the medium-specific benchmark level summary (see Table 3-2):

Surface Water

- National Recommended Ambient Water Quality Criteria (AWQC) for Protection of Aquatic Life (freshwater chronic criteria were selected);
- Maryland Toxic Substances Criteria for Ambient Surface Waters (both human health fish consumption values and aquatic life freshwater chronic values were selected); and,
- Ecotox Thresholds (freshwater chronic values selected) issued by USEPA.

Sediment

- Consensus-Based Threshold Effects Concentrations (TECs) developed by MacDonald et al. (2000); and,
- U.S. EPA Region 3 Freshwater Benchmarks (2006a).

Fish Tissue

- National Recommended AWQC for Human Ingestion of Aquatic Organisms; (mercury only);
- U.S. EPA (2003) values from Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin and Related Compounds (2,3,4,8-TCDD TEQ only); and,
- Virginia Department of Environmental Quality Fish Benchmark Values (proposed values that are protective of human health).

Hay

- Various literature values for typical levels of constituents in agricultural crops, Kabata-Pendias and Pendias, 1984.

Milk

- Various literature values for typical levels of constituents in cow's milk (nickel);
- Commission of the European Communities, July 1, 2002, Limits on Presence of Dioxin in Food, IP/02/959; and,
- USEPA/MD TSC Maximum Contaminant Levels (MCLs) or action limit (lead only) for drinking water.

3.2 Surface Water

The water quality measurements taken at each of the three farm ponds are presented in Table 3-3. The results of the chemical analyses are presented in Table 3-4. As presented in Table 3-2, chronic surface water benchmark levels for protection of aquatic life were available for all detected metals, and surface water benchmark levels protective of human consumption of fish were available for TCDD, arsenic, and nickel. Aquatic life benchmarks for cadmium, chromium, lead and nickel are expressed as a function of the hardness (mg/L) in the water column. The site-specific water hardness at each pond was used to calculate the benchmarks for these metals.

3.2.1 Conventional Water Quality Parameters

Water quality measurements at Pond 3 indicated that the shallow pond (approximately 5 feet deep) was stratified (Table 3-3) at the time of the 2014 sampling. Ambient daily temperatures were above 90° F during the 2014 sampling and may have resulted in above normal surface water temperatures compared to previous sampling events. Water temperatures were approximately 5° Celsius (40° F) warmer at the surface than at the bottom of Pond 3. Specific conductivity was higher at the lower sample depths while pH and dissolved oxygen were lower. The dissolved oxygen levels at the bottom of Pond 3 were very low (less than 1 mg/L) while levels at the surface were within normal range.

At Pond 4, water quality measurements in the shallow pond (approximately 2 feet deep) were fairly similar between the two sampling locations. Although the surface water temperature was rather elevated (28° Celsius or 82° F) at Pond 4, the dissolved oxygen level was high and typical of dissolved oxygen levels at the interface with the air.

Surface water quality at Pond 5 at both sampling locations at one foot depth were similar and within the range expected for lotic systems in this geographic region. Temperature did not differ significantly among the strata for the shallower sampling location (1 and 3 foot sampling interval) although stratification was observed at the deeper sampling location (1 and 7 foot sampling depths). Water temperature ranged from 30.5° Celsius at the surface to 24.2° Celsius at a depth of seven feet. Specific conductivity, pH and dissolved oxygen were fairly even through the shallower strata, ranging from 106 to 126 $\mu\text{S}/\text{cm}$ and 6.27 to 7.51 at depths of three feet or less. However, an increase in specific conductivity and sharp decreases in pH and dissolved oxygen were evident at the deeper depth of seven feet. Dissolved oxygen at Pond #5 was depleted in the deepest part of the water column (0.5 mg/L).

3.2.2 Inorganics

Table 3-4 presents the inorganic surface water data collected in the 5th operational program sampling. Duplicate surface water samples were collected at Pond 3. Results described in this section reflect the average concentration of the sample and its duplicate, where applicable. The average hardness in Pond 5 samples (22 mg/L as CaCO_3) is lower than the hardness in the other ponds where hardness measurements were 56 mg/L as CaCO_3 (Pond 3) and 78.5 mg/L as CaCO_3 (Pond 4) in 2014. The water hardness affects the water quality criteria (based on aquatic life) for cadmium, chromium, lead and nickel.

Previously (1994 through 1998), metals in the non-air media sampling program for surface waters have been analyzed and reported as total metals. However, both the total and the dissolved fractions of the metals have been reported since 2004 (3rd operational program). Water quality criteria for aquatic life for the metals of concern are presented for both the total concentration and the dissolved concentration. However, the dissolved fraction (i.e., what remains in the water after the water is filtered) is the fraction that is bioavailable to aquatic life, and potentially toxic. Therefore, a metal that exceeds its benchmark based on the total concentration is unlikely to be a concern as long as the dissolved concentration of that metal does not exceed its dissolved water quality criterion.

3.2.2.1 Total Metals

Several constituents (arsenic, beryllium and cadmium) in Table 3-4 have concentrations flagged with a “J” qualifier. These concentrations are lower than the laboratory’s estimated or method detection limit, but were measured by the instrument. The concentrations flagged by “J” are detected values, but the actual concentrations are considered “estimated” because they are below the concentrations considered to be statistically definite.

Arsenic: Arsenic was detected in all six surface water samples collected from the three ponds at concentrations that exceeded the federal water quality criterion (0.14 ppb) for human consumption of organisms. The highest arsenic concentrations were noted in Pond 3. The state water quality criterion (1.4 ppb) was only exceeded in one surface water sample collected from Pond 3. In addition, it should be noted that arsenic was not detected in fish fillet samples collected from the three farm ponds nor did the detected arsenic levels exceed the chronic water quality criterion for aquatic life at any of the samples collected from the three ponds.

Beryllium: Total beryllium was detected in the two samples collected from Pond 3 and in one of two samples each from Ponds 4 and 5. In Pond 3 and Pond 5, total beryllium was detected in samples at low concentrations (approximately 0.1 ppb). In Pond 4, the maximum concentration of total beryllium detected (0.23 ppb) was higher but was still well below its water quality criterion for aquatic life.

Cadmium: Cadmium was detected in the two samples collected from Pond 3 and in one of two samples each collected from Ponds 4 and 5. At all three ponds, the total cadmium concentrations detected were similar (ranged from 0.01 to 0.03 ppb) and well below its water quality criterion for aquatic life.

Chromium: Total chromium was detected in all six surface water samples collected from the three ponds. In Pond 4, the maximum concentration of total chromium (2.22 ppb) appears higher in one sample from this pond than in the other Pond 4 sample and samples from the other ponds. However, concentrations of total chromium detected in all samples are well below its water quality criterion for aquatic life.

Lead: Total lead was not detected in the two surface water samples collected from Pond 3 nor in the two samples from Pond 5. Total lead was detected in one of the two samples collected from Pond 4 at an elevated concentration (3.36 ppb). The lead concentration in this Pond 4 sample exceeds the chronic water quality criteria for aquatic life (although the dissolved lead concentration is a better indicator of potential risk to aquatic life). The elevated lead concentration noted at the Pond 4 sample may have been due to some sediment that may have been suspended in the water column for the sample.

Mercury: Total mercury was not detected in any of the surface water samples collected from the three ponds. The detection limit for mercury in surface water was 0.07 ppb.

Nickel: Total nickel was detected in all six surface water samples collected from the three ponds. Although concentrations were greatest in samples collected from Pond 3, the detected concentrations at all three ponds were well below their respective water quality criteria for aquatic life.

In summary, the detected concentrations of arsenic and nickel were highest at Pond 3 samples while Pond 4 surface water samples contained the highest chromium and lead concentrations. The total lead concentration measured in one of the Pond 4 samples exceeded the state and federal lead aquatic life chronic benchmark value. This sample's concentration was higher than all other samples including a second sample from Pond 4, and may reflect the presence of sediment in the water column sample. One surface water sample collected from Pond 3 exceeded the Maryland state water quality criterion for human consumption of fish for arsenic. This criterion was not exceeded at the second sample from Pond 3 nor at the four samples collected from Ponds 4 and 5. All other metals were either not detected or were detected below the federal and state aquatic life chronic benchmark values.

3.2.2.2 Dissolved Metals

Arsenic: Dissolved arsenic was detected in the four samples collected from Ponds 3 and 5 and in one of the two surface water samples collected from Pond 4. All of the detected arsenic

concentrations were qualified as “J” indicating that these concentrations were estimated. The detected concentrations of dissolved arsenic were well below its benchmark value.

Beryllium: Dissolved beryllium was not detected in any of the surface water samples collected from the three ponds. The detection limit for beryllium in surface water was 0.08 ppb.

Cadmium: Dissolved cadmium was not detected in any of the surface water samples collected from the three ponds. The detection limit for cadmium in surface water was 0.08 ppb.

Chromium: Dissolved chromium was not detected in any of the surface water samples collected from the three ponds. The detection limit for cadmium in surface water was 0.29 ppb.

Lead: Dissolved lead was detected in all surface water samples collected from the three ponds although the concentrations were qualified as “J” indicating that these concentrations were estimated. Dissolved lead in one of the two samples collected from Pond 5 (0.86 ppb) exceeds the federal and state ambient water quality criteria for aquatic life. The second surface water sample from Pond 5 detected dissolved lead at a much lower concentration (0.20 ppb). With the exception of lead at one sample from Pond 5, none of the concentrations of dissolved lead detected at Pond 3, Pond 4, or the other sample at Pond 5 exceeded the federal or state aquatic life chronic benchmark value for lead.

Mercury: Mercury (dissolved) was not detected in any of the surface water samples collected from the three ponds. The detection limit for dissolved mercury in surface water was 0.07 ppb.

Nickel: Dissolved nickel was detected in all six surface water samples collected from the three ponds although the nickel concentrations detected at Pond 5 were qualified as “J” indicating that these concentrations were estimated. The detected concentrations of dissolved nickel were greatest at Pond 3 but the detected concentrations at all sampling locations were lower than the nickel federal or state aquatic life chronic benchmark value.

In summary, dissolved concentrations of beryllium, cadmium, chromium and mercury were not detected in any of the samples collected from Ponds 3, 4 and 5. The dissolved lead concentration measured in one of the Pond 5 samples exceeded the state and federal lead aquatic life chronic benchmark value. With the exception of lead at one of the two samples collected from Pond 5, none of the concentrations of any of the dissolved metals (i.e., arsenic and nickel) from Ponds 3, 4, or 5 exceeded federal or state aquatic life chronic benchmark values (Table 3-4).

3.2.2 Dioxins/Furans

The majority of the 17 dioxin and furan congeners were not detected in surface water from the three farm ponds (Table 3-4). The highest detected concentrations were measured for OCDD which was detected in all six surface water samples at concentrations that ranged from 18.6 parts per quadrillion (ppq) to 173 ppq. The highest OCDD concentration was measured in Pond 4 while Pond 5 noted the lowest OCDD concentrations. The only other detected congener was 1,2,3,4,6,7,8-HpCDD which was detected in both samples from Pond 3, one of two samples from Pond 4 and was not detected in the two samples from Pond 5. The dioxin/furan congeners are likely associated with particles suspended in the water column rather than being present as the dissolved fraction.

TEQs were calculated for each surface water sample using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the estimated detection limit (ND = DL). In Pond 3 samples, TEQs (ND = 0) were 0.069 and 0.065 ppq, and TEQs (ND = DL) were 2.434 and 2.849 ppq. In Pond 4, TEQs (ND = 0) were 0.177 and 0.014 ppq, and TEQs (ND = DL) were 3.137 and 4.041 ppq. In Pond 5 surface water samples, TEQs (ND = 0) were 0.006 and 0.009 ppq, and TEQs (ND = DL) were 3.392 and 4.401 ppq. All concentrations of TEQ calculated using the DL (ND = DL) exceed the federal and state criteria for fish consumption (Table 3-4), however, none of the concentrations (at ND = 0) exceeded the state criterion for fish consumption. In general, the lowest concentrations of TEQs were detected in Pond 5 samples (ND = 0) and in Pond 3 samples (ND = DL).

3.3 Sediment

Two sediment samples were collected from each of the three ponds. Each sample was analyzed for selected metals, PCDDs/PCDFs, and total organic carbon. The results of the chemical analyses are presented in Table 3-5. As presented in Table 3-2, sediment benchmarks for protection of wildlife and benthic organisms (i.e., organisms that live in sediment) were available for the metals. A sediment screening benchmark for PCDDs/PCDFs (as TEQs) is based on fish health which applies fish TEFs to the sediment concentrations in order to determine a fish TEQ.

3.3.1 Inorganics

All metals were detected in the sediment samples collected from the three ponds. The concentrations of the metals were generally consistent among the three ponds and none of the detected concentrations of metals exceeded their respective sediment benchmark values.

3.3.2 Dioxins/Furans

Most of the dioxin and furan congeners were detected at least once in sediments from the three ponds. Consistent with the surface water congeners, OCDD was present at the highest concentrations, ranging from 541 to 2,440 ppt. The lowest OCDD concentrations were found in sediment from Pond 4 while the highest concentrations were noted in Pond 3. TEQs were calculated using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the estimated detection limit (ND = DL). For the comparison with the sediment benchmark, fish TEFs were used in the calculation of TEQs for non-detects equal to zero and non-detects equal to the DL. The calculated fish TEQs (ND = 0) exceeded the benchmark of 0.85 ppt at one sediment sample from Pond 3 (1.391 ppt). Calculated fish TEQs (ND = DL) also exceeded the benchmark at both of the Pond 3 sediment samples and one of the two samples from Pond 5. The remaining sample from Pond 5 and both sediment samples from Pond 4 had calculated fish TEQs below the fish health benchmark.

Non-polar organic constituents such as PCDDs/PCDFs bind readily to organic carbon in sediment. This binding generally renders them unavailable to aquatic organisms. When constituents are not bioavailable, they are not as toxic or bioaccumulative due to direct contact (i.e., not including ingestion) as when they are freely dissolved in the pore-water of the sediment (i.e., when they are bioavailable). The benchmark value for TCDD from USEPA Region 3 is normalized to an organic carbon content of 1 percent. Higher organic carbon would have the effect of increasing the benchmark value for a system (i.e., a pond), as the organic constituent present is modified by (bound to) the organic carbon. Organic carbon concentrations were moderate; 1.5% in Pond 3, 2.1% in Pond 4 and 0.6% in Pond 5. At these levels, the PCDDs/PCDFs present in the sediment would be less bioavailable or potentially toxic in Ponds 3 and 4 but potentially be more bioavailable in Pond 5 as indicated by the benchmark value exceedences.

3.4 Fish Tissue

Whole body and fish fillet samples from two types of fish (bluegill and largemouth bass) were collected from the three ponds. All fish samples were analyzed for the selected metals, PCDDs/PCDFs, and lipid concentrations. PCDD/PCDF data are presented in wet weight concentrations for individual congeners and also as lipid normalized concentrations for TEQs (Table 3-6a). Metals data are presented on a wet weight basis only. Fish tissue benchmark levels were available for TCDD, arsenic, cadmium, chromium and mercury (Table 3-2).

3.4.1 Inorganics

All of the seven inorganics were detected in at least one sample although arsenic and beryllium were only detected in whole-body samples and not in any of the fillet samples. Cadmium, chromium, lead, mercury, and nickel concentrations were detected in at least one fish whole-body and fillet sample from the three ponds.

Arsenic: All arsenic concentrations in fish were below the detection limit with the exception of one whole-body bluegill sample in Pond 4 and the two whole-body bluegill samples from Pond 3. The highest arsenic concentration (0.194 ppm) was detected in one of the whole-body bluegill samples obtained at Pond 3. All of the detected arsenic concentrations in the whole-body bluegill samples were less than the benchmark value protective of human health. Arsenic was not detected in the bluegill fillet samples collected from all three ponds nor was arsenic detected in the largemouth bass whole-body and fillet samples collected from Ponds 3 and 5.

Beryllium: Beryllium concentrations in fish were all below its detection limits with the exception of one whole-body bluegill sample in Pond 4 and the two whole-body bluegill samples from Pond 3. The detected beryllium concentrations within these three samples was very similar (0.014 to 0.015 ppm). Beryllium was not detected in the bluegill fillet samples collected from all three ponds nor was it detected in the largemouth bass whole-body and fillet samples collected from Ponds 3 and 5. A benchmark value is unavailable for beryllium.

Cadmium: Cadmium was detected in one whole-body bluegill sample in Pond 4 and in one whole-body and fillet sample from Pond 3. The highest cadmium concentration detected was in the whole-body bluegill sample collected from Pond 4. The detected concentrations of cadmium were all below the benchmark value protective of human health. Cadmium was not detected in the remaining bluegill whole-body and fillet samples nor was it detected in the largemouth bass whole-body and fillet samples collected from Ponds 3 and 5.

Chromium: Chromium was detected in all of the bluegill and largemouth bass whole-body and fillet samples collected from the three ponds. The highest concentration of chromium in fish was 13.5 ppm in a whole-body bluegill sample from Pond 3. The fillet sample from this same composite of bluegills was 5.85 ppm which was also the highest result for the fillet samples. Although the whole-body concentration of chromium exceeds its 12 ppm benchmark value for protection of human health (based on hexavalent chromium), the edible fillet sample was below this benchmark value. The remaining five bluegill whole-body samples from Ponds 3, 4, and 5 ranged from 0.71 to 4.55 ppm, all below the benchmark value. Chromium concentrations detected in largemouth bass whole-body and fillet samples were fairly similar at Ponds 3 and 5 and were all below the benchmark value.

Lead: Lead was detected in all of the whole-body bluegill samples collected from all three ponds. Lead was detected in the one bluegill fillet sample collected from Pond 4 and in one of the two bluegill fillet samples collected from Pond 3. Lead was not detected in the two bluegill fillet samples collected from Pond 5. One of the two largemouth bass fillet samples each collected from Ponds 3 and 5 detected lead while only one largemouth bass whole-body sample (from Pond 3) detected lead. The highest lead concentration (0.269 ppm) was detected in a whole-body bluegill sample from Pond 4 while Pond 5 generally contained the lowest detected lead concentrations. A fish tissue benchmark value is unavailable for lead.

Mercury: Mercury was detected in all of the bluegill and largemouth bass whole-body and fillet samples collected from the three ponds. The highest concentrations of mercury were detected in the largemouth bass whole-body and fillet samples collected from Pond 5. However, the mercury concentrations detected in all fish tissue samples were below the fish tissue benchmark (0.3 ppm). Mercury concentrations from Ponds 3 and 4 were less than one-half the levels noted in the largemouth bass samples collected from Pond 5.

Nickel: Nickel was detected in nearly all bluegill and largemouth bass whole-body and fillet samples. The only samples where nickel was undetected included one bluegill fillet sample and one largemouth bass fillet sample collected from Pond 5. The highest nickel concentration (8.86 ppm) was detected in a whole-body bluegill sample from Pond 3. All of the detected nickel concentrations in the fish whole-body and fillet samples were less than the nickel benchmark value protective of human health.

3.4.2 Dioxins/Furans

A total of 5 of the 17 dioxin/furan congeners (2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD, OCDD, 2,3,7,8-TCDF, and 1,2,3,4,6,7,8-HpCDF) were detected in at least one of the fillet or whole-body

fish tissue samples from the three ponds. Amongst these 5 compounds, however, many of the results were also non-detects (e.g., 2,3,7,8-TCDD was detected in only 2 of the 17 total fish tissue samples analyzed.) The remaining 12 PCDD/PCDF congeners were not detected in any of the fish tissue samples. The high prevalence of non-detect results among the PCDD/PCDF congeners makes it difficult to robustly evaluate trends in concentrations, as detection limits themselves rather than detectable concentrations may significantly affect comparisons. Reporting limits for these undetected congeners ranged from 0.0611 to 0.961 ppt. As noted earlier, TEQs were calculated using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the estimated detection limit (ND = DL).

Lipid concentrations for largemouth bass fillet (0.29% - 0.77%) and bluegill fillet (0.24% - 0.74%) were similar. Lipid concentrations in whole-body largemouth bass (2.48% - 3.29%) were consistent with the whole-body bluegill lipid concentrations (1.83% - 3.17%) from Ponds 3 and 5. The lipid content of whole-body bluegill from Pond 4 were notably lower (0.74% - 0.99%).

At the recommendation of the DAFIG, the five PCDD/PCDF congeners that were detected in fish tissues were also compared to their predicted concentrations based on their sediment concentrations and a range of Biota:Sediment Accumulation Factors (BSAFs) presented in the literature. This comparison is presented in Table 3-6b.

TEQs (ND = 0)

Wet weight TEQs (i.e., the amount of dioxin, as TEQs, present per weight of the fish whole-body or fillet) varied among the fish collected from the ponds, but was highest in whole-body largemouth bass from Pond 5. Whole-body wet weight TEQs concentrations were: 0.032 - 0.035 ppt (bluegill) and 0.042 - 0.030 ppt (largemouth bass) in Pond 3; 0.034 - 0.034 ppt (bluegill) in Pond 4; and 0.030 - 0.031 ppt (bluegill) and 0.289 - 0.490 ppt (largemouth bass) in Pond 5 (see Table 3-6). Fillet wet weight TEQs for bluegill were similar in Ponds 3, 4 and 5, ranging from 0.0004 ppt (Pond 3) to 0.0288 ppt (Pond 5). The highest largemouth bass fillet TEQ was from Pond 3 (0.034 ppt) which was slightly higher than the largemouth bass fillets collected from Pond 5 (0.0225 and 0.0248 ppt).

Bluegill fillet lipid-normalized TEQs (i.e., the amount of dioxin, as TEQs, present per amount of fat in the fish whole-body or fillet) ranged from a low of 0.047 ppt (Pond 3) to 11.06 ppt (Pond 3) while bluegill whole-body lipid-normalized TEQs were highest in the fish collected from Pond 4 (3.44 and 4.66 ppt). Largemouth bass lipid-normalized TEQs for whole-body samples were higher in Pond 5 while the highest lipid-normalized TEQ for fillet samples was noted at Pond 3 (see Table 3-6).

TEQs (ND = DL)

Similar to the results discussed above, TEQs (i.e., the amount of dioxin, as TEQs, present per wet weight of the fish whole-body or fillet) varied among the fish collected from the ponds, but was highest in whole-body largemouth bass from Pond 5.

Whole-body TEQ concentrations were: 0.394 – 0.483 ppt (bluegill) and 0.50 - 0.707 ppt (largemouth bass) in Pond 3; 0.432 – 0.434 ppt (bluegill) in Pond 4; and 0.375 – 0.403 ppt (bluegill) and 0.495 – 0.693 ppt (largemouth bass) in Pond 5 (see Table 3-6). Fillet TEQs for bluegill were similar in Ponds 3, 4 and 5, ranging from 0.344 ppt (bluegill at Pond 3) to 0.452 ppt (second bluegill sample at Pond 3). The largemouth bass fillet samples from Ponds 3 and 5 were also fairly similar and ranged from 0.381 to 0.662 ppt.

Bluegill fillet lipid-normalized TEQs (i.e., the amount of dioxin, as TEQs, present per amount of fat in the fish whole-body or fillet) ranged from a low of 57.3 ppt (Pond 5) to 140.3 ppt (Pond 3) while bluegill whole-body lipid-normalized TEQs were highest in the fish collected from Pond 4 (43.9 and 58.6 ppt). Largemouth bass lipid-normalized TEQs for whole-body samples were very similar in Ponds 3 and 5 while much higher lipid-normalized TEQs for fillet samples were noted at Pond 3 (see Table 3-6).

None of the samples exceeded the benchmark level for TEQ, regardless of the treatment of non-detects in the calculation of TEQs. This value, as noted in Table 3-2, is the average concentration from freshwater fish collected in North America from areas deemed “background” by USEPA, and as such does not directly relate to toxicity or potential risk.

A comparison of detected PCDD/PCDF concentrations in whole-body fish tissue samples collected from the three ponds with their predicted concentrations based on site-specific sediment PCDD/PCDF and TOC concentrations as well as fish lipid concentrations is presented in Table 3-6b. In general, the actual detected concentrations of the PCDD/PCDF congeners were within the predicted range of concentrations based on the site-specific data for each pond. The maximum detected concentrations of PCDD/PCDF congeners detected at Pond 4 slightly exceeded the predicted concentrations. This is likely the result of very low lipid concentrations present within the fish sampled from Pond 4 which resulted in much lower predicted PCDD/PCDF congener concentrations at this pond compared to Ponds 3 and 5. Overall, the detected congener concentrations within whole-body fish tissues are in agreement with the predicted levels based on the concentrations of these congeners present within the sediment of each pond.

3.5 Hay

Hay samples were collected from Lermond Farm (two samples), Johnson Dairy Farm (two samples), and from a reference location in Lucketts, Virginia (“background” sample). Based on the deposition modeling for the RRF facility (see Appendix A), amongst the farm locations, Lermond Farm would be expected to have higher deposition impacts than the Johnson Dairy Farm, while the Lucketts site is outside the influence of deposition from RRF emissions. All samples were analyzed for PCDDs/PCDFs, lipids, and the seven metals of concern. One of the two hay samples from Lermond Farm was split for duplicate analysis. PCDD/PCDF data are presented in wet weight and lipid normalized concentrations for individual congeners and TEQs. Metals data are presented on a wet weight basis.

3.5.1 Inorganics

Arsenic: Arsenic was not detected in any of the hay samples (Table 3-7). The detection limit for arsenic ranged from 0.029 – 0.033 ppm.

Beryllium: Beryllium was also not detected in any of the hay samples (Table 3-7). The detection limit for beryllium ranged from 0.020 – 0.023 ppm.

Cadmium: Cadmium was detected at very low levels (0.016 – 0.058 ppm “J” qualified) from all locations, including the background sample. The concentrations of cadmium detected in hay samples from the Johnson Dairy Farm are slightly higher than detected concentrations at the Lermond Farm and the background location in Lucketts, Virginia. Although the lower range of the cadmium benchmark is exceeded by the detected cadmium concentrations in all hay samples, the upper range of the cadmium benchmark is not exceeded by any sample.

Chromium: Chromium was detected in all five hay samples. The highest chromium concentration was noted in a hay sample collected from the Lermond Farm (0.99 ppm). The concentrations of chromium detected in the two Lermond Farm hay samples were the highest while lower and similar chromium concentrations were noted from the samples collected from the Johnson Dairy Farm and the background location. However, the concentrations of chromium in hay samples collected from all three locations were higher than the upper range of its benchmark level.

Lead: Lead was detected in all five of the hay samples. The highest lead concentrations were noted in a hay sample collected from the Lermond Farm (0.355 ppm). Although the lower

range of the lead benchmark is only exceeded by the maximum detected lead concentration, the upper range of the lead benchmark is not exceeded by any of the hay samples.

Mercury: Mercury was only detected in one hay sample collected from the Johnson Dairy Farm at an estimated concentration of 0.005 ppm. The concentration of mercury detected in this hay sampled was slightly higher than the benchmark level for mercury (0.003 ppm).

Nickel: Nickel was detected in all five samples with all samples except one sample from the Lermond Farm detected above the upper range of the nickel benchmark. However, the highest nickel concentration was noted in the background hay sample (0.72 ppm).

In summary, the concentrations of chromium and nickel in hay samples collected from all three locations were higher than the upper range of available benchmark levels. The concentration of mercury in hay sampled from the Johnson Dairy Farm (0005 ppm) was also higher than the benchmark level for mercury. The Lermond Farm contained higher concentrations of chromium and lead while the Johnson Dairy Farm contained greater concentrations of cadmium and mercury. The highest concentration of nickel was detected at the background hay sampling location.

3.5.2 Dioxins/Furans

Only two dioxin congeners (1,2,3,4,6,7,8-HpCDD and OCDD) and two furan congeners (2,3,7,8-TCDF and 1,2,3,4,6,7,8-HpCDF) were detected in one or more of the hay samples. Levels of the detected congeners appear to be similar in samples collected from all three locations. TEQs were calculated using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the estimated detection limit (ND = DL).

Lipid concentrations were 0.80 – 0.86% in Pond 3 Farm hay, 2.6 – 2.7% in Johnson Dairy Farm hay, and 1.6% in the background hay sample.

TEQs (ND = 0) were higher in hay samples from the Lermond Farm (0.018 – 0.028 ppt and 38.8 – 45.4 ppt lipid-normalized) than in background hay (0.011 ppt and 20.4 ppt lipid-normalized) or Johnson Dairy Farm hay (0.009 – 0.012 ppt and 13.9 – 16.0 ppt lipid-normalized) (Table 3-7). When lipid-normalized TEQs were calculated using detection limits to represent non-detects, the same pattern emerged. However, the TEQs (not accounting for lipids) are similar for all three sampling sites. There is no benchmark level for dioxin/furans in hay.

3.6 Cow's Milk

Milk samples were collected from the Johnson Dairy Farm. All samples were analyzed for PCDDs/PCDFs, lipids, and the seven inorganic constituents of concern. One of the two milk samples was split for duplicate analysis of PCDDs/PCDFs and metals. PCDD/PCDF data are presented in wet weight concentrations for individual congeners and also as lipid normalized TEQ concentrations. Metals data are presented on a wet weight basis.

3.6.1 Inorganics

Arsenic: Arsenic was detected at an estimated concentration of 5.96 ppb in one of the two milk samples. The detected concentration of arsenic was below its benchmark value.

Beryllium: Beryllium was not detected in either of the milk samples (Table 3-8). The detection limit for beryllium was 0.86 ppb.

Cadmium: Cadmium was detected at an estimated concentration of 0.27 ppb in one of the two milk samples. The detected concentration of cadmium was below its benchmark value.

Chromium: Chromium was detected in both milk samples at concentrations of 181 and 185 ppb, respectively. The detected chromium concentrations in milk exceed its benchmark level of 100 ppb which is based on a drinking water MCL (Table 3-8).

Lead: This metal was not detected in either of the milk samples (Table 3-8). The detection limit for lead was 0.65 ppb.

Mercury: Mercury was also not detected in the milk samples (Table 3-8). The detection limit for mercury was 0.14 ppb.

Nickel: Nickel was detected in both of the milk samples. The maximum concentration of nickel was 16.8 ppb which is below its benchmark value (Table 3-8).

3.6.2 Dioxins/Furans

Two dioxin congeners (1,2,3,4,6,7,8-HpCDD and OCDD) and one furan congener (1,2,3,7,8-PeCDF) were detected in one of the two milk samples. No PCDD/PCDF congeners were detected in the other milk sample. Lipid concentrations were 3.25 – 3.37%.

TEQs were calculated using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the estimated detection limit (ND = DL). Wet weight and lipid-normalized dioxin TEQs are presented in Table 3-8. The calculated TEQs (ND = 0) were 0.641 ppq and 0.00 wet weight, and 19.7 and 0.00 ppq lipid-normalized. The calculated TEQs (ND = DL) were 41.33 and 158.2 ppq wet weight, and 1,272 and 4,695 ppq on a lipid-normalized basis. None of the lipid-normalized TEQs (ND = 0) in sampled milk exceeded the benchmark level of 3,000 ppq (lipid-normalized) although one of the two milk samples TEQs (ND = DL) results in a lipid-normalized TEQ of 4,695 that exceeds the benchmark value. It should be noted, however, that no PCDD/PCDF congeners were actually detected in this milk sample.

Section 4

Data Analysis

The primary objective of this ambient monitoring work is to determine whether or not there are measurable changes in the concentrations of certain constituents in the actual environment. The following subsections evaluate the 5th operational phase sampling results from 2014 relative to data obtained in five prior sampling events (i.e., pre-operational and 1st through 4th operational phases). Data from the 1994, 1996, and 1998 sampling events were obtained from Weston (2000). Data from 2001, 2004, and 2007 were obtained from ENSR (2002, 2006, 2009). Section 2 and Table 2-1 describe the method detection limits that have been achieved in each of the sampling programs.

In this section, the 2014 data are evaluated relative to historical measurements, and statistical trend analyses were also conducted where sufficient data were available. This section also compares the profile of PCDD/PCDF concentrations in sampled media to the RRF emissions profile.

It must be noted that lower detection limits were achieved beginning in 2001. As such, inorganic and dioxin/furan compounds not previously detected in the earlier non-air media were detected in 2001 through 2014. This does not imply that levels of these compounds have increased; rather that the more recent analytical methods provide higher resolution data with lower analytical detection limits. Lower detection limits were achieved in 2001 through 2014 due to improved sample preparation methods (to minimize matrix interferences) and better laboratory instrumentation. This higher resolution enhances the possibility of detecting trends when concentrations are very low. Only constituents detected in 2014 samples are presented in the graphs for this section. For those constituents detected in 2014 but not detected in previous monitoring phases, the graphs depict the detection limits for non-detects.

For this 5th operational phase of the County's non-air environmental media monitoring, the scope of work was expanded to include statistical analysis when appropriate (i.e., sufficient statistical data available to conduct a trend analysis). Those media and constituents where four or more sampling events were available were analyzed for trends. Trends were analyzed using the non-parametric Mann-Kendall Test. The Mann-Kendall test is particularly useful because missing values are allowed and the data do not need to conform to any distribution type. The non-parametric Mann-Kendall test for trend (Gilbert, 1987) is denoted by the Mann-Kendall statistic (S), where S is calculated:

$$S = \sum_{k=1}^{n-1} \sum_{j=k+1}^n \text{sign}(x_j - x_k)$$

In this equation, the result from the very first sampling event (i.e., pre-operational phase) is compared against each of the subsequent results. Then the second event (i.e., 1st operational phase) is compared with each of the sampling results collected after this event (i.e., the third event, fourth event, and so on...). For a sample of size n , there will be $n(n-1)/2$ distinct pairs, (k, j) with $j > k$.

The critical value for $Z_{0.95}$, as obtained from a cumulative normal distribution table is 1.645 (-1.645). Positive z values larger than the critical value and negative z values smaller than the critical value indicate increasing and decreasing trends, respectively. The mean concentration detected during each sampling event was used to evaluate the presence or absence of a statistically significant trend using the software program ProUCL (vers. 5.0). The statistical trend analyses were calculated using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the reporting limit (ND = DL).

As discussed earlier, many of the sampling results had non-detectable concentrations of the target compounds. Moreover, over time, the ability of laboratory methods to detect chemical concentrations have improved, resulting in the ability to detect lower concentrations recently compared to in the past. These changing detection limits add uncertainty to the Mann-Kendall trend tests. In order to take into account this uncertainty, non-detected chemical concentrations were evaluated in two ways: assuming zero values for all non-detects (ND = 0) and assuming non-detects are present at a concentration equal to the detection limit (ND = DL). This provides a bounding range for the reported concentrations. If both methods of analysis indicate a significantly decreasing or an increasing trend, then it can be concluded that the concentrations of a particular constituent are declining or increasing over the course of the entire monitoring program. Similarly, if both trend analyses methods conclude no significant trend (either decreasing or increasing) is present, then levels of that constituent have remained consistent (or at least have not changed significantly) throughout the entire monitoring program. If a significant decreasing trend is identified with non-detects equal to the detection limit but not when non-detects are equal to zero, then it is likely that the higher detection limits present in the earlier phases of the monitoring program are responsible for the apparent decline in the concentrations of a constituent.

Several PCDD/PCDF congeners were detected in certain environmental media and locations during each year of the monitoring program. This provides a means of evaluating trends

within these specific congeners without the complicating factors associated with elevated detection limits during the early operational phases of the monitoring program. For example, OCDD was consistently detected in at least one surface water, sediment, fish tissue, hay and milk sample collected from the same location during each operational phase where this location was sampled. A trend analysis was subsequently conducted for OCDD for these media at each location where OCDD was detected during all of the sampling events. Other than OCDD, OCDF, 2,3,7,8-TCDF, and 1,2,3,4,6,7,8-HpCDD were also detected in at least one sample analyzed from surface water, sediment, fish tissue, hay and/or milk media at a specific location during each operational phase monitoring event.

The results are presented below by compound group (inorganics and then PCDD/PCDF TEQs followed by PCDD/PCDF congeners). Within each compound group, results are then evaluated by sampled environmental medium (surface water, sediment, fish, hay and cow's milk).

4.1 Inorganics

Inorganic compounds selected for monitoring in the non-air media program include arsenic, beryllium, cadmium, chromium, lead, mercury, and nickel. When evaluating the non-air media results, it can also be informative to also consider the distribution of compounds in RRF emissions. Figure 4-1 presents the metals fingerprint for average stack emissions from the RRF (all units) from November 2008 through August 2013. Mercury is known to be emitted partially in a gaseous state, but the other metals will be predominantly associated with particulates and therefore be expected to be found in wet and dry deposition in the same relative amounts as in the emissions.

As illustrated by this graph, lead emissions are the highest of the metals – 1.5 times higher than mercury emissions which are the next highest. Potential impacts from the RRF, if reflected in abiotic environmental media would parallel this fingerprint; that is, deposition should result in relatively higher levels of lead, followed by mercury and nickel, and then relatively lesser reflections of chromium, arsenic, cadmium and beryllium in abiotic media. It is also noted that, of these metals, mercury is the most bioaccumulative (at least in an aquatic environment); so, if emissions from the RRF were impacting the surrounding area, mercury would therefore be expected to increase in biotic media (i.e., fish tissues) at a faster rate than other metals.

4.1.1 Surface Water

Pond 3 was sampled for inorganics during each of the six monitoring events while Ponds 4 and 5 were sampled during four and five sampling events, respectively. As illustrated in Figures 4-2 through 4-4, the detected total recoverable metals concentrations in 2014 at all three ponds were consistent with, or lower than, concentrations from previous sampling events.

Assuming the non-detected results are equal to their detection limits, the Mann-Kendall trend analysis concluded that statistically significantly decreasing trends are present for cadmium ($S = -12$; $p = 0.018$) and nickel ($S = -10$; $p = 0.043$) at Pond 3 and a significantly decreasing trend is also present for cadmium ($S = -9$; $p = 0.022$), nickel ($S = -8$; $p = 0.043$), and chromium ($S = -8$; $p = 0.043$) at Pond 5. However, these decreasing trends are likely attributable to the higher detection limits during the early operational phases (pre-operational and 1st operational phase). The Mann-Kendall trend analysis concluded that no significant trends are present for these constituents if $ND = 0$.

4.1.2 Sediment

Sediment was sampled from Ponds 3, 4 and 5 during the pre-operational phase (1994-95) and 1st operational phase (1996) while in 2007 Ponds 3 and 5 (but not Pond 4) were sampled for the first time since 1996. All three of these farm ponds were sampled in 2014. The sediment inorganic data from the three farm ponds are presented in Figures 4-5 through 4-7. Inorganic constituents in sediment have generally been detected in all sampling events. A statistical trends analysis was conducted for Ponds 3 and 5. Pond 4 only has results from three different years of sampling. However, concentrations of all metals detected in 2014 in Pond 4 sediments are comparable or lower than previous sampling events (see Figure 4-6).

In Pond 3 (Figure 4-5), concentrations of all constituents but cadmium are comparable to the historic data collected in previous programs conducted in 1994, 1996, and 2007. However, cadmium concentrations have significantly decreased ($S = -6$; $p = 0.045$) during the four years where this metal was analyzed in sediment from Pond 3. Cadmium was detected at Pond 3 in all four sampling events. No other metal shows a significant increasing or decreasing trend in Pond 3.

In Pond 5 (Figure 4-7), concentrations of mercury exhibit a significantly decreasing trend from the first sampling event to the 2014 sampling event ($S = -6$; $p = 0.045$). No other metal shows a significant increasing or decreasing trend in Pond 5. The highest detected concentration of

mercury was detected during the pre-operational phase (1994-95). Although mercury was not detected in the 1st operational phase sampling in 1996 the detection limit at that time was 0.05 ppm, which was above the subsequently detected levels of mercury in the 2007 and 2014 sampling events. If the non-detect mercury result from 1996 is assumed to be 0, then no significant trend is present.

4.1.3 Fish Tissue

The fish tissue (both whole-body and fillet samples) inorganic data from the three farm ponds sampled in 2014 are presented in Figures 4-8 through 4-10. Statistical trends analyses were conducted for bluegill and largemouth bass whole-body and fillet samples for all three ponds. Results are discussed below for Ponds 3, 4 and 5.

Pond 3

In Pond 3, data for whole-body bluegill are available for all six sampling events while four years of data for bluegill fillet are available. Four years of data (2001, 2004, 2007 and 2014) are available for largemouth bass whole-body and fillet samples. Concentrations of metals in whole body and fillet bluegill are generally comparable to or lower than the concentrations detected in previous sampling events with the exception of chromium and nickel which increased in 2014 (Figures 4-8a and 4-8b). Arsenic and beryllium were not detected in any bluegill fillet samples. The concentrations of cadmium and mercury within bluegill whole-body samples exhibit significantly decreasing trends from the first sampling event to the 2014 sampling event ($S = -12$ and -11 ; $p = 0.018$ and 0.03 , respectively). However, neither of these metals were detected in the pre-operational phase sampling while only mercury was detected in the 1996 1st operational phase. Assuming $ND = 0$ for all operational phases results in no significant trends for cadmium and mercury indicating that the lower detection limits in the later sampling events may be responsible for the significantly decreasing trends noted for these two metals in whole-body bluegill at Pond 3. No statistically significant trends were noted for bluegill fillets regardless of the treatment of non-detected values.

Concentrations of lead and mercury detected in 2014 in largemouth bass whole-body and fillet samples at Pond 3 either declined or were comparable to previous sampling (see Figures 4-8c and 4-8d). The detected concentrations of chromium and nickel in largemouth bass samples in 2014 increased from the previous sampling events. However, the Mann-Kendall trend analysis concluded that no significant trends are present for metals in largemouth bass samples (whole-body or fillet) for Pond 3.

Pond 4

Pond 4 has four years of bluegill whole-body sampling data (1994-95, 1996, 2004 and 2014) and two years of fillet sampling data (2004 and 2014) available. Largemouth bass were not collected in Pond 4. Concentrations of metals detected in bluegill tissues in 2014 were generally comparable or lower than previous sampling results (Figure 4-9a). All seven metals were detected in at least one of the 2014 bluegill whole-body samples collected from Pond 4 (Figure 4-9a) while only chromium, lead, mercury and nickel were detected in the 2014 bluegill fillet sample (Figure 4-9b). Statistical trend analyses were conducted only on bluegill whole-body sampling results. The concentrations of chromium within bluegill whole-body samples exhibit a significantly increasing trend from the first sampling event to the 2014 sampling event ($S = +6$; $p = 0.047$). Chromium was detected in three of the four sampling events (not detected in the one bluegill sample collected in 1996). Assuming that the concentration of this 1996 non-detect = 0 would indicate no significant trend. The elevated detection limit in the 1st operational phase sampling event conducted in 1996 confound the conclusion regarding chromium trend at this time. It should be noted that sediment samples collected from Pond 4 detected similar or lower chromium concentrations than Ponds 3 or 5. In addition, the concentrations of chromium detected in bluegill whole-body samples from Pond 4 are much lower than detected in bluegill whole-body samples collected from either Pond 3 or Pond 5. Future monitoring may clarify any trend, but the pattern of metals is not consistent with attribution to RRF emissions.

Pond 5

Pond 5 has five years of sampling data available for whole-body bluegill and largemouth bass while three and four years of data, respectively, are available for fillet samples for these two species. Arsenic, beryllium and cadmium were not detected in either bluegill or largemouth bass whole-body and fillet samples in 2014. Lead was not detected in largemouth bass whole-body samples collected in 2014.

Concentrations of lead and mercury in whole body and fillet bluegill from Pond 5 in 2014 are generally comparable or lower than the concentrations detected in previous sampling events while the concentrations of chromium and nickel increased in 2014 (Figures 4-10a). Statistical trend analyses could only be conducted on bluegill whole-body sampling results. A significantly decreasing trend is present for lead ($S = -8$; $p = 0.043$), however, this could be attributed to the higher detection limits in the earlier sampling events. If all non-detected results are assumed to be 0 then no significant trend is present. No other statistically significant trends were noted in the bluegill whole-body sampling results.

Concentrations of mercury and nickel in whole body and fillet largemouth bass and lead in fillet samples in 2014 at Pond 5 are generally comparable or lower than the concentrations detected in previous sampling events while the concentrations of chromium increased in 2014 (Figures 4-10c and 4-10d). Statistical trend analyses were conducted on both largemouth bass whole-body and fillet sampling results. No significant trends were noted in the largemouth bass whole-body or fillet sampling results using non-detects as the reporting limits or as zero.

4.1.4 Hay

Hay was first collected from the Lermond Farm and the background location in Lucketts, Virginia beginning in 2001 while hay collection at the Johnson Dairy Farm was initiated in 2004. The pre-operational and 1st operational phases collected hay samples from the Kingsbury Dairy Farm although no hay samples have been collected from this farm since.

Arsenic and beryllium were not detected in the hay samples. The concentrations of cadmium, chromium, lead, mercury and nickel in hay collected in 2014 from Lermond Farm and the background location are consistent or lower than concentrations detected in previous sampling events (2001, 2004 and 2007) for Lermond Farm and Kingsbury Dairy Farm (Figure 4-11). Hay has now been collected at the Johnson Dairy Farm for three sampling events (2004, 2007 and 2014). The metals data for Johnson Dairy Farm indicate that the 2014 data are comparable or lower than 2004 and 2007 results. In addition, the concentrations of metals in hay from the Johnson Dairy Farm are consistent with the metal concentrations in hay from Kingsbury Dairy Farm and the Lermond Farm.

Statistical trends analyses were conducted for hay samples collected from both the Lermond Farm and the reference location in Lucketts, Virginia where four years of sampling data are currently available. No significant increasing/decreasing trends were noted in the Lermond Farm or background hay samples.

4.1.5 Cow's Milk

Milk was collected from the Kingsbury Dairy Farm in the pre-operational and 1st operational phase in 1994 and 1996, and from the Johnson Dairy Farm starting in 2001 and continuing in 2004, 2007 and 2014. Beryllium, lead and mercury were not detected in the milk samples collected in 2014. The concentrations of arsenic, cadmium, chromium and nickel in cow's milk from 2014 at the Johnson Dairy Farm are consistent with, or lower than, metals concentrations from previous monitoring programs conducted at the Kingsbury Dairy Farm (Figure 4-12).

Statistical trends analyses were conducted for milk samples collected from the Johnson Dairy Farm where four years of sampling data were available. The Mann-Kendall trend analysis concluded that no significant increasing/decreasing trends are present for arsenic, cadmium, chromium and nickel.

4.2 Dioxin/Furan TEQs

Sampling in environmental media for PCDDs/PCDFs was conducted as a component of the 5th operational phase program (see Table 1-2). Over the years, different laboratories were used and detection limits also varied (generally decreasing as laboratory methods improve). These analytical factors can make it difficult to ascertain trends in sampling results over time. For example, one laboratory was used to analyze samples collected for the 1994 pre-operational and 1996 1st operational phase programs. A different laboratory was used for the 1998 operational phase samples, which achieved lower detection limits in most media. The laboratory used in 2001 and 2004 achieved lower limits than were achieved in 1998. This same laboratory was used in 2007 as in 2001 and 2004, but detection limits for all media (i.e., fish, hay, milk) except surface water (where they were similar to 2001 and 2004 data) are an order of magnitude, or more, lower than the detection limits achieved in 2001 and 2004 (Table 2-1). Detection limits in 2014 using a new laboratory were similar to detection limits reported in 2007 although matrix interference resulted in some higher detection limits for some samples. Since detection limits were generally lower in 2007 and 2014, more congeners were detected. It is necessary to recognize the effects of these changes in detection limits, in a meaningful way, as they can strongly affect direct comparison of results (as TEQs) over time.

Undetected congeners are a source of considerable uncertainty when evaluating sample data; the undetected congener may exist at any level between zero and its laboratory detection limit. When interpreting the results, the actual concentration of the congener may be assumed to be zero, or it may be assumed to exist at the detection limit. In the appendix tables of this report, when reporting instances of undetected congeners, the sample-specific numerical detection limit achieved by the laboratory is given and the symbol “U” appears.

In the calculation of a TEQ, the congener-specific uncertainty discussed above is compounded by combining (summing) laboratory results for all seventeen congeners with TEFs—any number of which may be non-detects. Other than stating the assumptions used, there is no “standard” way to handle non-detects in the calculation of TEQ values. When combining the congener values to calculate a TEQ, one may assume the zero value for all non-detected congeners, or one may assume that the non-detected congeners are present at their sample-specific laboratory detection limits. When using only the *detected* congeners and assuming the

undetected congeners have a concentration of zero, the TEQ reported is potentially underestimated. If, on the other hand, it is assumed that the non-detected congeners are present, not at zero but at their respective detection limits, then the reported TEQ is at risk of being overestimated. Neither assumption has better claim than the other of being more reflective of the actual condition of the environment. Simply stated, the actual value lies somewhere in between. Thus, the dual assumption approach bounds the range of interpretation without prejudice. This is especially important when the objective of the analysis is to detect trends over time periods during which laboratory detection limits have changed.

Laboratory detection limits have been improving since the first non-air media monitoring in 1994-1995. With improvement of detection limits (i.e., ability to detect lower concentrations), more congeners have been detected recently (2007 and 2014), and fewer congeners have been undetected, compared to prior sampling programs. Since the actual TEQ values lie somewhere in between those calculated assuming zero for non-detects, and those calculated assuming that the congeners are present at their detection limits, those changes in detection limits, over time, must be taken into account in order to make meaningful any time-series presentation of TEQ results. Therefore, in this report, all time-series presentations of TEQs are presented in paired graphs reflecting both assumptions. In this way, the otherwise confounding role in uncertainty played by changing laboratory detection limits is isolated. The general effect of improved (i.e., lower) laboratory detection limits over time is, of course, a reduction in the uncertainty of monitored values over time. Isolating that source of uncertainty allows more accurate interpretations to be made regarding actual changes in sampled environmental media.

In order to make notations compact, when TEQ values are calculated under the assumption that laboratory non-detects represent zero concentration, the simple notation use is: (ND = 0). Conversely, when TEQ values are calculated under the alternate assumption, that laboratory non-detects represent actual concentration corresponding to the non-detected congener's laboratory limits of detection, the compact notation use is: (ND = DL).

4.2.1 Surface Water

Surface water sampling data for dioxins/furans are available for all six sampling events for Pond 3 while four and five years of sampling data exist for Pond 4 and Pond 5, respectively. The dioxin/furan concentrations in surface water, represented as TCDD TEQs, from all three ponds are presented in Figure 4-13. The 2014 TEQ (ND = 0) concentrations in surface water were comparable or lower than concentrations in surface water from previous sampling events (Figure 4-13). The 2014 TEQ (ND = DL) values are lower than previous years in Ponds 3 and 4

while the 2014 TEQ (ND = DL) value in Pond 5 is lower than those for 1994 and 1996 but marginally higher than the results from 2004 and 2007.

Statistical trends analyses were conducted for surface water samples collected from all three farm ponds since four or more years of sampling data are currently available from each pond. The statistical trend analyses were calculated using two methods; non-detects equal to zero (ND = 0) and non-detects equal to the detection limit (ND = DL). The Mann-Kendall trend analysis concluded that no significant increasing/decreasing trends are present for dioxin/furan TEQs (ND = 0). However, a statistically significant ($S = -6$; $p = 0.045$) decreasing trend was noted in Pond 4 TEQs (ND = DL). No significant trends were noted in Ponds 3 or 5 for TEQ (ND = DL). Regardless of the treatment of non-detects, there was no evidence of any upward trend.

4.2.2 Sediment

Sediment was sampled from Ponds 3, 4 and 5 in 2014. Sediment was sampled from Ponds 3 and 5 (but not Pond 4) in 2007 while sediment data is available for all three ponds during the pre-operational phase (1994) and 1st operational phase (1996). Statistical trend analyses were conducted only for Ponds 3 and 5 where four sampling events exist. Dioxin/furan detection limits in the early program data from the 1990's were much higher than in 2007 and 2014. As shown in Figure 4-14, the TEQ (ND = 0) sediment concentrations in 2014 are comparable to those noted in the 1990's and lower than those noted in 2007. The 2014 TEQ (ND = DL) concentrations are lower than all previous years and this is the case for all three ponds.

The Mann-Kendall trend analysis concluded that no significant increasing/decreasing trends are present for dioxin/furan TEQs (ND = 0). However, a statistically significant ($S = -6$; $p = 0.045$) decreasing trend was noted in Pond 3 TEQs (ND = DL). No significant trends were noted in Pond 5 (ND = DL).

4.2.3 Fish Tissue

The fish tissue (both whole-body and fillet samples) dioxin/furan TEQs from the three farm ponds sampled in 2014 are presented in Figures 4-15 through 4-17. TEQ results presented in this section illustrate the lipid-normalized concentrations only. Lipid-normalized concentrations are relevant for trend analysis because dioxins/furans accumulate in fatty tissues which may vary during the different sampling events. Statistical trends analyses were conducted for bluegill and largemouth bass whole-body and fillet samples for all three ponds. Results are discussed below for Ponds 3, 4 and 5.

Pond 3

Four sampling events are available for bluegill fillet and largemouth bass whole-body and fillet samples while six years of data are available for bluegill whole-body samples. Pond 3 bluegill and largemouth bass fish tissue data are presented in Figure 4-15. TEQ (ND = 0) concentrations in bluegill and largemouth bass (both fillet and whole-body) in 2014 are comparable or lower than the data collected in previous years. The 2014 TEQs (ND = DL) are also consistent with or lower than the previous years. The Mann-Kendall trend analysis concluded that no statistically significant increasing/decreasing trends are present for dioxin/furan TEQs for bluegill/largemouth bass fillet and whole-body samples when ND = 0 or ND = DL.

Pond 4

Four sampling events are available for bluegill whole-body samples collected at Pond 4 while only two years are available for bluegill fillet samples. No largemouth bass were sampled from Pond 4. Pond 4 bluegill tissue data are presented in Figure 4-16. TEQ concentrations detected in bluegill whole-body samples in 2014 are comparable to the data collected in previous years. Fillet TEQ concentrations noted in 2014 are higher than noted in 2004 which is the only other year bluegill fillet samples were collected from Pond 4. The Mann-Kendall trend analysis for the bluegill whole-body samples concluded that no statistically significant increasing/decreasing trends are present for dioxin/furan TEQs, neither for TEQ (ND = 0), nor for TEQ (ND = DL).

Pond 5

Five sampling events are available for bluegill and largemouth bass whole-body samples collected at Pond 5 while three and four years of data are available, respectively, for bluegill and largemouth bass fillet samples. Pond 5 bluegill and largemouth bass fish tissue data are presented in Figure 4-17. TEQ (ND = 0) concentrations in bluegill and largemouth bass (both fillet and whole-body) actually detected in 2014 are comparable or lower than the data collected in previous years. The 2014 TEQs (ND = DL) are also consistent with or lower than the previous years. Again, the Mann-Kendall trend analysis concluded that no statistically significant increasing/decreasing trends are present for dioxin/furan TEQs for bluegill/largemouth bass whole-body samples or largemouth bass fillet samples regardless of the treatment of non-detects.

4.2.4 Hay

Figure 4-18 presents the wet weight TEQ concentrations in hay collected at all of the farms during each of the sampling periods. These data were not normalized to lipid content. In the case of the Kingsbury Farm which is no longer sampled as part of the monitoring program, post-operational phase TEQ values were either consistent with or lower than pre-operational monitoring regardless of whether or not detection limits were included in the calculation of the TEQ. For the 2014 hay sampling results from the Lermond Farm, Johnson Dairy Farm and the background location in Lucketts, Virginia, all TEQs are comparable or lower than TEQs noted in 2001, 2004 and 2007.

The Mann-Kendall trend analysis concluded that no statistically significant increasing or decreasing trends are present for dioxin/furan TEQs for hay samples from either the Lermond Farm or the background location in Lucketts, Virginia regardless of the treatment of non-detects. No trend analysis was conducted on the Kingsbury or Johnson Dairy Farms as only three sampling events are available for these locations.

4.2.5 Cow's Milk

Pre-operational and 1st operational phase milk data are available from the Kingsbury Dairy Farm while cow's milk was collected from the Johnson Dairy Farm in 2001, 2004, 2007 and 2014. The pre-operational and 1st operational phase data sets for the milk sampling program are not directly comparable with respect to TEQ values obtained more recently due to analytical improvements and significant lowering of detection limits. Detection limits for milk were approximately 10 times higher for individual toxic PCDDs/PCDFs in 1994 and 1996 than those for the 2001, 2004, 2007 and 2014 samples.

As reflected in Figure 4-19, the lipid-normalized TEQs (ND = 0) in 2014 milk samples from the Johnson Dairy Farm are comparable or lower than previous sampling results. The 2014 milk TEQs (ND = DL) from the Johnson Dairy Farm are comparable to earlier results. The Mann-Kendall trend analysis concluded that no statistically significant increasing or decreasing trends are present for dioxin/furan TEQs for milk samples from the Johnson Dairy Farm regardless of the treatment of non-detects. Including all milk samples from both the Kingsbury and Johnson Dairy Farms in the trend analyses also concluded that there is no statistically significant increasing or decreasing trend present for dioxin/furan TEQs.

4.3 Dioxin/Furan Congeners

Sampling in environmental media for PCDD/PCDF congeners was also conducted as a component of the 5th operational phase program. As previously discussed above, different laboratories were used and detection limits varied but generally decreased as laboratory methods improved. These analytical factors can make it difficult to ascertain trends in sampling results over time. However, several PCDD/PCDF congeners were detected during each operational phase of the monitoring within certain environmental media at several of the sampling locations. For these consistently detected congeners, a trend analysis was conducted using the actual detected results. The results of these analyses are presented below.

4.3.1 Surface Water

Surface water sampling data for dioxins/furans are available for all six sampling events for Pond 3 while four and five years of sampling data exist for Pond 4 and Pond 5, respectively. OCDD was detected in at least one sample collected from Ponds 3 and 5 during each year these ponds were sampled. In addition, 1,2,3,4,6,7,8-HpCDD was detected in all six years that surface water sampling was conducted at Pond 3. The OCDD/HpCDD concentrations in surface water from Ponds 3 and 5 are presented in Figure 4-20. The 2014 concentrations of these congeners in surface water were generally comparable or lower than concentrations in surface water from previous sampling events (Figure 4-20).

Statistical trends analyses were conducted for OCDD and HpCD detected in surface water samples collected from Pond 3 and/or Pond 5. The Mann-Kendall trend analysis concluded that a significantly decreasing trend is present for OCDD at Pond 3. No significant trends were noted in Pond 3 for HpCDD or at Pond 5 for OCDD.

4.3.2 Sediment

Sediment sampling data for dioxins/furans are available for four sampling events for Ponds 3 and 5 while only three years of sampling data exist for Pond 4. OCDD was detected in at least one sample collected from Ponds 3 and 5 during each year these ponds were sampled. In addition, OCDF and 1,2,3,4,6,7,8-HpCDD were detected in all four years that sediment sampling was conducted at Pond 3 and 5, respectively. The OCDD/OCDF/HpCDD concentrations in sediment from Ponds 3 and 5 are presented in Figure 4-21. The 2014 concentrations of these congeners in sediment were generally comparable or lower than concentrations in sediment from previous sampling events (Figure 4-21).

The Mann-Kendall trend analysis concluded that no significant increasing/decreasing trends are present for OCDD, OCDF and HpCDD at Pond 3 and/or Pond 5.

4.3.3 Fish Tissue

Dioxin/furan congeners detected during each sampling event within the fish tissue (either whole-body or fillet samples) include OCDD within largemouth bass fillet samples from Pond 3, OCDD and 2,3,7,8-TCDF within largemouth bass whole-body samples from Ponds 3 and 5. Sampling results are presented for lipid-normalized concentrations. Lipid-normalized concentrations are relevant for trend analysis because dioxins/furans accumulate in fatty tissues which may vary during the different sampling events. Statistical trends analyses were conducted for largemouth bass whole-body samples at Ponds 3 and 5 and largemouth bass fillet samples for Pond 3. Results are discussed below for Ponds 3 and 5.

Pond 3

Four sampling events are available for largemouth bass whole-body and fillet samples. Pond 3 largemouth bass fish tissue data are presented in Figure 4-22. Concentrations of OCDD and 2,3,7,8-TCDF in largemouth bass whole-body samples in 2014 are comparable or lower than the data collected in previous years. The OCDD concentrations in largemouth bass fillet samples are generally greater than observed in the previous years. However, the Mann-Kendall trend analysis concluded that no statistically significant increasing/decreasing trends are present for OCDDs/TCDF for largemouth bass fillet and whole-body samples.

Pond 5

Five sampling events are available for largemouth bass whole-body samples collected at Pond 5. Pond 5 largemouth bass fish tissue data are presented in Figure 4-23. OCDD and 2,3,7,8-TCDF concentrations in largemouth bass whole-body samples in 2014 are comparable or lower than the data collected in previous years. The Mann-Kendall trend analysis concluded that no statistically significant increasing/decreasing trends are present for OCDD/TCDF for largemouth bass whole-body samples.

4.3.4 Hay

Figure 4-24 presents the wet weight OCDD and 1,2,3,4,6,7,8-HpCDD concentrations in hay collected at the Lermond Farm and the background location in Lucketts, Virginia during each of

the sampling periods. These data were not normalized to lipid content. For the 2014 hay sampling results from the Lermond Farm and the background location in Lucketts, Virginia, the concentrations of OCDD and HpCDD are comparable or lower than concentrations noted in 2001, 2004 and 2007.

The Mann-Kendall trend analysis concluded that no statistically significant increasing or decreasing trends are present for either OCDD or HpCDD for hay samples from either the Lermond Farm or the background location in Lucketts, Virginia.

4.3.5 Cow's Milk

Cow's milk was collected from the Johnson Dairy Farm in 2001, 2004, 2007 and 2014 where OCDD and 1,2,3,4,6,7,8-HpCDD were detected in at least one sample during each operational phase. As reflected in Figure 4-25, the lipid-normalized OCDD and HpCDD concentrations in 2014 milk samples from the Johnson Dairy Farm are comparable or lower than previous sampling results. The Mann-Kendall trend analysis concluded that no statistically significant increasing or decreasing trends are present for either OCDD or 1,2,3,4,6,7,8-HpCDD for milk samples collected from the Johnson Dairy Farm during 2001 through 2014.

4.4 Summary of Trend Analysis Results

The primary objective of this ambient monitoring work was to determine whether or not there have been measurable changes in the concentrations of monitored constituents in the actual environment, and for this 5th operational phase of the County's non-air environmental media monitoring, the work was expanded to include statistical analysis where sufficient historical data are now available. Table 4-1 presents a summary of all statistical trend analysis performed. The historical database now created allowed for significance testing in a total of 213 cases. Generally, very few significant increasing or decreasing trends are evident. In 13 cases decreasing trends were evident, but most of these were generally in association with declining limits of detection. Exceptions were noted for OCDD and cadmium in Pond 3 surface water and sediment, respectively, where significant decreases were noted that are not attributed to detection limits. In only one case, chromium in whole-body bluegill in Pond 4, was any statistically significant increase detected.

4.5 Sampling Comparison with Dioxin/Furan RRF Emissions & 2014 HRA Update

The secondary objective of this monitoring study was “to assess, to the extent possible, the consistency of field observations with the air dispersion modeling results presented in TRC’s 2014 Health Risk Assessment (HRA) Update for the Montgomery County Resource Recovery Facility (RRF).” If RRF emissions were impacting the environment, one might expect to see some indication reflected in environmental media especially with respect to increasing concentrations over time. The preceding subsection has examined any evidence of trends over time in the occurrence of constituents of potential concern in environmental media since before RRF operation. In order to further address this secondary objective, this subsection of the report employs a fingerprinting approach whereby the PCDD/PCDF congener pattern of RRF emission is compared to the congener profiles observed in the environmental media sampled. Closely matching patterns between those found in the RRF emissions fingerprint and environmental media profile could suggest a potential inconsistency between the observed environment and the modeling results of the HRA Update for the RRF (TRC 2014a).

Conversely, if patterns between the emissions fingerprint and environmental media are substantially different, then other source contributions of PCDD/PCDF congeners may likely be responsible for the observed concentrations in the samples. In addition, substantial differences (i.e., orders of magnitude) between environmental media concentrations noted in this monitoring study and those predicted in the HRA Update would be indicative of sources other than the RRF. Directly comparable results from this study include fish tissue concentrations of dioxin/furan TEQs detected at Pond 3 with predicted dioxin/furan TEQs at Pond 3 as well as forage (hay) and cow’s milk concentrations that were presented in the HRA Update (TRC, 2014a).

For inorganics, a similar fingerprinting technique will be employed in a companion upcoming study being prepared by TRC, where the County monitors ambient air and compares those patterns with the RRF emissions trace metals fingerprint.

Figure 4-26 presents the profile for the pattern of tetra- through octa-chlorinated PCDDs/PCDFs homologues as emitted from the RRF stack based on actual emissions testing conducted from 2008 through 2013. This timeframe would represent the period of RRF emissions since the last operational phase monitoring was conducted in 2007. The dominant homologues include TCDFs, HxCDD, penta-CDDs, and penta-CDFs. The profile of PCDDs/PCDFs from these RRF emissions were compared to the profiles of PCDDs/PCDFs detected in the non-air environmental media samples using both the actual average detected values (ND = 0) and detection limits (ND = DL). Patterns of PCDDs/PCDFs noted within the environmental media

samples that do not closely resemble the RRF emission pattern suggest that RRF emissions are not associated with the observed PCDD/PCDF environmental concentrations. However, a pattern match could also be influenced by the fact that individual species of PCDDs and PCDFs as released to the environment may subsequently undergo transformation. For example, highly chlorinated PCDDs/PCDFs may undergo reductive dechlorination under anaerobic conditions. In addition, following uptake into biota, the pattern of relative abundance of PCDDs/PCDFs may undergo transformation and/or elimination due to metabolism by the organism (Opperhuizen and Sum, 1990).

An additional method to evaluate the potential for the RRF to influence PCDDs/PCDFs detected in non-air environmental media would be to evaluate the relative pattern of the four HxCDF congeners actually measured as present in the RRF emissions in comparison with their relative distribution in the non-air media. However, HxCDF congeners were detected only in sediment samples collected from two of the three farm ponds and not in any other media. For sediment samples from the two farm ponds (Ponds 3 and 4) where these congeners were detected, the relative pattern of abundance of the four HxCDF congeners detected were compared to the relative pattern of abundance of these congeners as emitted from the RRF.

4.5.1 Surface Water

Figure 4-27 presents the PCDD/PCDF RRF emission profile data alongside the results of the surface water sampling for each of the three ponds sampled during the 2014 program. The only PCDDs detected were OCDD and Hp-CDDs while no PCDFs were detected in the surface water samples collected from the ponds. At all three ponds, approximately 90% of the PCDDs/PCDFs detected in the surface water samples was OCDD. Regardless of whether non-detects taken as equal zero (ND=0) or non-detects are taken as at their detection limits (ND=DL), the surface water PCDD/PCDF profiles for the three ponds are similar to each other but do not resemble the RRF emission profile.

4.5.2 Sediment

Figure 4-28a presents the PCDD/PCDF congener profile of RRF emissions alongside the PCDD/PCDF congener profile of the sediment sampled at the three ponds for both the detected PCDDs/PCDFs (ND = 0) and with non-detects equal to the detection limit (ND = DL). As most PCDDs/PCDFs were detected in the sediment samples, these two figures are very similar. The predominant PCDDs detected at all three ponds were OCDD and Hp-CDDs while Hx-CDDs were detected at higher concentrations at Pond 5. Although PCDFs were detected in the sediment samples collected from all three ponds, the concentrations were low compared to the

various PCDDs and generally represented less than 1% of the profile. At all three ponds, approximately 80 - 90% of the PCDDs/PCDFs detected in the sediment samples was OCDD. Thus, although the sediment PCDD/PCDF profiles for the three ponds vary somewhat from pond to pond, none of these profiles resemble the RRF emission profile.

Three of the four HxCDF congeners were detected in one of the two samples that were each collected from Ponds 3 and 4. Figure 4-28b presents the relative amounts of these HxCDF congeners detected in stack testing from 2008 through 2013 at the RRF with the relative amount of these congeners detected in the samples collected from Ponds 3 and 4 (none of these congeners were detected in Pond 5). Based on the distribution of the four HxCDF congeners within the pond sediment samples, the source of these HxCDF congeners is likely a combustion source. However, as depicted in Figure 4-28b, although the relative amounts of the HxCDF congeners at Pond 3 are more similar to the RRF emission distribution than the Pond 4 congeners, neither of the profiles closely resemble the RRF emission profile for the HxCDF congeners. It should be noted that other combustion sources are known to exist in the area, and according to Dwyer and Themelis (in press), in 2012, waste-to-energy sources represented 0.84% of all controlled combustion sources of dioxin emissions in the U.S. The primary air sources of PCDDs/PCDFs include emissions associated with the backyard barrel burning of refuse as well as coal combustion emissions (USEPA, 2006b).

4.5.3 Fish Tissues

Figure 4-29a presents the PCDD/PCDF profiles for the bluegill whole-body sampling results from each of the three ponds assuming non-detects equal zero and the detection limits, respectively. The profiles for Pond 3 and Pond 5 were similar while the Pond 4 profile was comprised of less OCDD but higher concentrations of Hp-CDD and PCDFs (particularly TCDFs and Hp-CDFs). Pond 3 and Pond 5 profiles are not similar to the RRF emission profile. Although the Pond 4 profiles are more similar to the air emission profile (with respect to OCDD and TCDFs), there are dissimilarities with other congeners (Hx-CDD, OCDF, PCDD, PCDF), indicating no correlation with the RRF emission pattern. This is corroborated by the bluegill fillet PCDD/PCDF profiles (Figures 4-29b) which indicate no close resemblance with the RRF emission profile.

Largemouth bass whole-body (Figure 4-30a) and fillet (Figures 4-30b) profiles are comprised of a much greater percentage of OCDD (whole-body samples and Pond 3 fillet samples) or TCDF (Pond 5 fillet samples only) than the emission profiles. Overall, little similarity exists between the largemouth bass samples and the RRF emission profiles.

In addition to the fingerprint analysis discussed above, the predicted fish tissue concentrations of dioxin/furan TEQs (as well as most metals) within Pond 3 that were presented in the 2014 HRA update (TRC, 2014a) are generally seven to nine orders of magnitude below the actual dioxin/furan TEQs detected in fish from Pond 3. The comparison of predicted and actual PCDD/PCDF congener concentrations in whole-body fish tissues at Pond 3 (see Table 3-6b) concluded that there was generally good correlation within these concentrations based on actual sediment PCDD/PCDF concentrations. The significantly greater concentrations noted in Pond 3 sediments and fish tissues provide an additional indication that other combustion sources are likely responsible for the detected concentrations of PCDDs/PCDFs detected at Pond 3. If RRF emissions were a major contributor to these concentrations, then it would be expected that levels would be increasing within the sediment and fish tissue. Increasing trends are not occurring within either sediments or fish tissues collected from Pond 3 (or any of the ponds studied).

4.5.4 Hay

Dioxin/furans present within hay samples are expected to be present from air deposition and direct air-to-plant transfer onto the surfaces of the plants. Figure 4-31 presents the PCDD/PCDF profiles for the hay samples from each of the three farms assuming non-detects equal zero and the detection limits. Although a variety of PCDDs/PCDFs were detected in the hay samples collected from three sampling locations, OCDDs comprised a much greater percentage of the PCDDs/PCDFs in the hay samples while other congeners comprise a lower percentage (e.g., HxCDF, PCDF) than are present in the RRF emission profile. In addition, the background hay sample has a similar profile with the hay samples collected from the Lermond Farm and Johnson Dairy Farm suggesting PCDDs/PCDFs are likely attributable to similar sources but not the RRF. Finally, the predicted dioxin/furan TEQ concentrations in forage presented in the HRA Update (TRC, 2014a) are several orders of magnitude below the levels noted in this monitoring study. This difference would indicate that other dioxin/furan sources are likely responsible for the concentrations of dioxin/furans that were observed in this study.

4.5.5 Cow's Milk

Figure 4-32 presents PCDD/PCDF air emission profile data alongside the results of the cow's milk sampled during the 2014 program for only the detected PCDDs/PCDFs (ND = 0) and for the results with non-detects equal to the detection limit (ND = DL). The primary PCDDs/PCDFs detected were OCDD and Hp-CDDs which were also the main PCDDs/PCDFs detected in the hay samples. The milk PCDD/PCDF profiles (either assuming non-detects equal zero or the detection limit) for the 2014 samples do not resemble the air emission profile.

The RRF dioxin/furan emission profile (see Figure 4-26) shows the highest emitted congener is TCDF, but all congeners are present. The lower chlorinated congeners are generally more bioaccumulative than the higher chlorinated congeners (USEPA 2005). Bioconcentration factors represent uptake/biotransfer rate of the congeners from environmental media (e.g., food) into cow's milk (Ba Milk). Any tissues potentially impacted by the RRF emissions would be expected to have levels of TCDD, TCDF, PeCDF and HxCDF reflective of this fact. This is not the case for either milk or hay from Arthur Johnson Farm. The milk samples (see Figure 4-32) have very low concentrations for HpCDD, OCDD and Pe-CDF with no other dioxin/furan congeners detected. Hay samples (Figure 4-31) from the Johnson Dairy Farm show a similar distribution with OCDD and HpCDD representing the highest concentrations of congeners detected although Hx-CDD, Pe-CDF, HxCDF and Hp-CDF were also detected at low concentrations. Neither the cow's milk nor the hay samples had any detects of TCDD or TCDF which are more bioaccumulative than OCDD and HpCDD. Finally, the predicted dioxin/furan TEQ concentrations in cow's milk that were presented in the HRA Update (TRC, 2014a) are several orders of magnitude below the levels noted in this monitoring study (assuming NDs = 0 or DL). This difference would indicate that other dioxin/furan sources are likely responsible for the concentrations of dioxin/furans that were observed in this study. Therefore, there is no evidence indicating that the very low PCDD/PCDF concentrations in milk and hay are linked to the RRF.

4.5.6 Other Potential PCDD/PCDF Sources

Figure 4-33 presents profiles for tetra- through octa-chlorinated PCDD/PCDF homologues that are emitted from a variety of other potential combustion sources including unleaded gasoline (vehicles with catalytic converter), household waste via barrel burning, coal from utility boilers and wood (industrial sources). These profiles were derived from emission data presented in USEPA (2001b) and are based on detected values only (i.e., ND = 0).

The homologue profiles for all of these sources other than barrel burning of household waste are dominated by OCDDs. Barrel burning of household waste results in tetra-CDFs being the most dominant homologues followed by penta-CDFs. Unleaded gasoline combustion is comprised primarily of OCDDs and tetra-CDFs while coal combustion is dominated by OCDDs and then tetra-CDDs, penta-CDFs and OCDFs. Wood combustion is also comprised primarily of OCDDs followed by nearly equal amounts of tetra-CDFs and penta-CDFs.

The profile of PCDDs/PCDFs from these other potential sources of PCDDs/PCDFs can be compared to the profiles of PCDDs/PCDFs detected in the non-air environmental media samples using the actual average detected values (ND = 0). A comparison of the profiles

presented in Figure 4-33 with the profiles detected in the non-air environmental media (Figures 4-27 through 4-32) do not readily identify a likely sole source that is responsible for the PCDDs/PCDFs detected in the environmental samples although combustion of unleaded gasoline provides the closest match of these four additional emission sources. As there may be many contributing PCDD/PCDF sources, the comingling of these emission sources presents difficulties in identifying a single primary source of PCDDs/PCDFs. Background concentrations of PCDDs/PCDFs in ambient air and hence atmospheric deposition into other environmental media are most often attributed to an aggregate of emissions from a variety of combustion sources.

An additional factor that makes source identification difficult; particularly for samples that are primarily comprised of OCDDs; is that OCDDs may be produced photochemically from precursor pentachlorophenol (PCP). PCP was formerly widely used primarily as a wood preservative but also in various pesticides. In addition to PCDDs/PCDFs being directly contained within technical grade PCP products, OCDD can be produced from PCP via a photochemical reaction within soils. Its use as a wood preservative along with aromatic hydrocarbons resulted in subsequent dispersion into the environment including deposition of PCP onto soils where OCDD could readily be formed and subsequently transported to downgradient environments including aquatic habitats.

Section 5

Summary and Conclusions

The 5th operational phase non-air environmental media sampling event was conducted in June, 2014. The 2014 data provides an update to the earlier sampling and continues the long-term monitoring program for the Montgomery County RRF.

As part of 2014 sampling, three farm ponds (Ponds 3, 4, and 5) were sampled for surface water and sediment (two samples from each pond), a lower trophic level fish (whole body and fillet), and a higher trophic level fish (whole body and fillet). Although samples for these media were proposed to be collected from the same three ponds that were sampled in 2007 (last sampling event of the monitoring program), one of the private farm ponds (Pond 2) had recently been drained so an alternative pond (Pond 4) was sampled. This pond had previously been sampled with the latest sampling event conducted in 2004. Surface water was analyzed for water quality parameters (pH, specific conductance, dissolved oxygen, and temperature) and total hardness (as CaCO₃), sediment was analyzed for total organic carbon and the biotic media were analyzed for percent lipid (i.e., percent fat).

One nearby dairy farm (Johnson Dairy Farm) was sampled for cow's milk and hay while hay was also collected from a farm located within the RRF emissions maximum deposition zone (Lermond Farm) and a location outside the influence of RRF emissions ("background" site in Lucketts, Virginia).

All samples were analyzed for the seventeen PCDD/PCDF congeners and combined to calculate the TEQ values in accordance with World Health Organization TEFs and for the same select group of seven trace metals (arsenic, beryllium, cadmium, chromium, lead, mercury, and nickel) that had been studied in previous phases of the monitoring program. In order to isolate and bound the uncertainty inherently introduced by laboratory detection limits when calculating TEQ values, especially important for examining changes over time, TEQ values were calculated both by assuming zero value for non-detected congeners, and alternately assuming that non-detected congeners actually existed at concentrations equal to the laboratory method detection limits for each non-detected congener. As in Section 4, for the purpose of compact notation, the zero assumption is indicated by TEQ (ND = 0) and the alternate assumption by TEQ (ND = DL).

The concentrations of compounds analyzed for in 2014 samples were generally compared to the existing set of historic data collected in previous monitoring programs for PCDDs/PCDFs and inorganics and compared to available benchmarks that were identified for Federal and Maryland regulatory agencies and the published literature. In addition, a statistical Mann-Kendall trend analysis for data sets containing four or more sampling events. The historic data include pre-operational baseline data (1994-1995), and data from the first four operational phase events (1996 –1998, 2001, 2004, and 2007).

The primary objective of this ambient monitoring work is to determine whether or not there are measurable changes in the concentrations of certain constituents in the actual environment. A secondary objective is to assess, to the extent possible, the consistency of field observations with the results of the air dispersion modeling and health risk assessment protocols earlier performed (TRC, 2014a). Based on a review of the historic and recent 2014 data, the following is a summary of findings for each environmental media:

5.1 Surface Water

- Water quality measurements of pH and dissolved oxygen content were found to be in the normal range at all three ponds with the two deeper ponds exhibiting thermal stratification with very low dissolved oxygen levels near the pond bottoms;
- Mercury was not detected in any of the surface water samples;
- Surface water concentrations of metals detected in all three ponds were generally consistent with, or lower than, historical data collected in previous monitoring programs. Significantly decreasing concentrations of cadmium and nickel were noted at Pond 3 and for cadmium, chromium and nickel at Pond 5. However, these decreases may be attributable to lowered detection limits in latter sampling events; and,
- No statistically significant trends in TEQ values (ND = 0) are evident for any of the three ponds. Although a statistically significant decreasing trend is present for TEQs (ND = DL) for Pond 4, this is due, at least in part, to decreasing detection limits. A statistically significant decreasing trend is present for OCDD in surface water at Pond 3 which is unaffected by detection limits as OCDD was detected in each operational phase sampling event.

5.2 Sediment

- All seven metals were detected in the sediment samples collected from the three ponds. The concentrations of the metals were generally consistent among the three ponds;
- Pond 4 has results from only three years of sampling so statistical trend analysis could not be performed. However, it can be seen that concentrations of all metals detected in 2014 in Pond 4 sediments are comparable or lower to previous sampling events;
- A statistical trends analysis was able to be conducted for Ponds 3 and 5. It indicated that Pond 3 sediment concentrations of cadmium have significantly decreased over time. Mercury levels in Pond 5 sediment have also declined significantly although this may be attributable to lower detection limits; and,
- Sediment concentrations in 2014 are comparable to TEQ (ND = 0) noted in the 1990's and lower than TEQs noted in 2007. Mann-Kendall analysis concluded that no significant increasing/decreasing trends are present for dioxin/furan TEQ (ND = 0). A significantly decreasing trend was noted in Pond 3 for TEQ (ND = DL). No significant trends were noted in Pond 5 for TEQ (ND = DL).

5.3 Fish

- Each of the seven metals were detected in one or more of the fish tissue samples collected from the three ponds and bluegill and largemouth bass fillet and whole body samples have detected concentrations of metals in 2014 that are comparable or lower than data collected in previous programs. Due to lower detection limits in latter sampling events, the bluegill whole-body concentrations of cadmium and mercury at Pond 3 and lead at Pond 5 exhibited significantly decreasing concentrations over time;
- Bluegill whole-body concentrations of chromium at Pond 4 have significantly increased if assuming all non-detects are equal to the detection limit, and no significant trend is evident for chromium when assuming non-detects are equal to zero. Future monitoring may clarify whether a trend exists; and,
- TEQ concentrations in bluegill and largemouth bass fillet and whole body samples detected in 2014 at all three ponds are comparable or lower than data collected in previous sampling events. The trend analysis concluded that no significant increasing or decreasing trends are present for dioxin/furan TEQs for bluegill/largemouth bass whole-body samples or fillet samples when non-detects

are assumed to equal zero or if non-detects were assumed to be equal to the detection limits.

5.4 Hay

- Metals concentrations in hay collected in 2014 from the Johnson Dairy Farm are generally consistent with concentrations detected in previous sampling events and the 2014 background results. Statistical trends analyses were conducted for hay samples collected from the Lermond Farm and the reference location in Lucketts, Virginia. No significant increasing/decreasing trends were noted in the Lermond Farm or background hay samples; and,
- For the 2014 hay sampling results, the TEQs are comparable or lower than TEQs noted in 2001, 2004 and 2007. The trend analysis concluded that no significant increasing or decreasing trends are present for dioxin/furan TEQs for hay samples from either the Lermond Farm or the background location in Lucketts, Virginia when non-detects are assumed to equal zero or if non-detects were assumed to be equal to the detection limits.

5.5 Cow's Milk

- Beryllium, lead, and mercury were not detected in the 2014 milk samples. Arsenic and cadmium were each detected in one milk sample while chromium, and nickel were detected in both samples;
- Metals concentrations in milk from 2014 are consistent with, or lower than, historic metals concentrations from previous monitoring programs. The trend analysis concluded that no significant increasing/decreasing trends are present for arsenic, cadmium, chromium and nickel;
- Two dioxin congeners (1,2,3,4,6,7,8-HpCDD and OCDD) and one furan congener (1,2,3,7,8-PeCDF) were detected in one of the two milk samples. No dioxin/furan congeners were detected in the other milk sample; and,
- The 2014 milk TEQs are comparable to earlier results when including the detection limits in the calculation of TEQs. The trend analysis concluded that no significant increasing or decreasing trends are present for dioxin/furan TEQs for milk samples from the Johnson Dairy Farm when non-detects are assumed to equal zero or if non-detects were assumed to be equal to the detection limits. Including all milk samples from both the Kingsbury and Johnson Dairy Farms in the trend analyses also concluded that there are no significant increasing/decreasing trends present for dioxin/furan TEQs.

5.6 Conclusions

In general, metal concentrations in non-air environmental media collected during the 5th operational sampling program are consistent with concentrations from previous sampling events. Significant decreases were noted for some metals over time although these declines are generally attributable to lowered detection limits from latter sampling events compared to the earlier sampling programs. Cadmium concentrations, however, have significantly decreased in Pond 3 sediments. Chromium concentrations have significantly increased in bluegill whole-body samples from Pond 4 if non-detects are assumed to equal the detection limits. However, Pond 4 has a limited fish data set (seven total whole-body samples) and was last sampled in 2004 prior to the recent 2014 sampling event. Future monitoring may clarify if any trend exists.

Concentrations of PCDDs/PCDFs detected in the non-air environmental media in 2014 were generally comparable to or lower than previous sampling events. Better detection limits were achieved in latter sampling events which result in TEQ concentrations that are statistically declining although this is an artifact of the elevated detection limits in the earlier sampling programs. However, a statistically significant decline in OCDD concentrations in Pond 3 surface water is noteworthy as this contaminant was detected in each operational phase sampling event and is unaffected by detection limits. TEQ concentrations calculated using only detected congeners (that is, assuming zero for non-detected congeners), do not indicate any significant increasing or decreasing trends in any of the environmental media sampled.

The pattern of PCDD/PCDF congeners in the non-air environmental media samples do not, in general, reflect the pattern of PCDD/PCDF emissions from the RRF. More detailed analyses were conducted of hexa-chlorinated furans for sediment samples in order to ascertain if any correlations are present between these samples and the RRF emissions. This analysis concluded that, although the source of the HxCDFs may be due to combustion, there do not appear to be similarities between the RRF emission and the 2014 environmental media sample profiles. Other combustion sources may include backyard barrel burning of refuse, waste wood burning, residential/industrial wood combustion, combustion of unleaded gasoline, and industrial coal-fired utilities and boilers (USEPA, 2006b). Therefore, it is concluded that other sources of dioxins/furans are present in the study area and contributing to the dioxin/furan concentrations present in the 2014 samples.

Section 6

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FIGURES



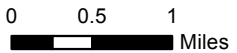
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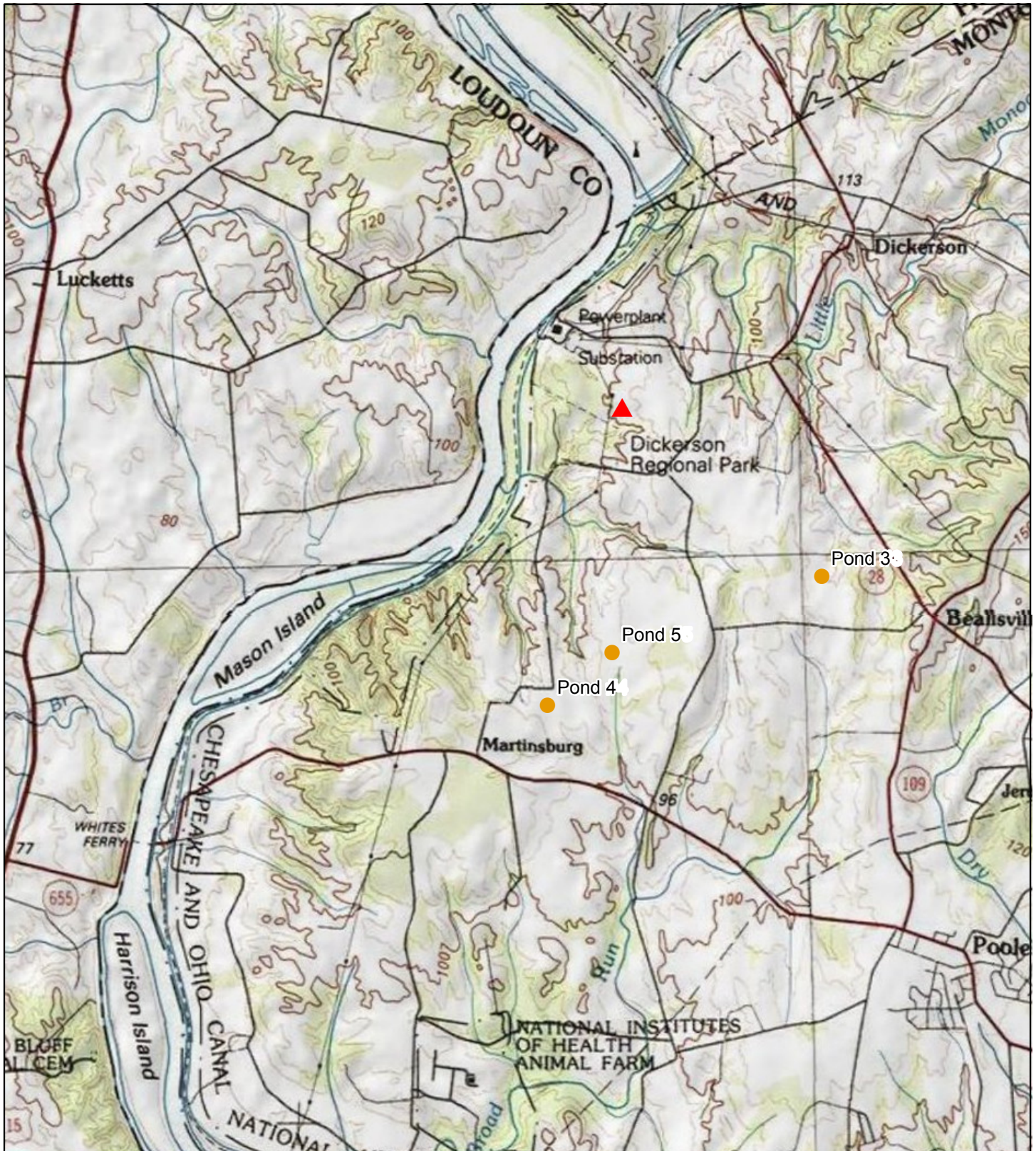


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HISTORIC SAMPLING LOCATIONS
MONTGOMERY COUNTY RRF
MONTGOMERY COUNTY, MARYLAND

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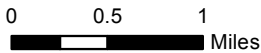




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- Pond Location



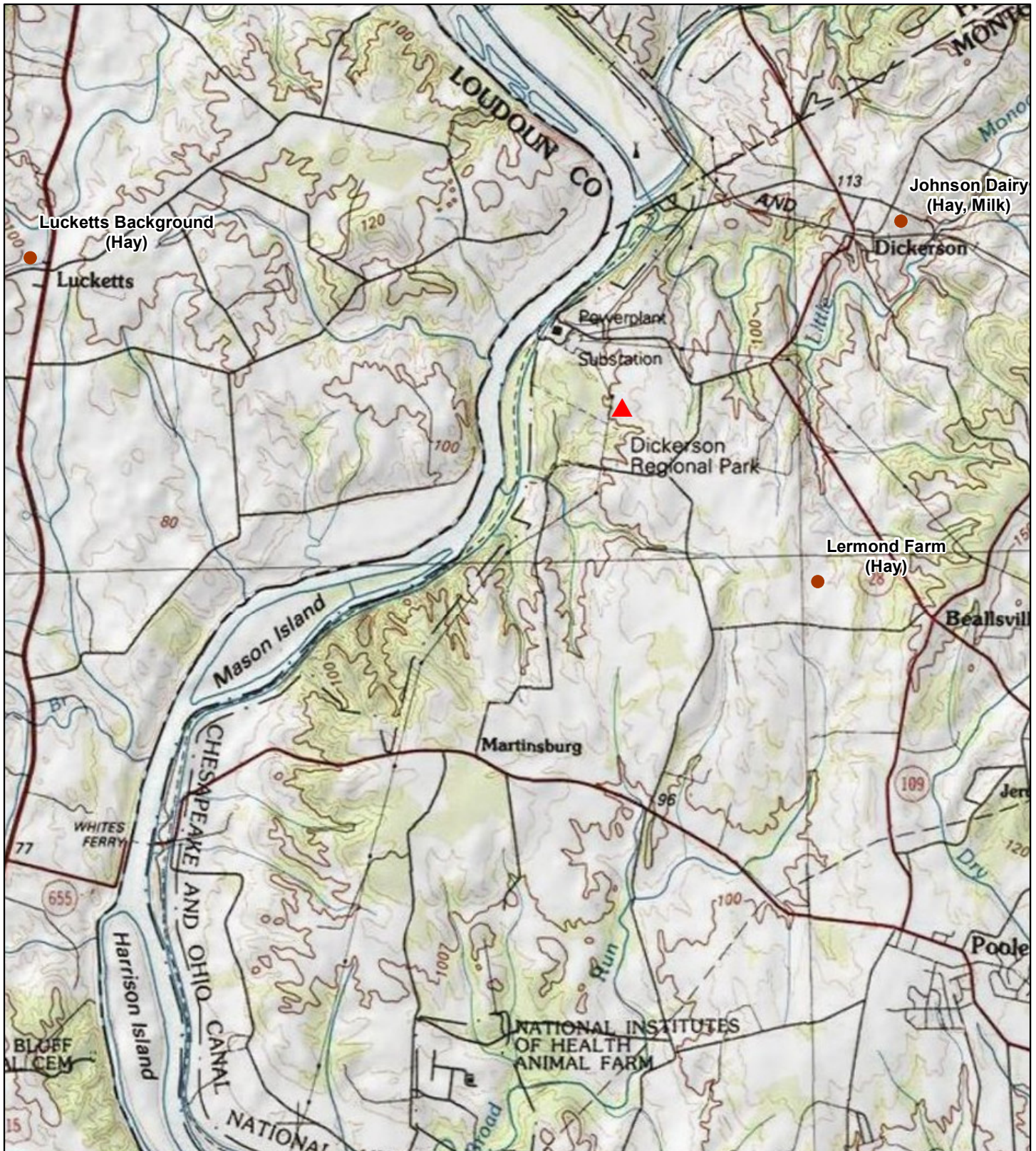
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**SURFACE WATER, SEDIMENT
AND FISH
SAMPLING LOCATIONS
MONTGOMERY COUNTY RRF
MONTGOMERY COUNTY, MARYLAND**

FIGURE 2-1 | DECEMBER 2014



- ▲ Site Location
- Farm Location



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FORAGE (HAY) AND COW'S MILK SAMPLING LOCATIONS
MONTGOMERY COUNTY RRF
MONTGOMERY COUNTY, MARYLAND

FIGURE 2-2 DECEMBER 2014

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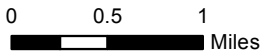


Figure 4-1: Average Metals Emission Rates from Montgomery Country RRF All Units
November 2008 - August 2013

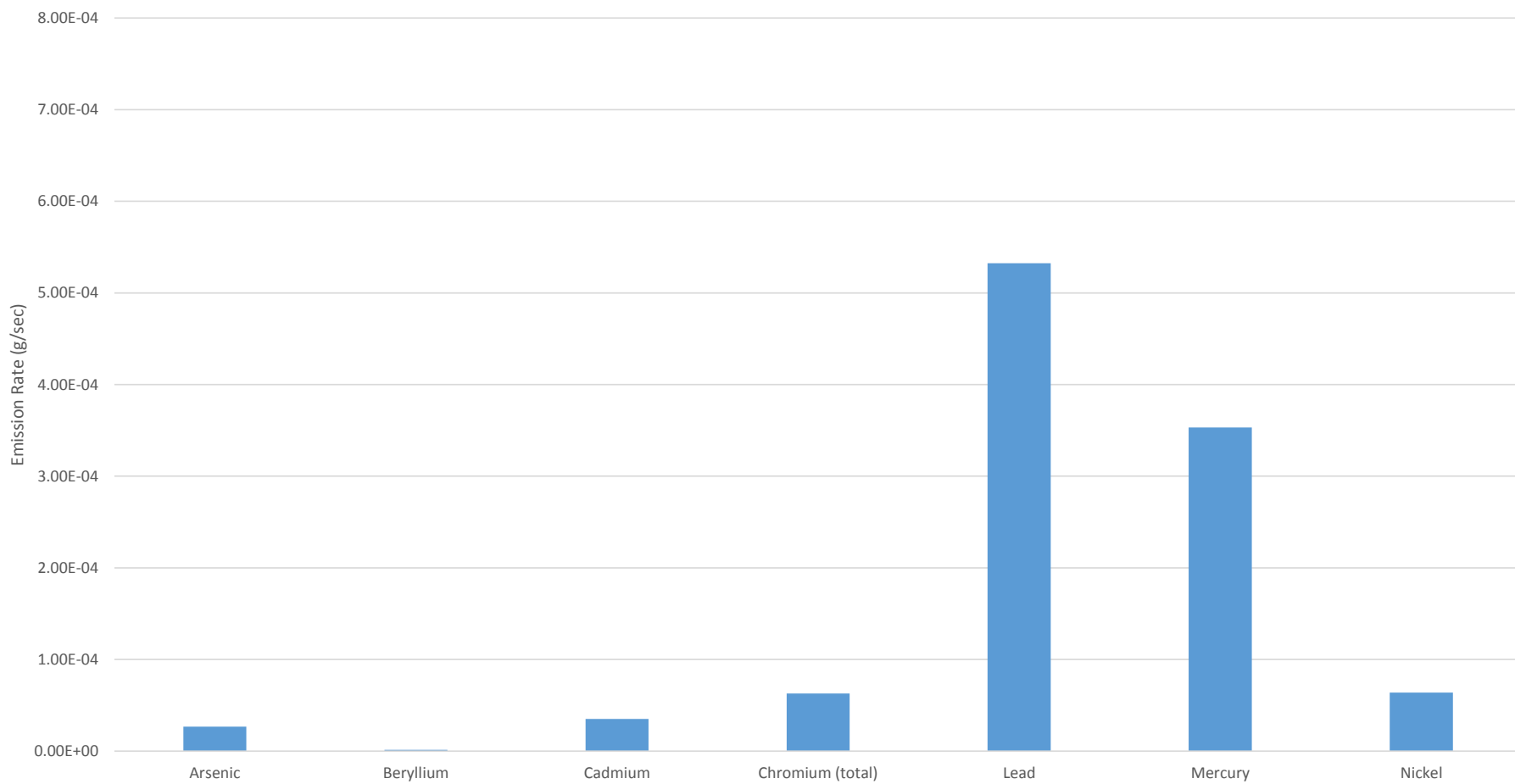
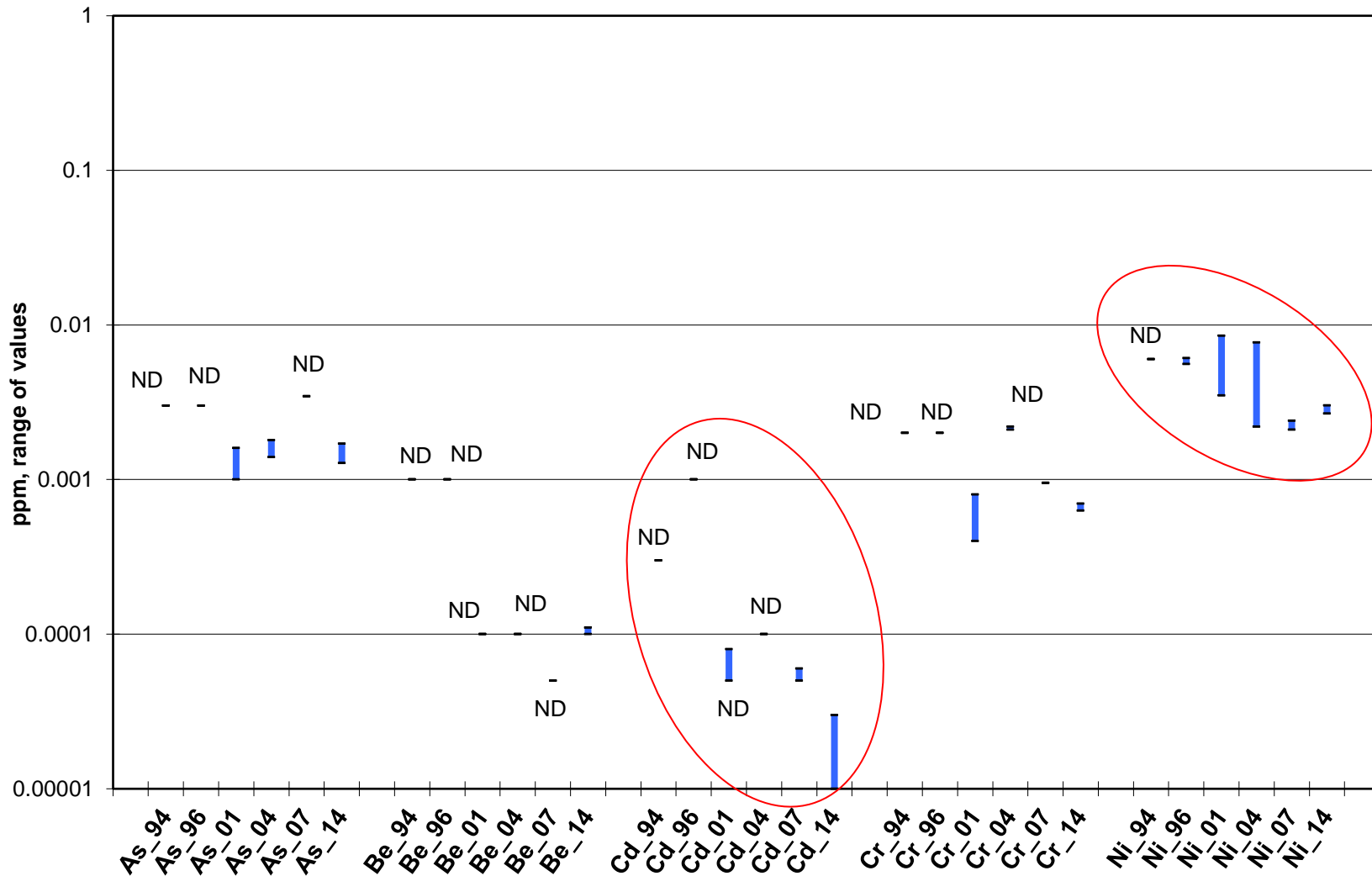
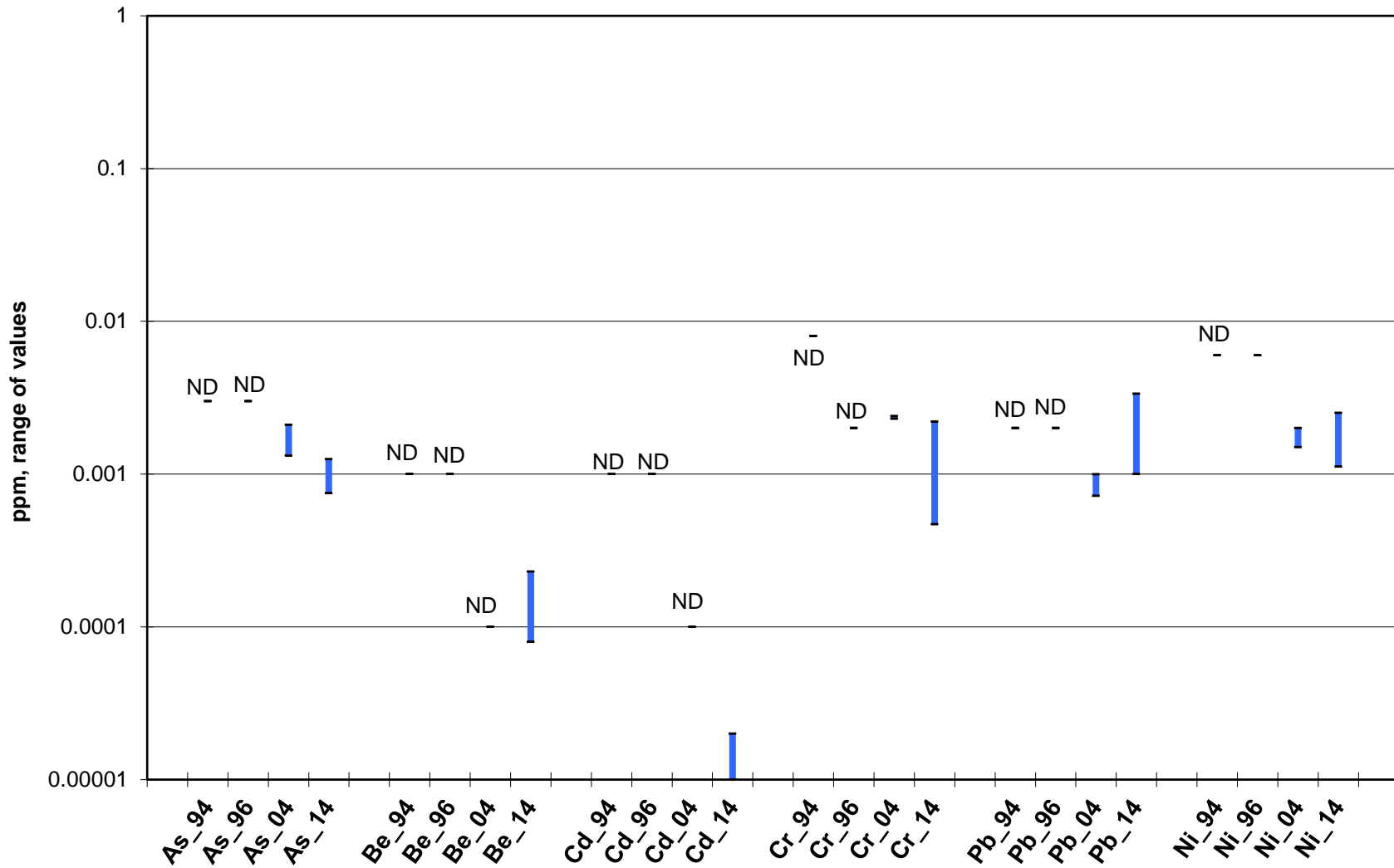


Figure 4-2.
Total Metals Detected in Surface Water - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



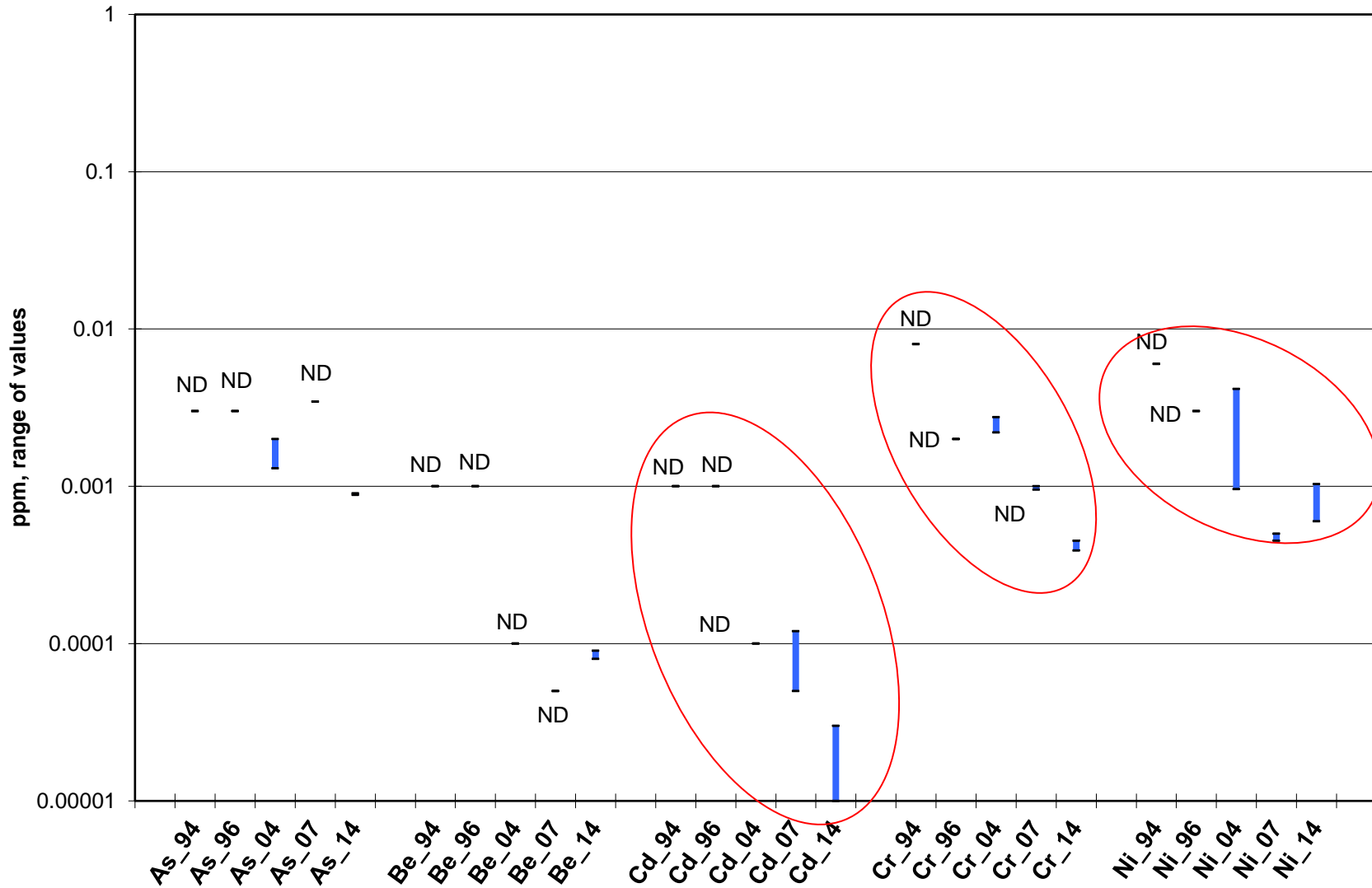
Notes: No mercury or lead detected in Pond 3 surface water in 2014
 Red oval indicates statistically significant decreasing concentrations

Figure 4-3.
Total Metals Detected in Surface Water - Pond 4
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



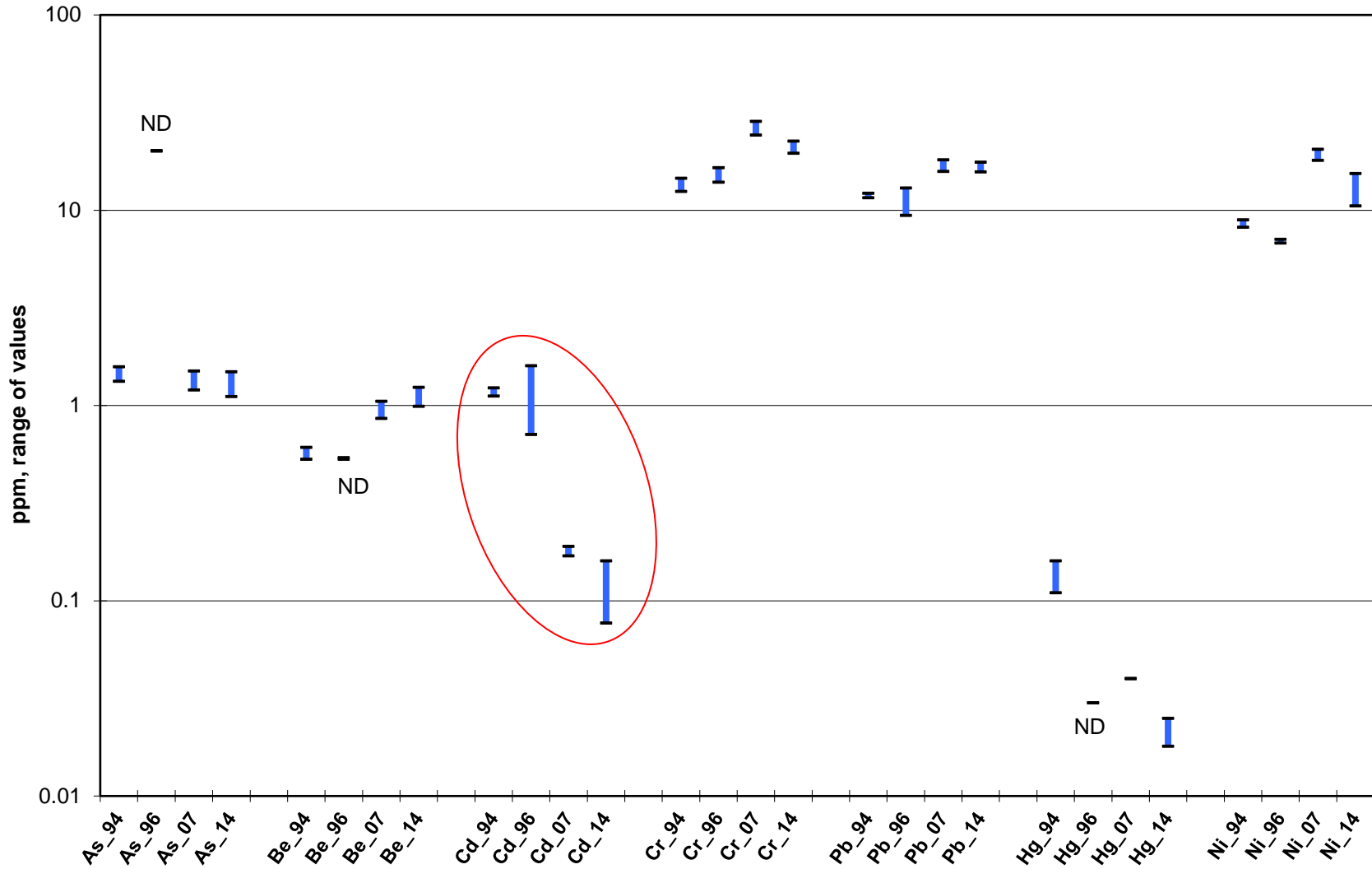
Note: No mercury detected in Pond 4 surface water in 2014

Figure 4-4.
Total Metals Detected in Surface Water - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



Notes: No lead or mercury detected in Pond 5 surface water in 2014
 Red oval indicates statistically significant decreasing concentrations

Figure 4-5.
Metals Detected in Sediment - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



Note: Red oval indicates statistically significant decreasing concentrations

Figure 4-6.
Metals Detected in Sediment - Pond 4
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

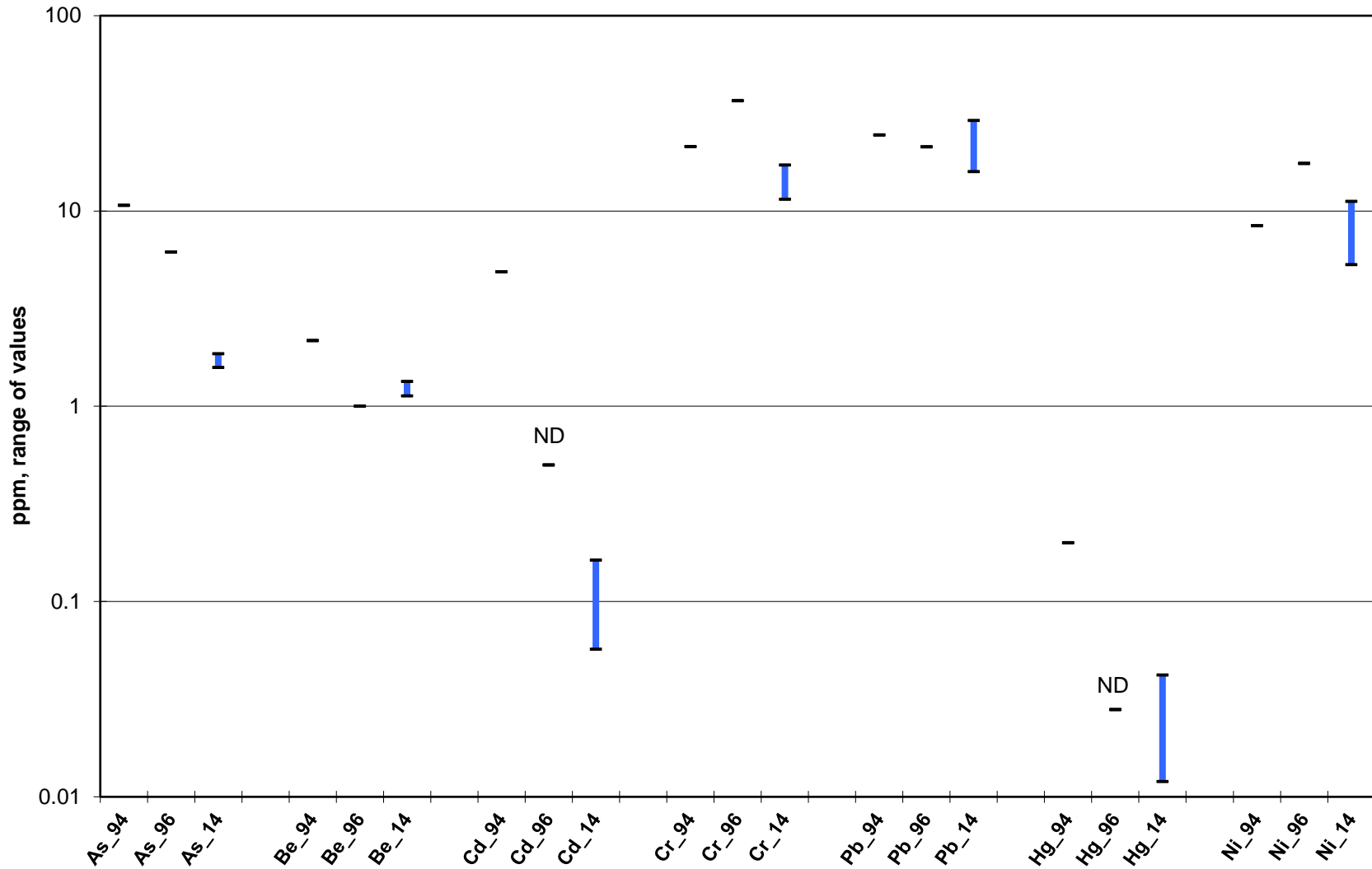
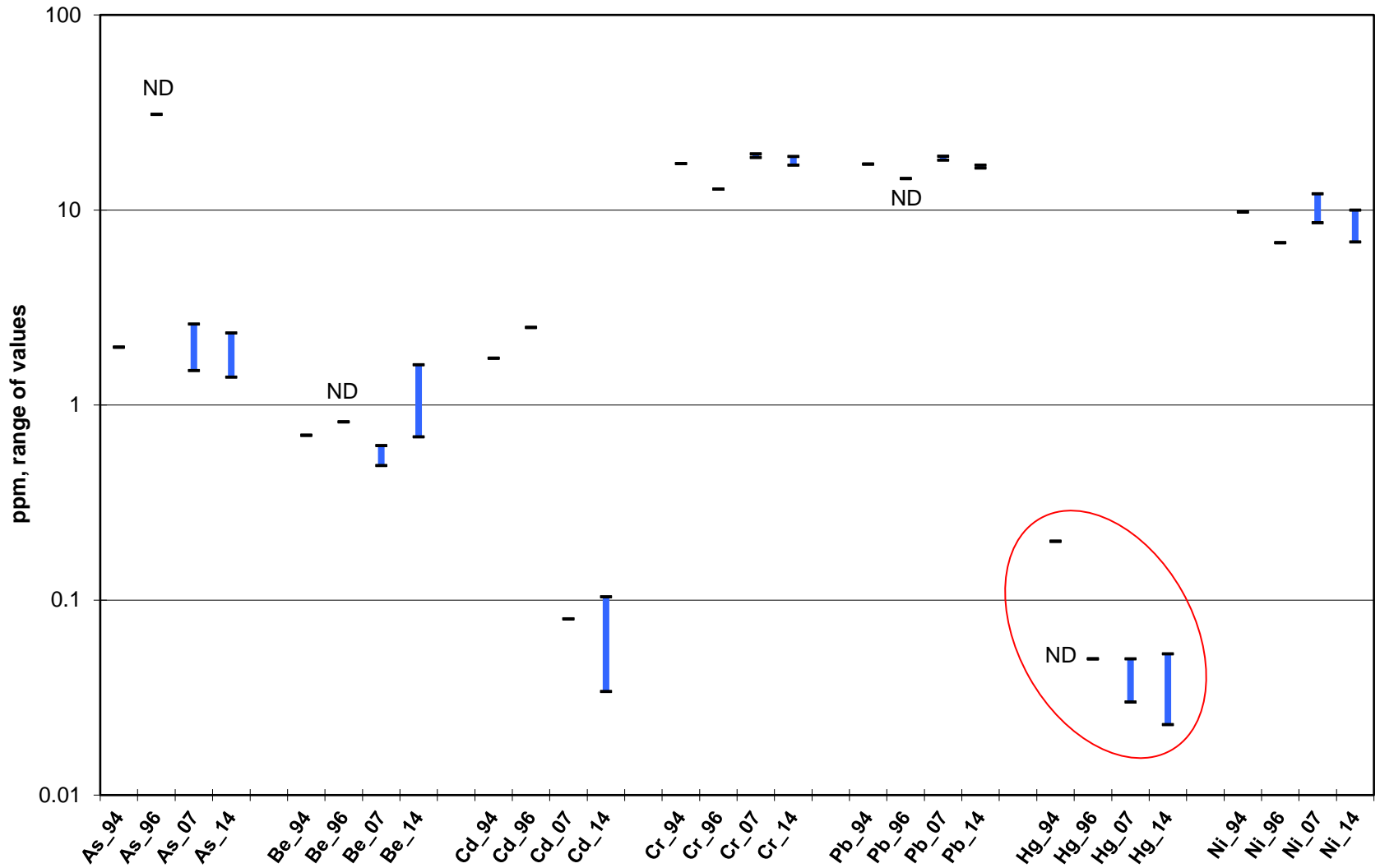
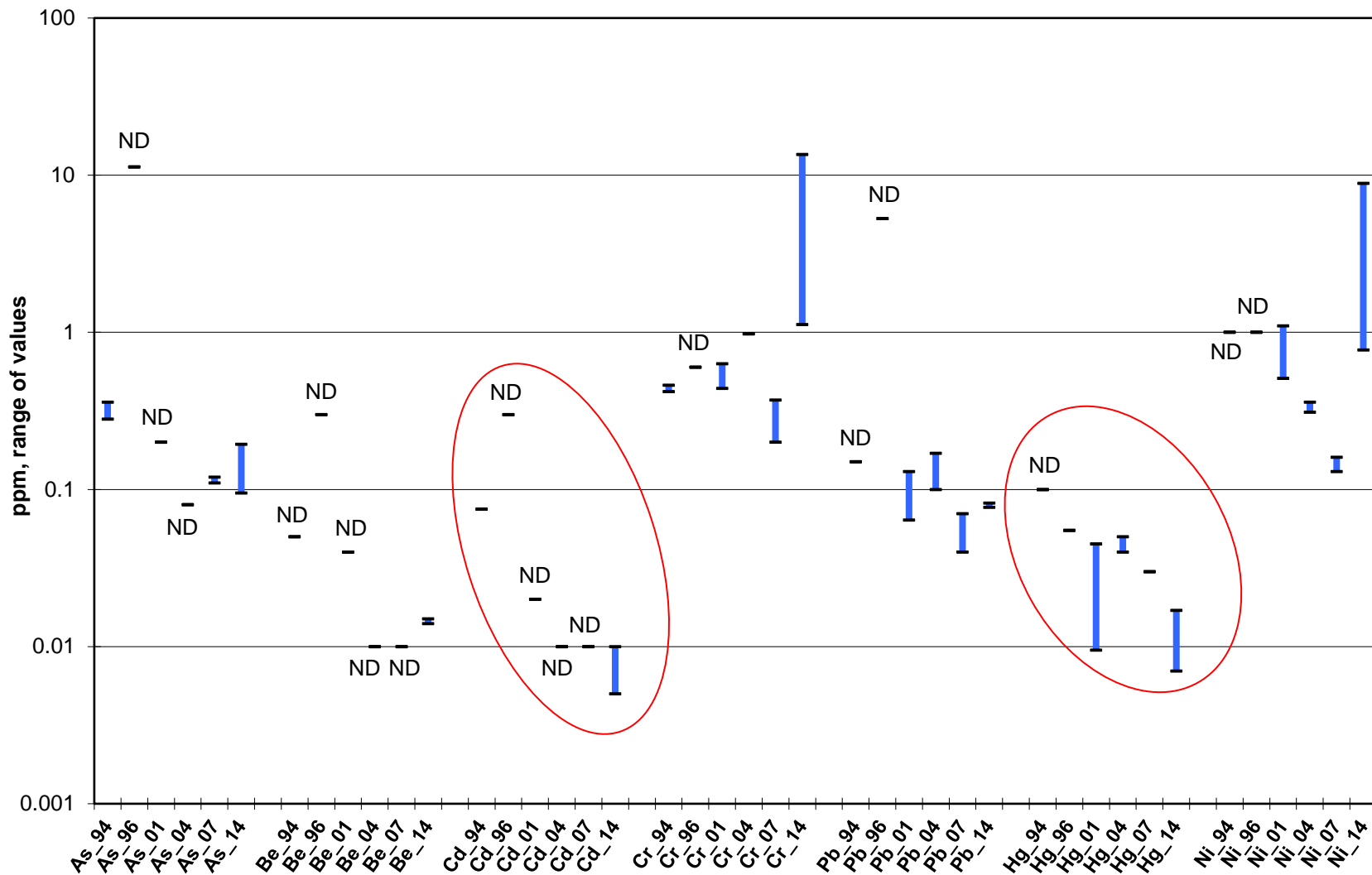


Figure 4-7.
Metals Detected in Sediment - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



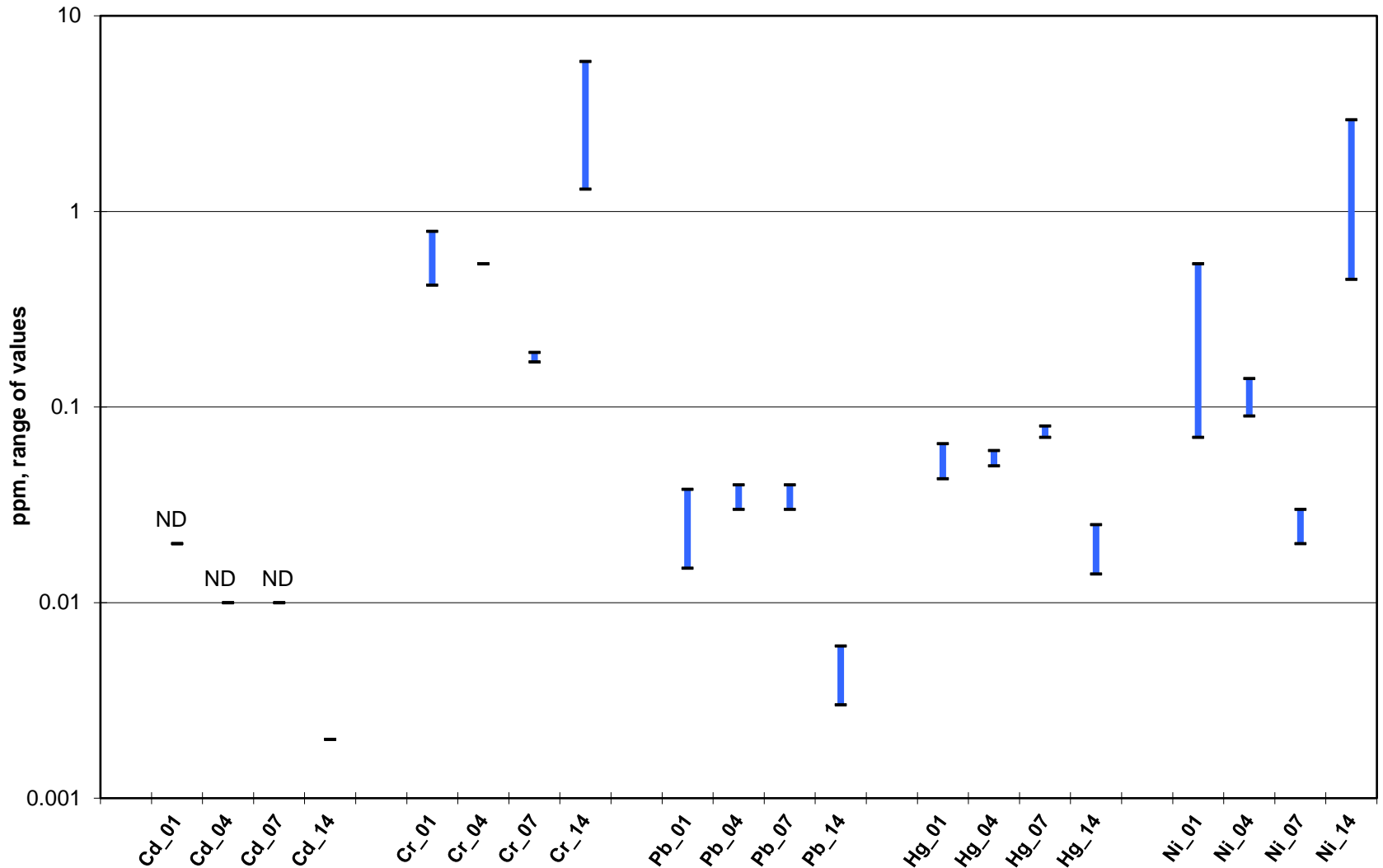
Note: Red oval indicates statistically significant decreasing concentrations

Figure 4-8a.
Metals Detected in Bluegill Whole-Body - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



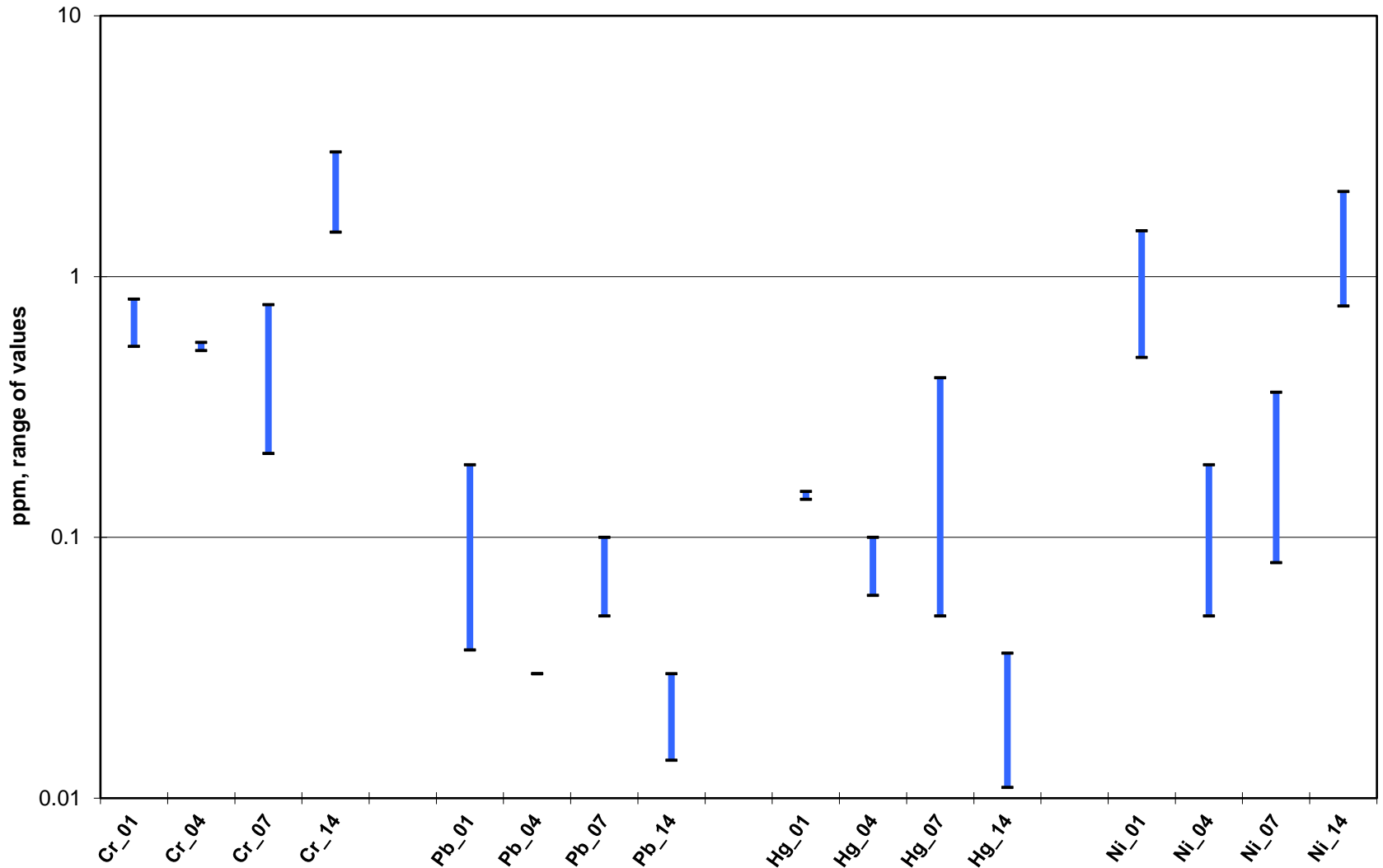
Note: Red oval indicates statistically significant decreasing concentrations

Figure 4-8b.
Metals Detected in Bluegill Fillets - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



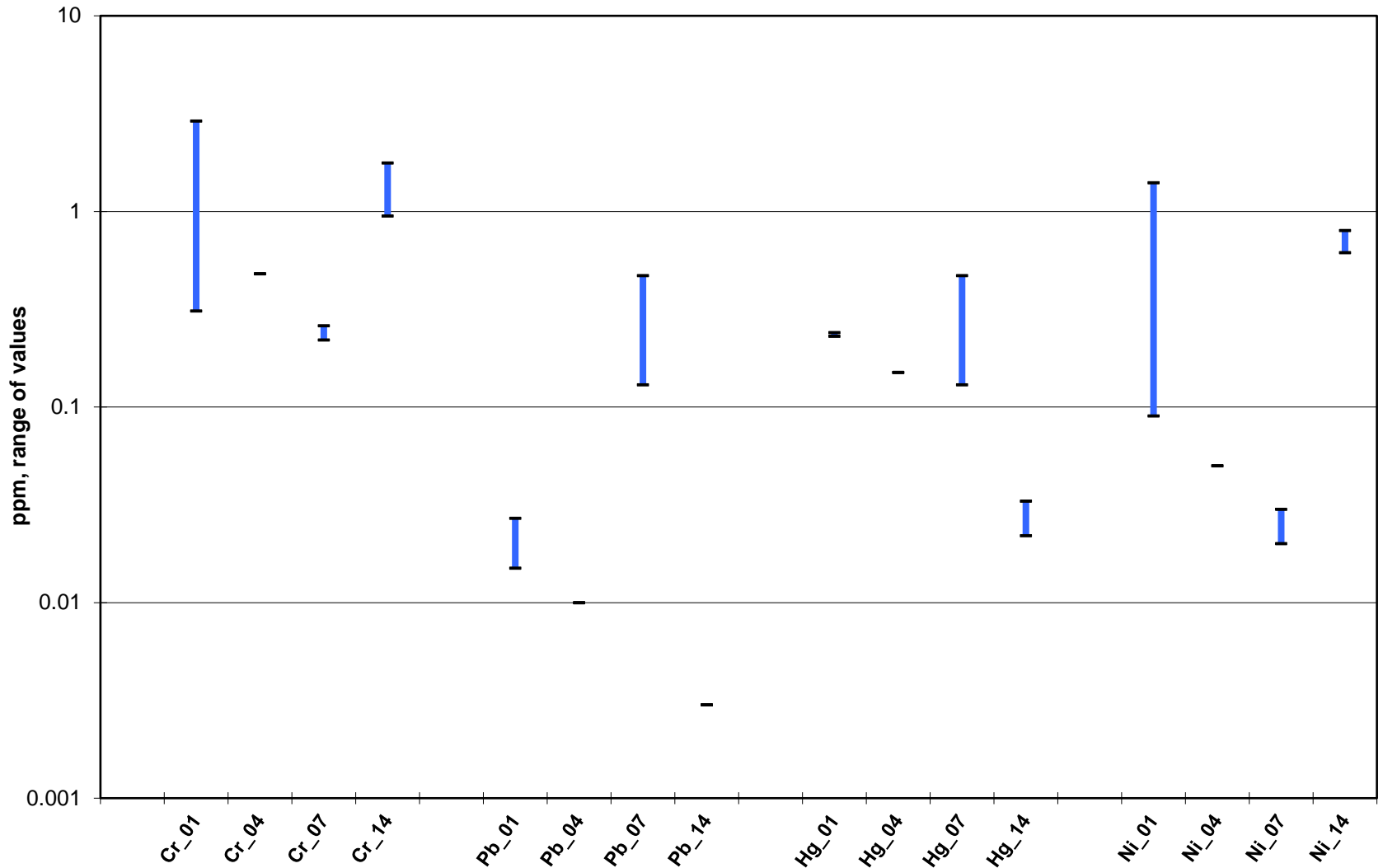
Note: No arsenic or beryllium detected in bluegill fillets from Pond 3 in 2014

Figure 4-8c.
Metals Detected in Largemouth Bass Whole-Body - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



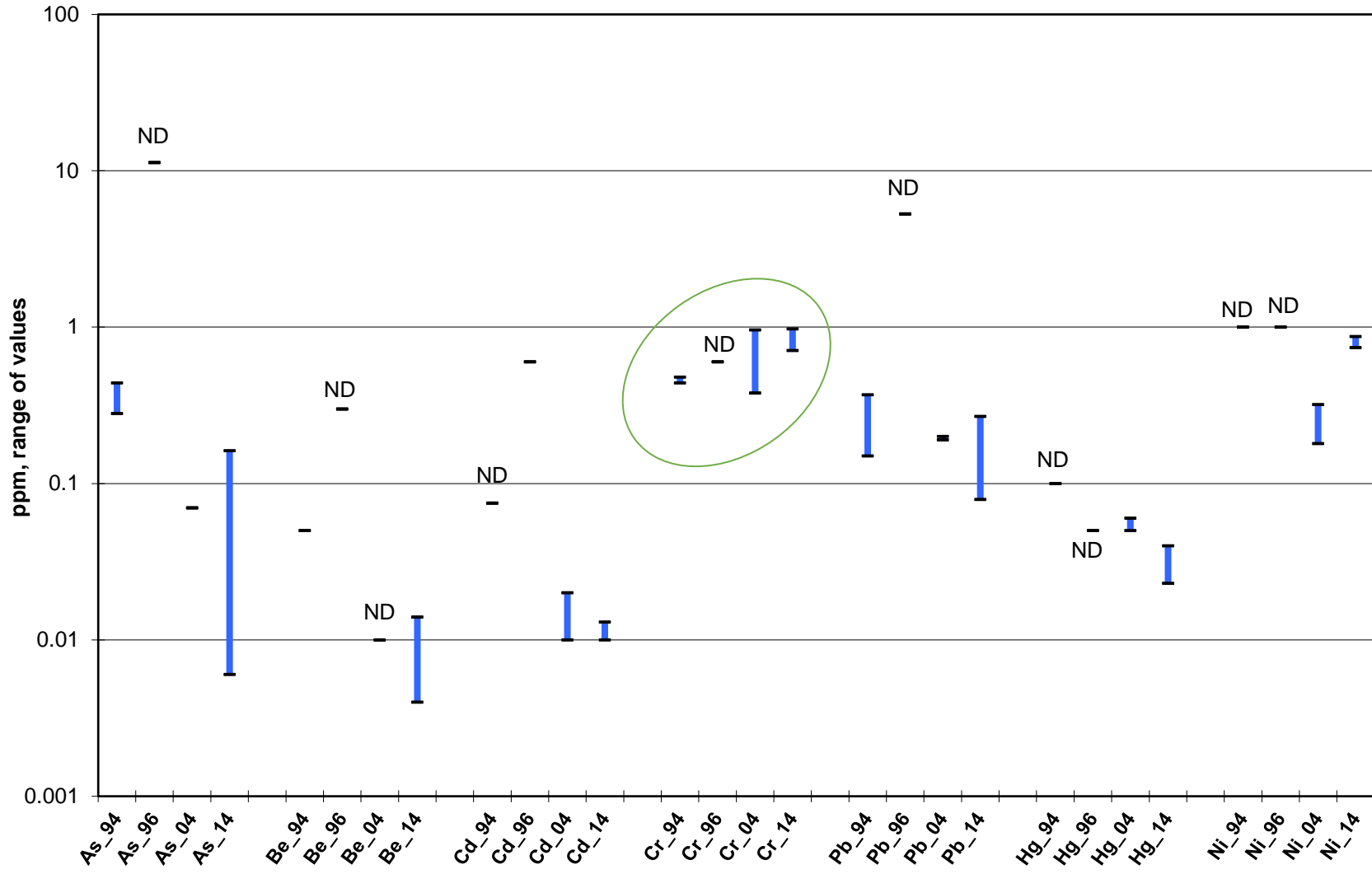
No arsenic, beryllium or cadmium detected in largemouth bass whole-body fish from Pond 3 in 2014

Figure 4-8d.
Metals Detected in Largemouth Bass Fillets - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



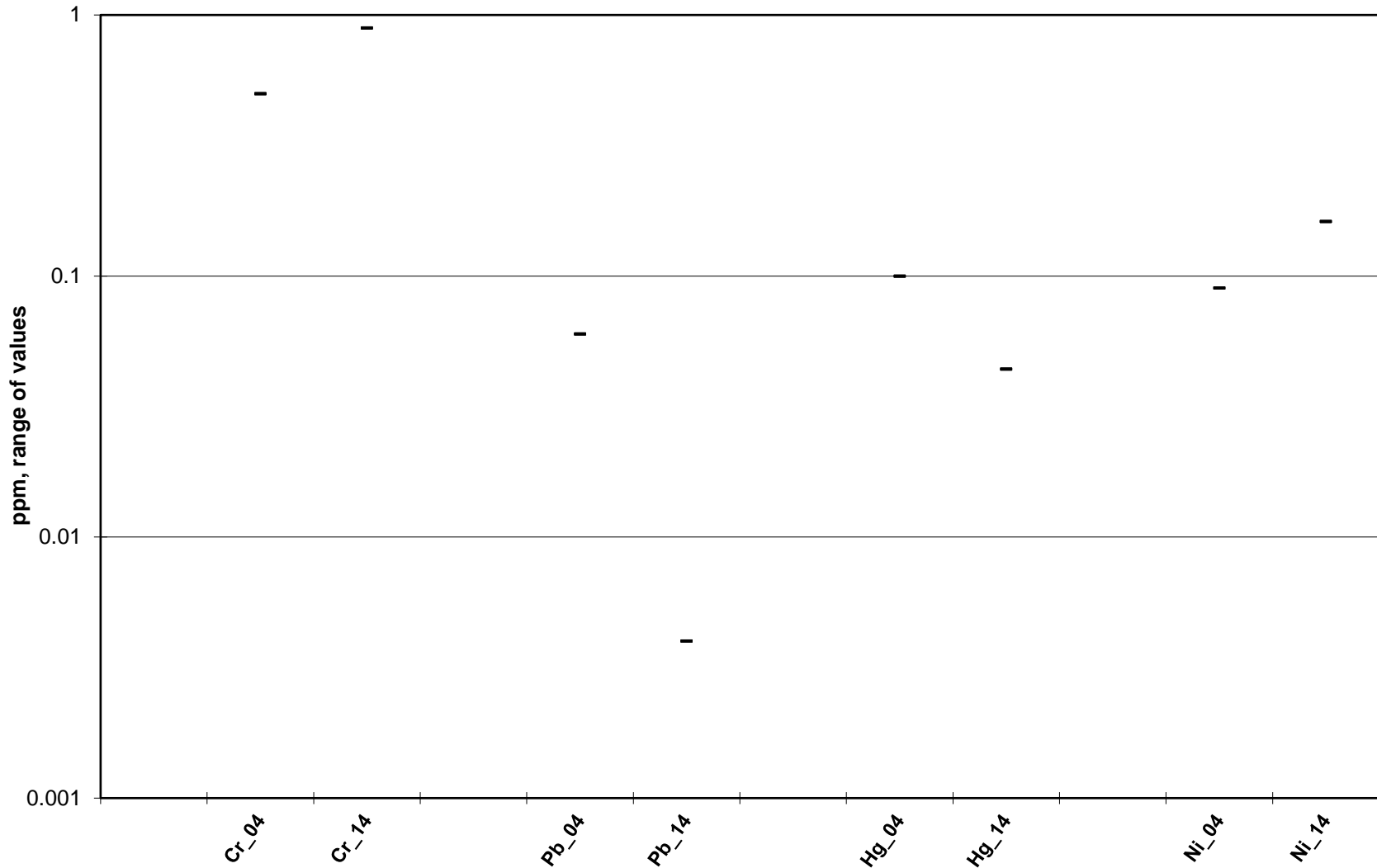
Note: No arsenic, beryllium or cadmium detected in largemouth bass fillets from Pond 3 in 2014

Figure 4-9a.
Metals Detected in Bluegill Whole-Body - Pond 4
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



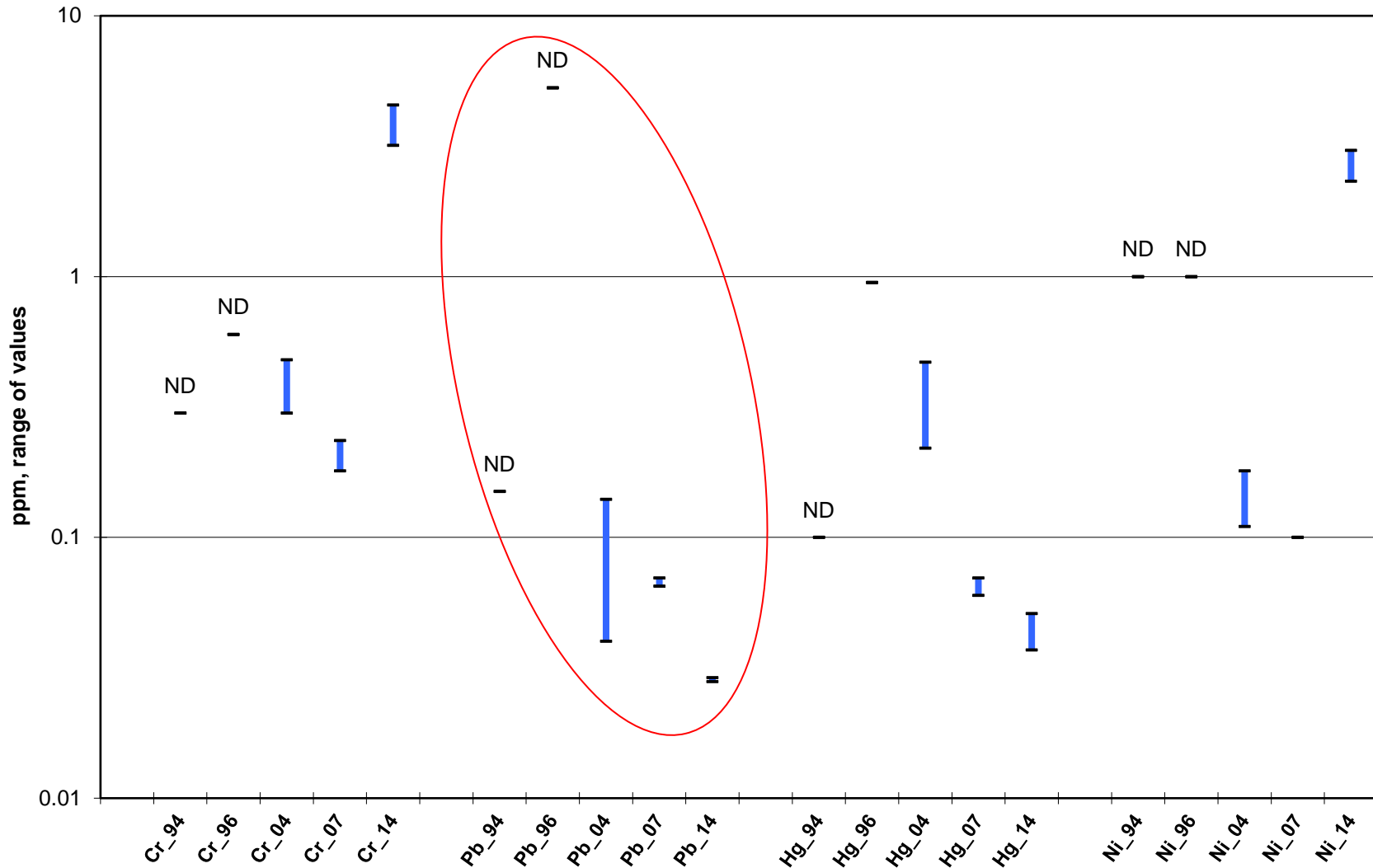
Note: Green oval indicates statistically significant increasing concentrations

Figure 4-9b.
Metals Detected in Bluegill Fillets - Pond 4
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



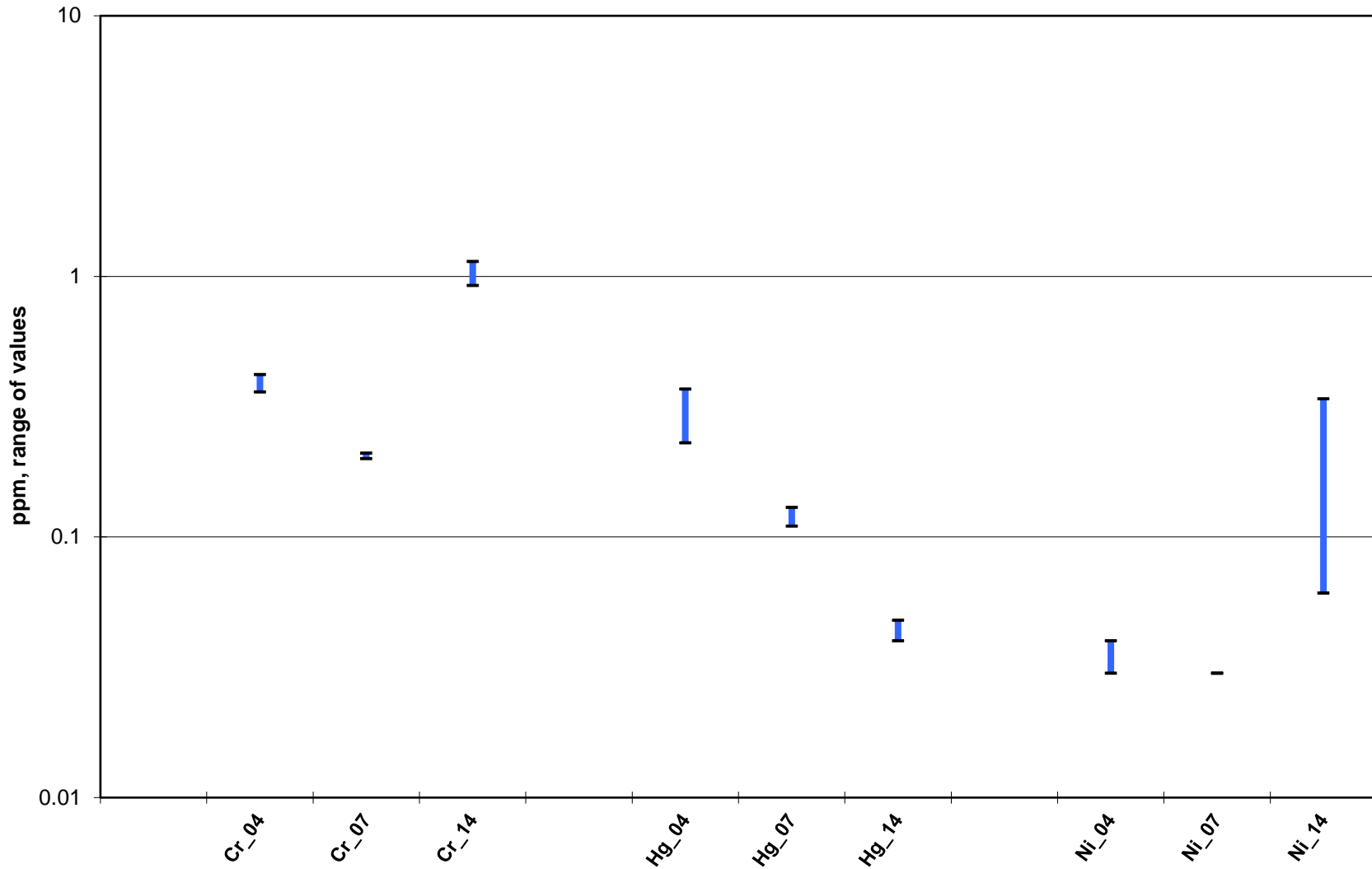
Note: No arsenic, beryllium and cadmium detected in bluegill fillets from Pond 4 in 2014

Figure 4-10a.
Metals Detected in Bluegill Whole-Body - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



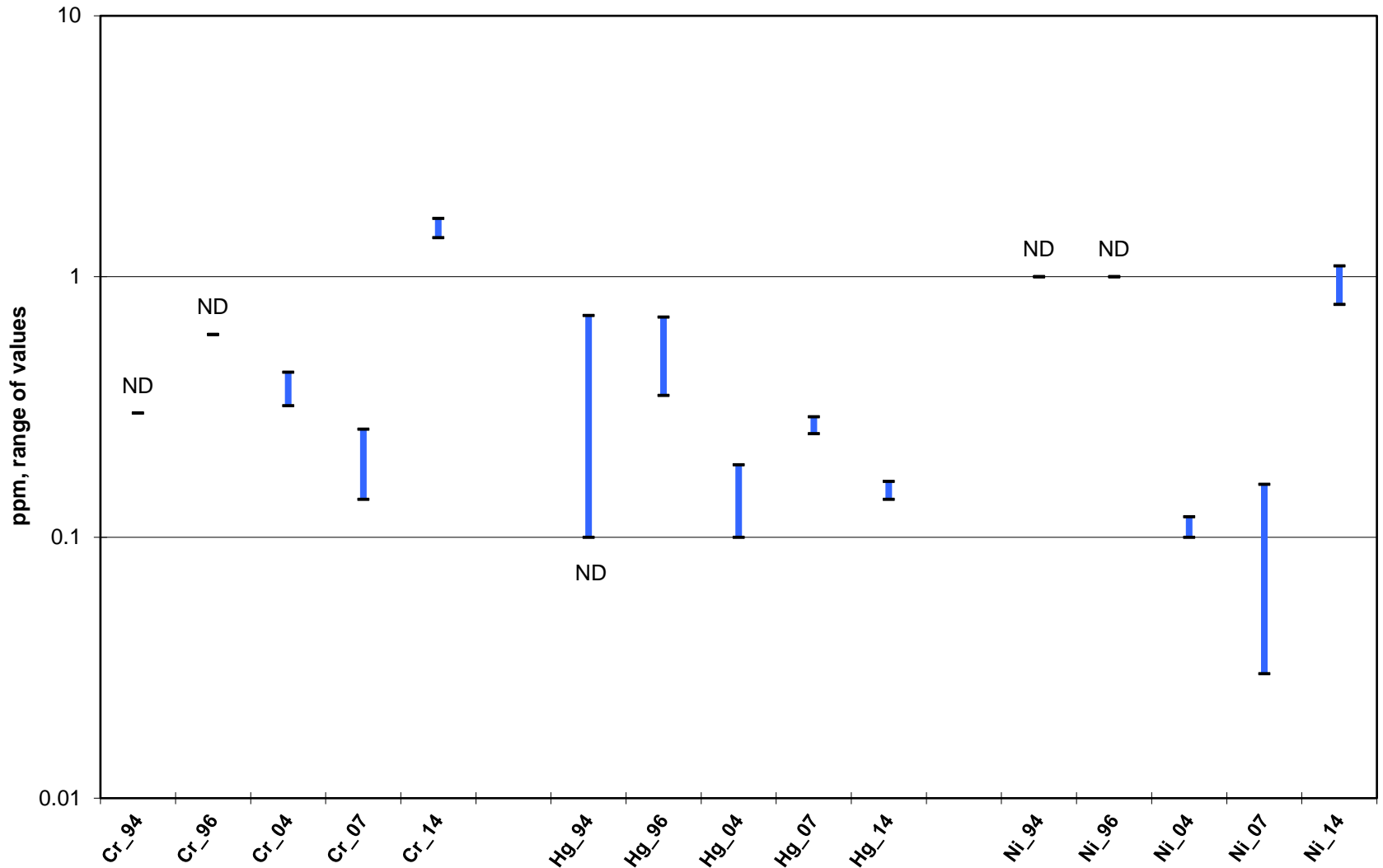
Notes: No arsenic, beryllium or cadmium detected in bluegill whole-body fish from Pond 5 in 2014
 Red oval indicates statistically significant decreasing concentrations

Figure 4-10b.
Metals Detected in Bluegill Fillets - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



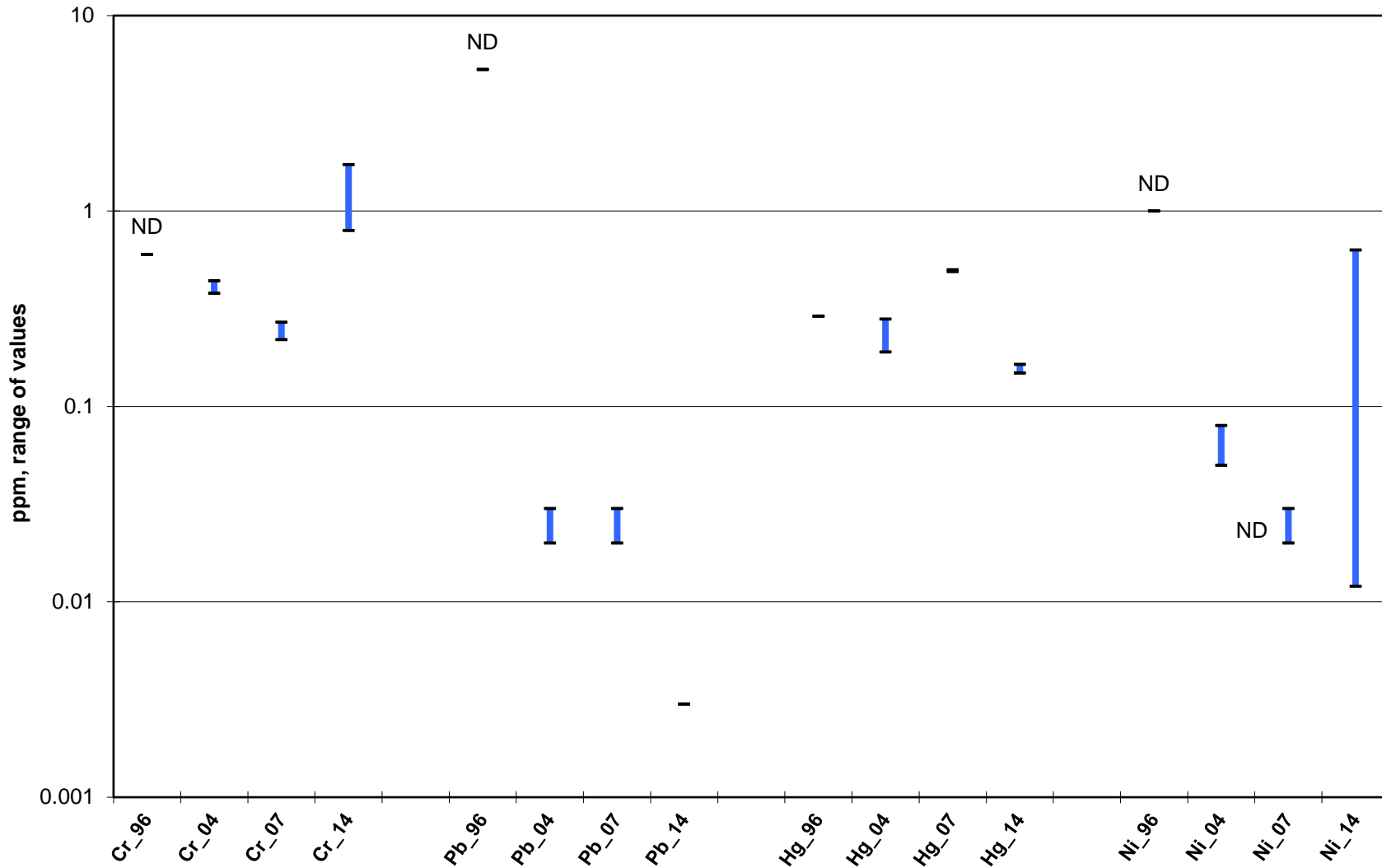
Note: No arsenic, beryllium, cadmium or lead detected in bluegill fillets from Pond 5 in 2014

Figure 4-10c.
Metals Detected in Largemouth Bass Whole-Body - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



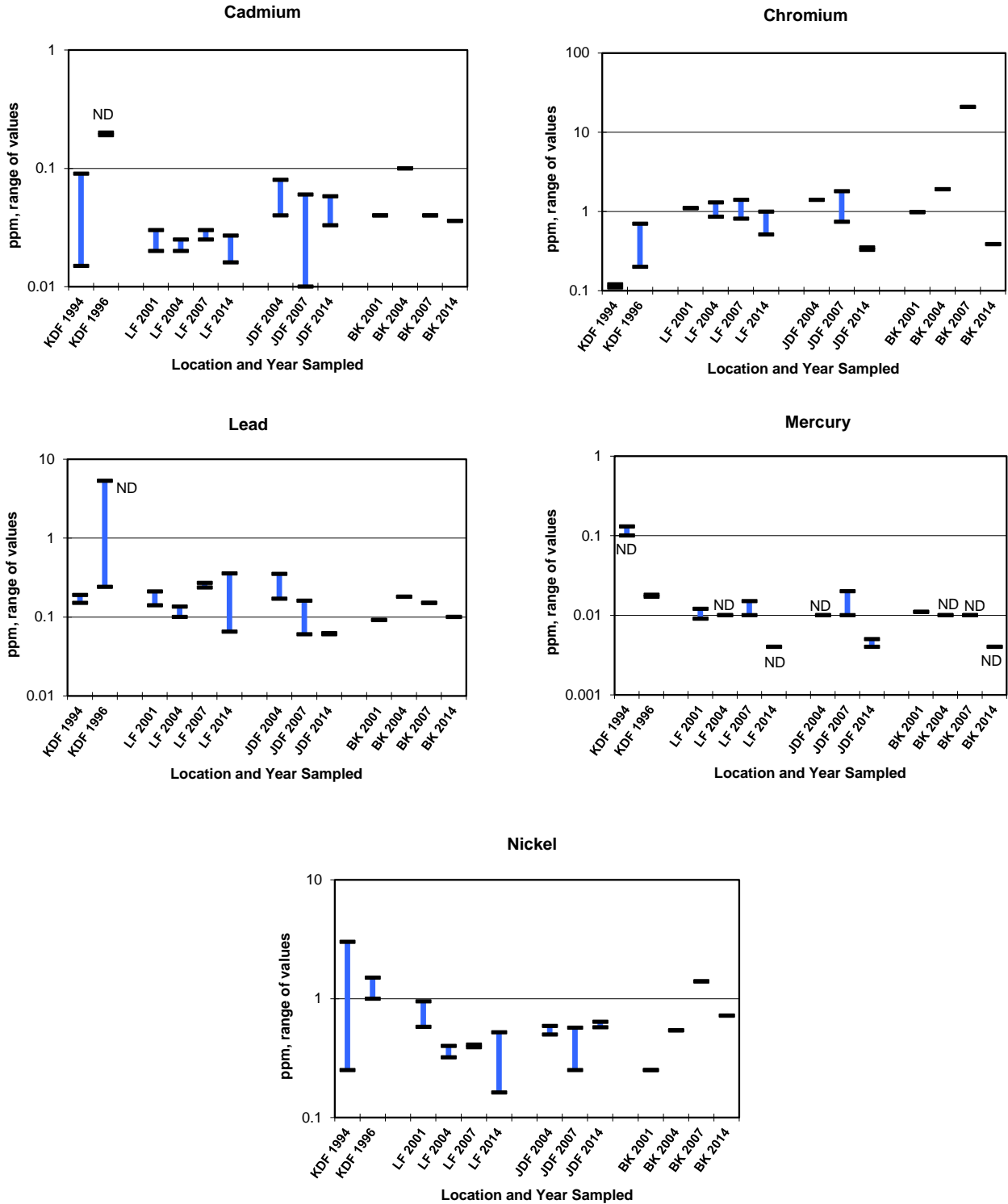
Note: No arsenic, beryllium, cadmium or lead detected in largemouth bass whole-body fish from Pond 5 in 2014

Figure 4-10d.
Metals Detected in Largemouth Bass Fillets - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



Note: No arsenic, beryllium or cadmium detected in largemouth bass fillets from Pond 5 in 2014

Figure 4-11.
Metals Detected in Hay
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



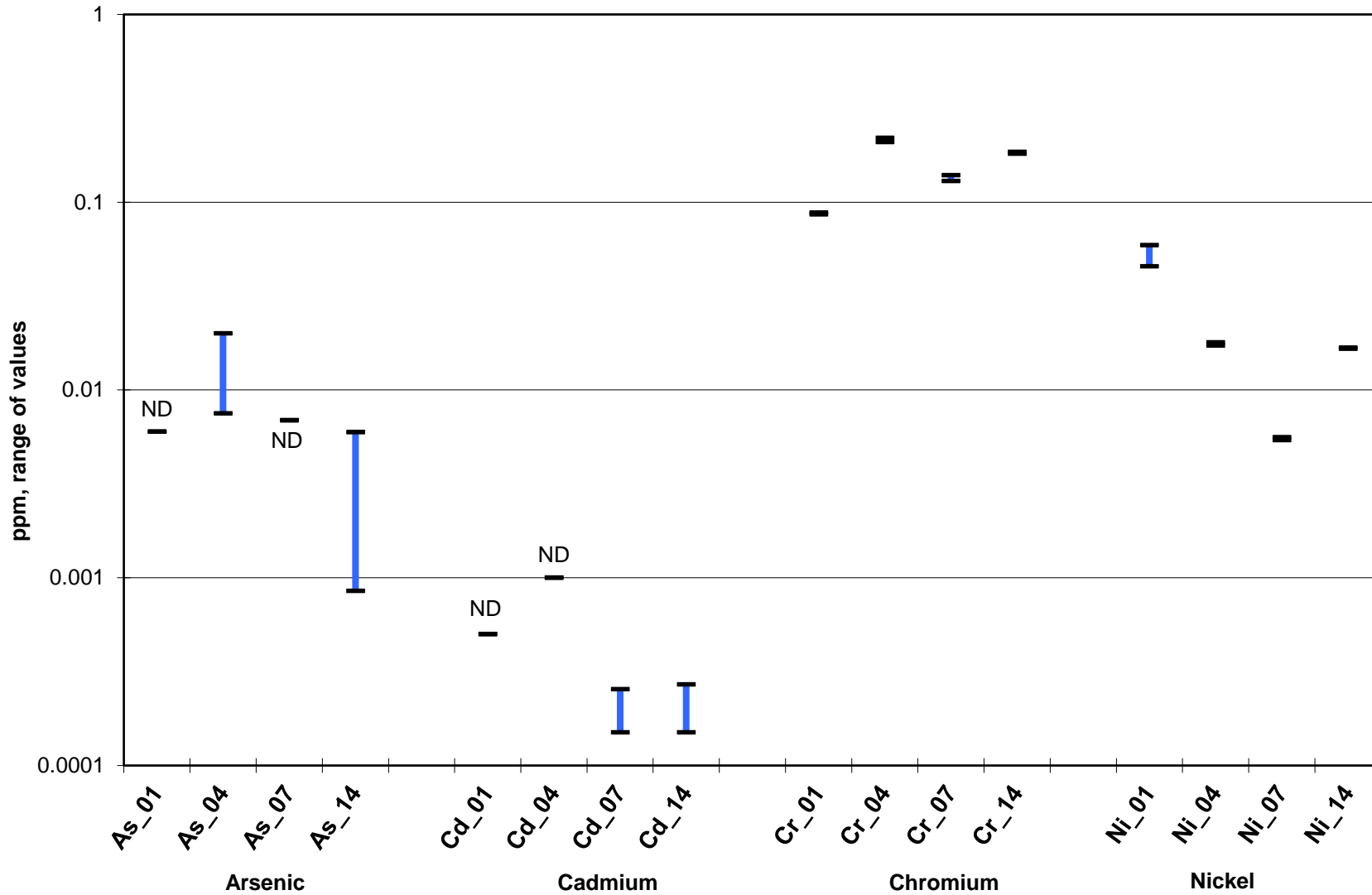
Notes:

KDF = Kingsbury Dairy Farm LF = Lermond Farm JDF = Johnson Dairy Farm BK = Background Location (Lucketts, VA)

ppm = parts per million wet weight

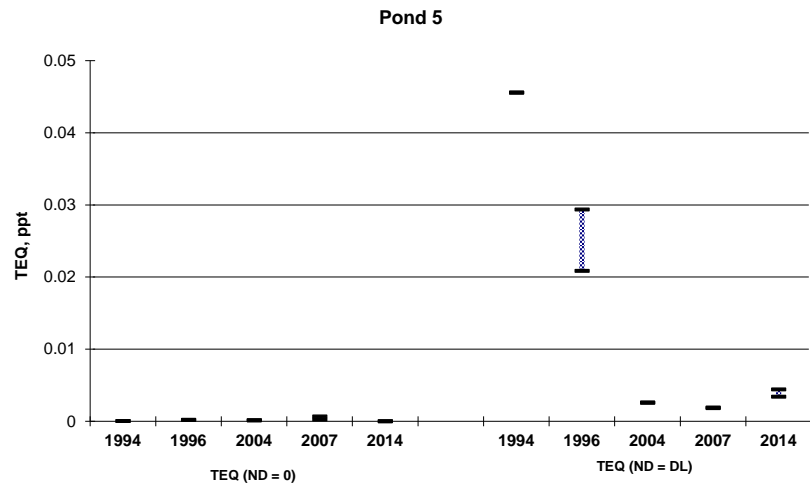
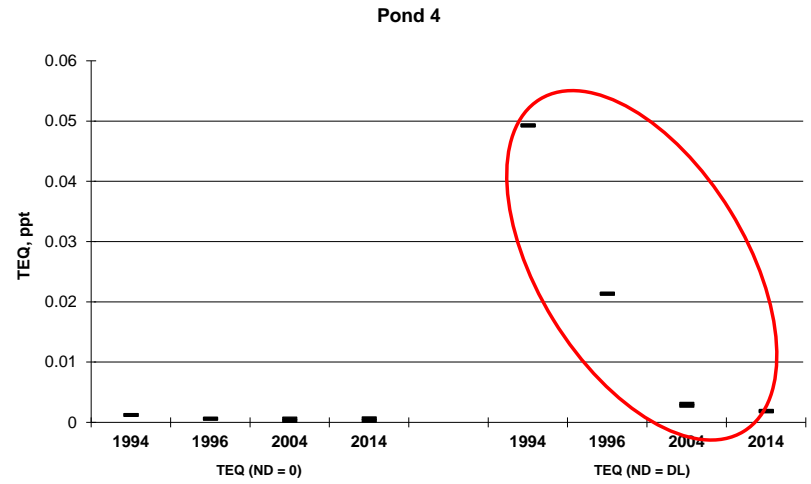
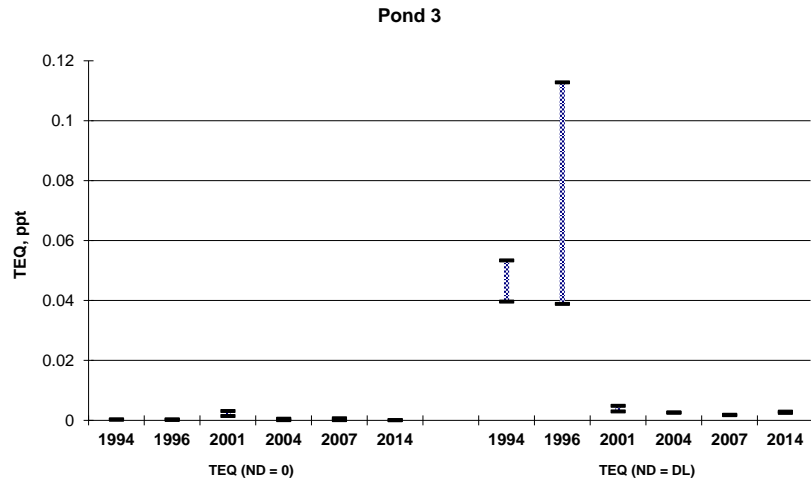
No arsenic or beryllium detected in hay samples in 2014

Figure 4-12.
Metals Detected in Cow's Milk
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



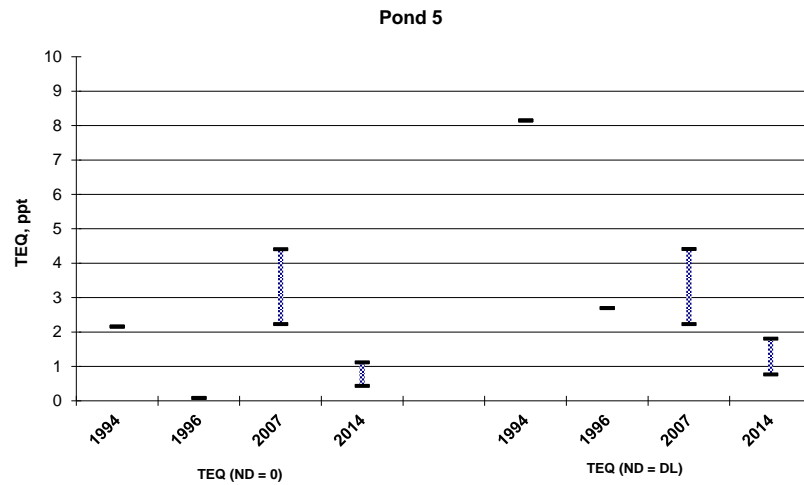
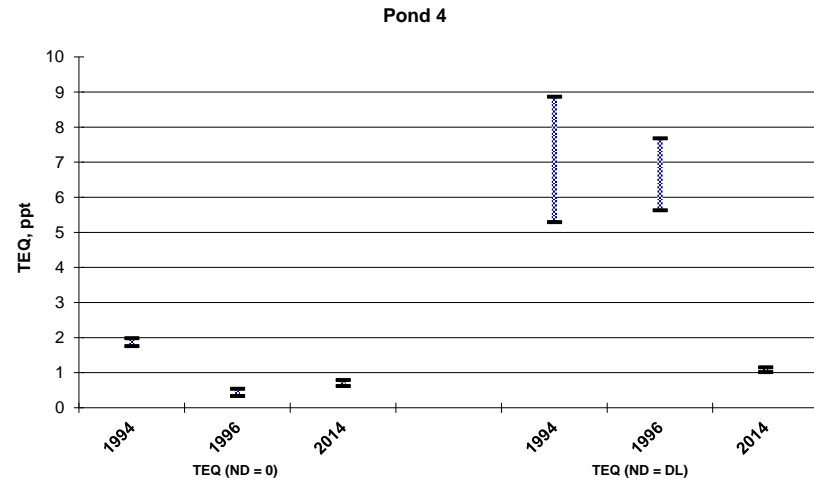
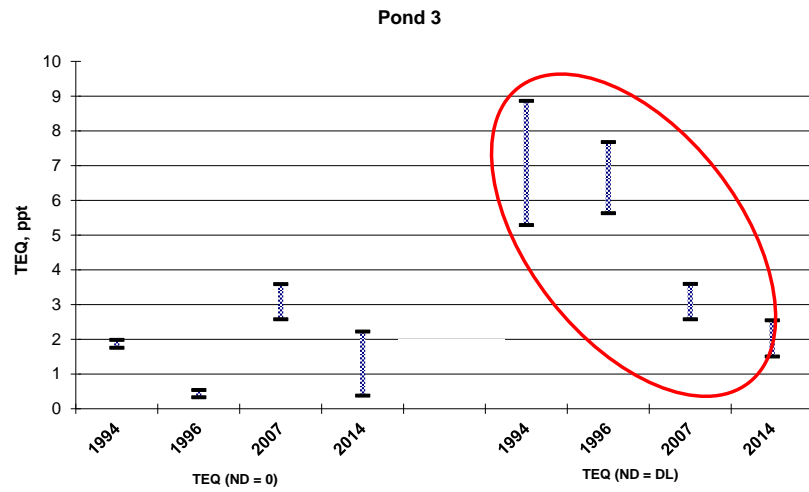
Note: No beryllium, lead or mercury detected in cow's milk in 2014

Figure 4-13.
Dioxins/Furans (TEQs) in Surface Water -Ponds 3, 4 and 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



Note: Red oval indicates statistically significant decreasing concentrations

Figure 4-14.
Dioxins/Furans (TEQs) in Sediment - Ponds 3, 4 and 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



Note: Red oval indicates statistically significant decreasing concentrations

Figure 4-15.
Dioxins/Furans (TEQs) in Fish Tissue - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

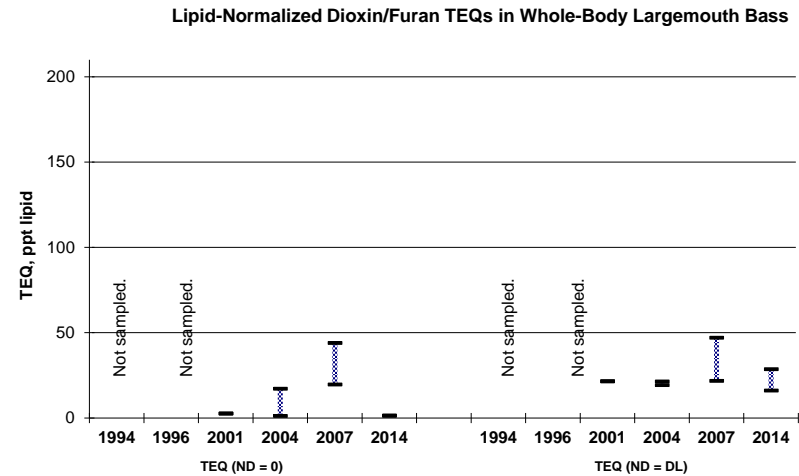
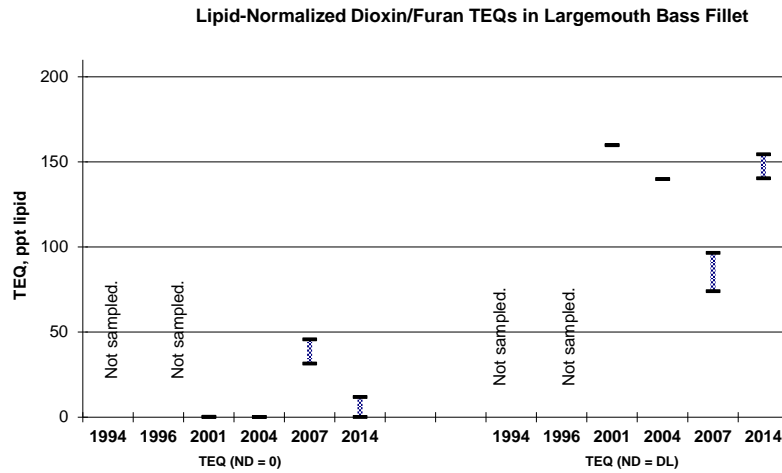
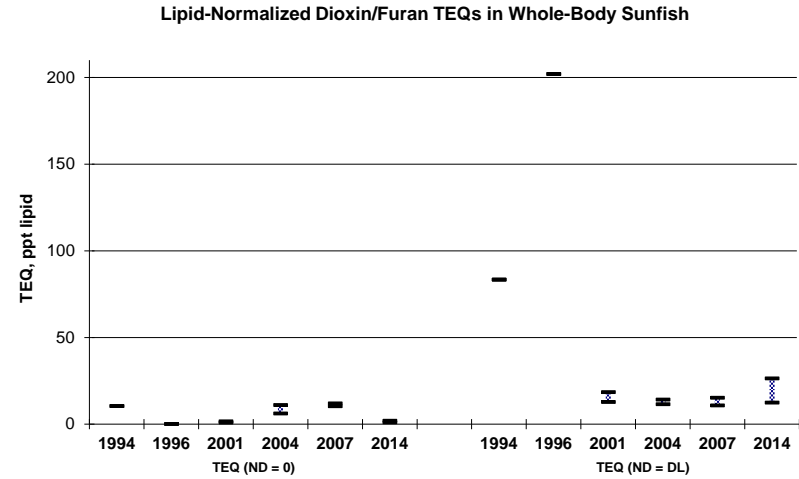
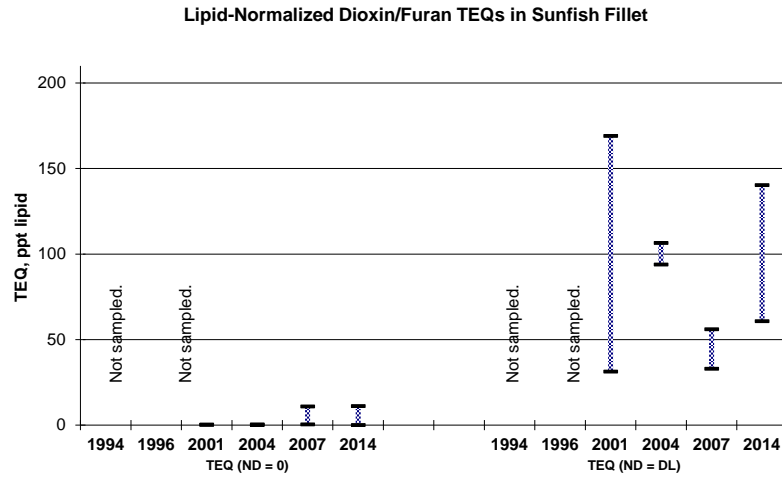


Figure 4-16.
Dioxins/Furans (TEQs) in Fish Tissue - Pond 4
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

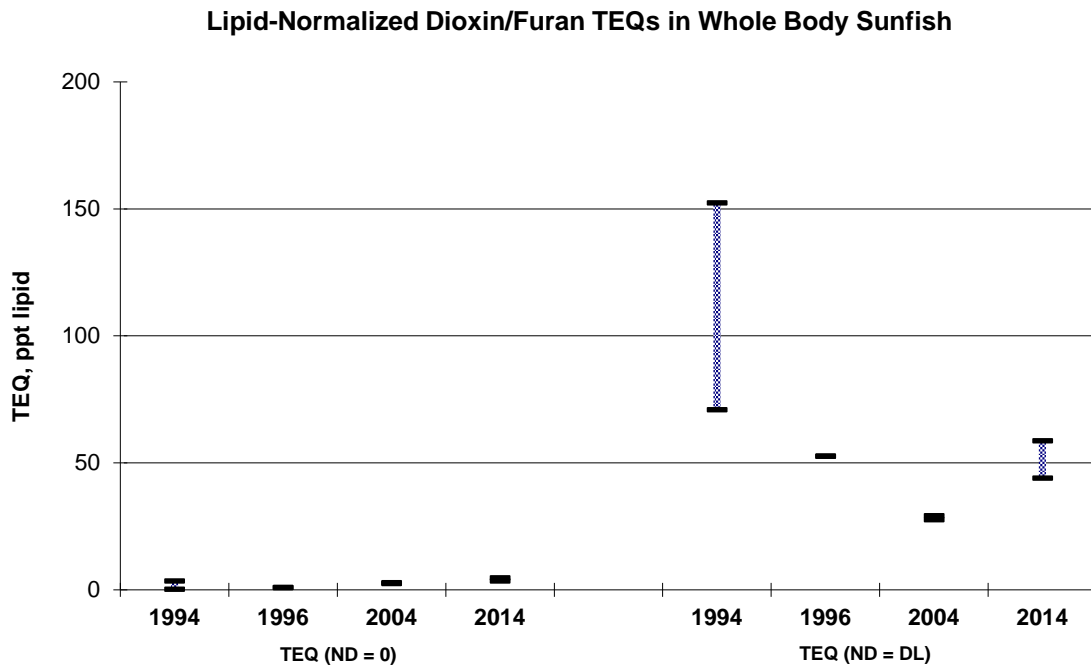
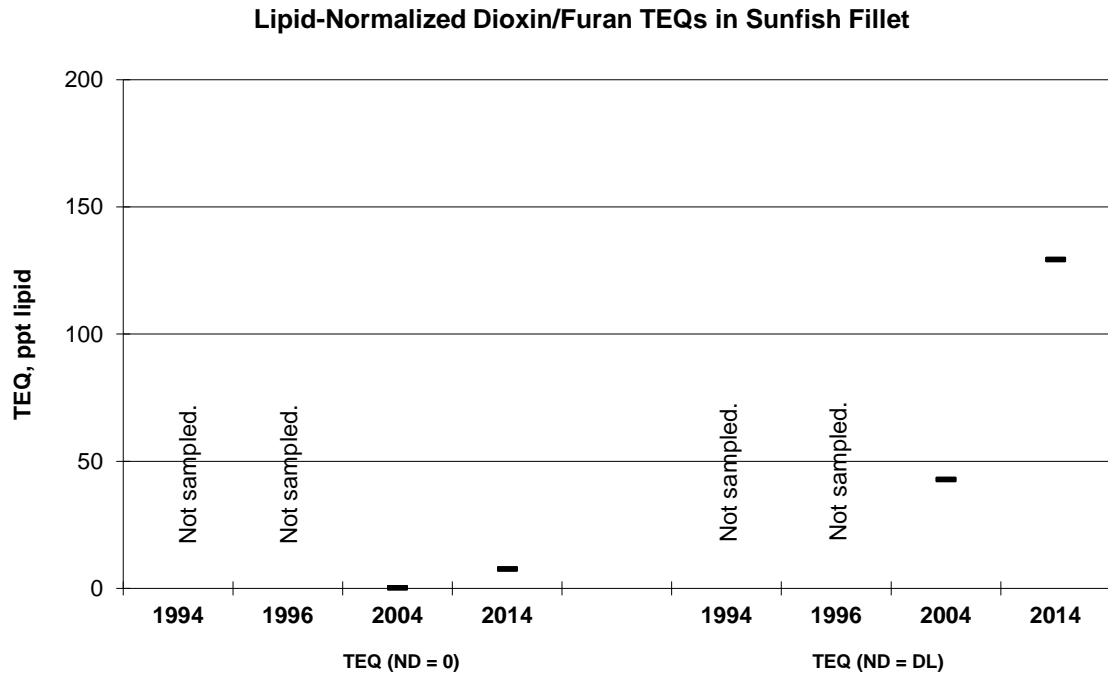


Figure 4-17.
Dioxins/Furans (TEQs) in Fish Tissue - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

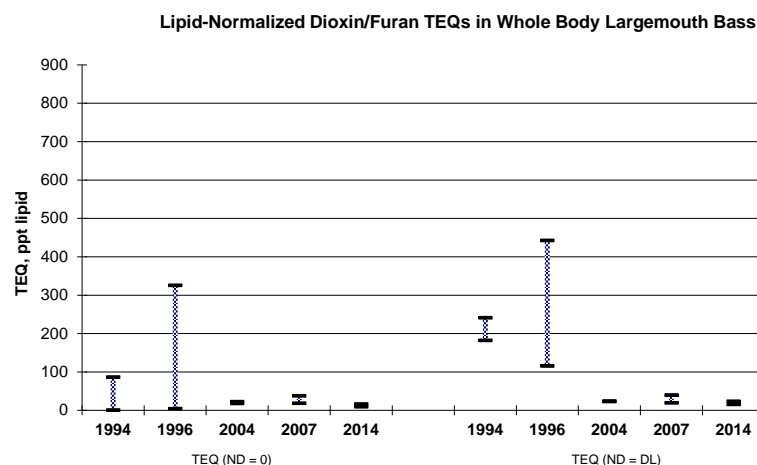
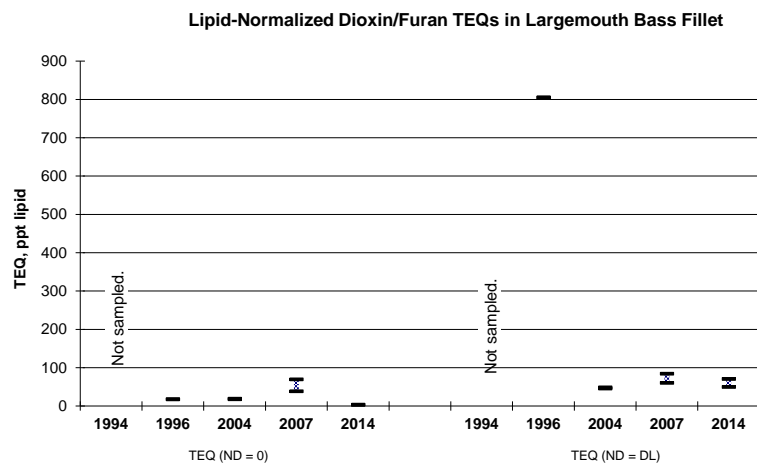
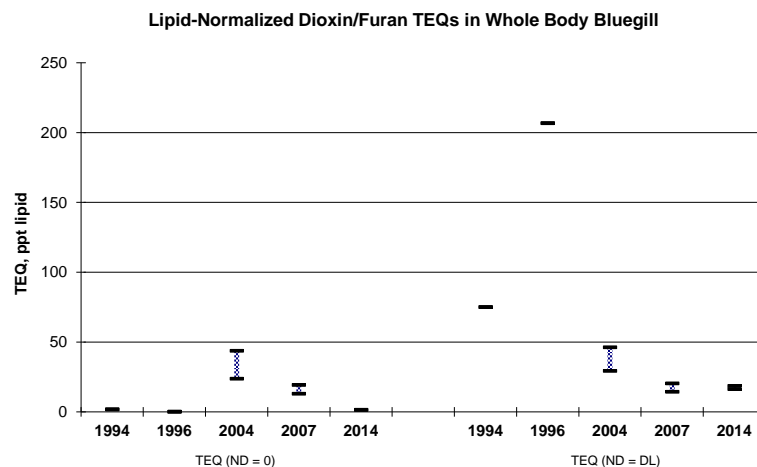
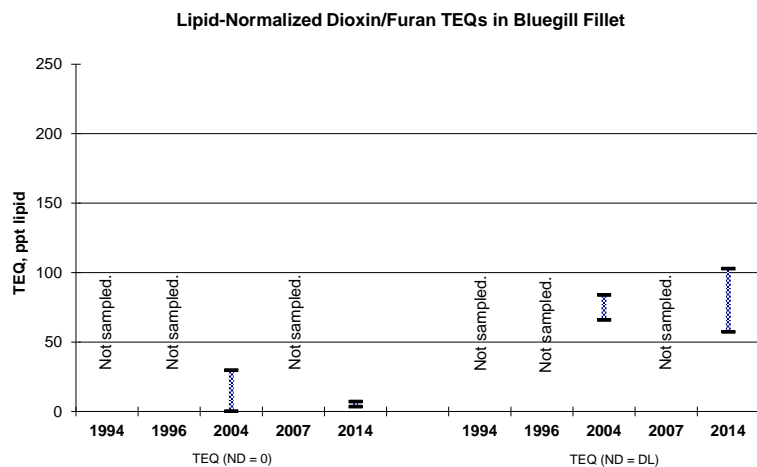
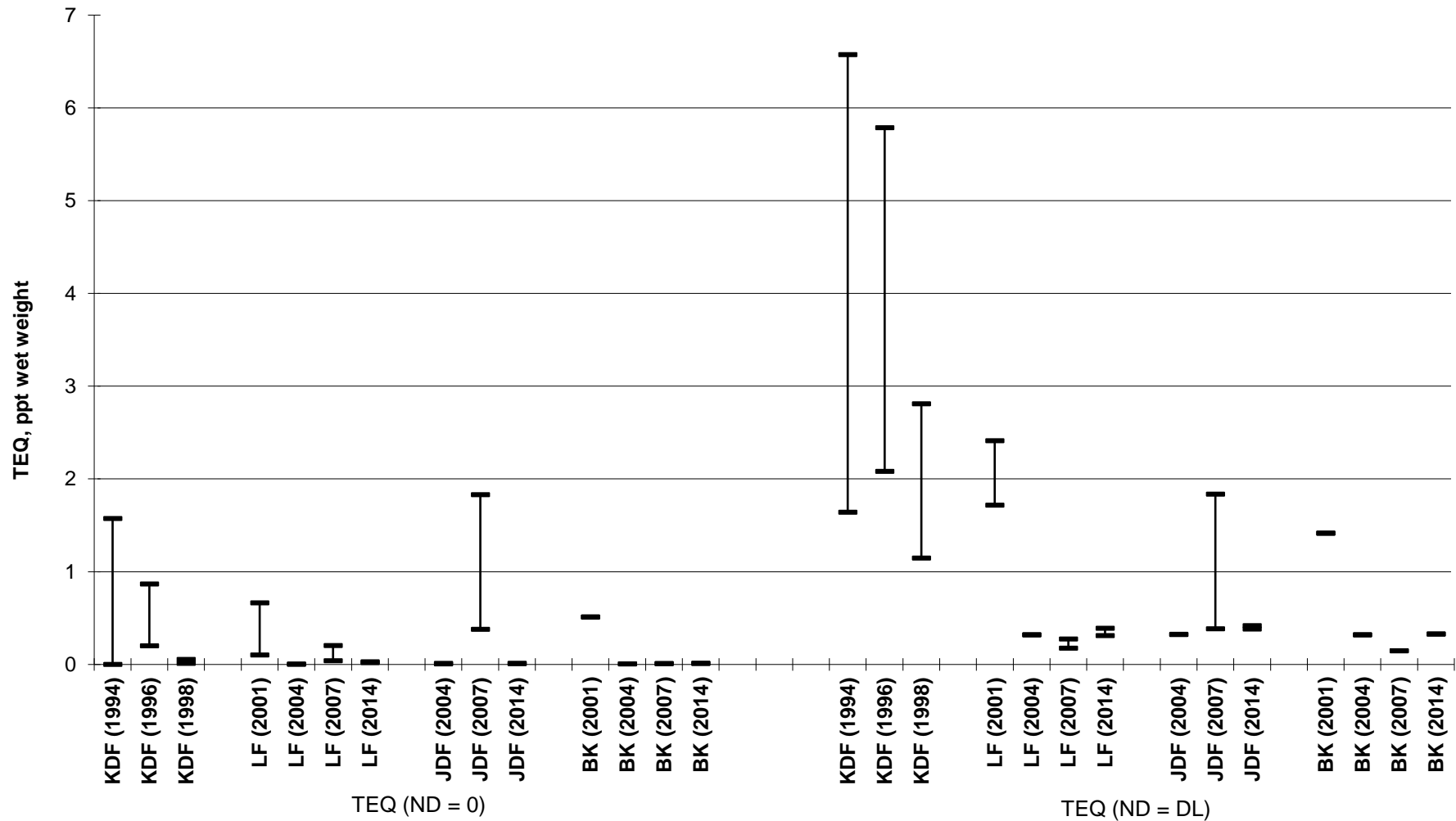
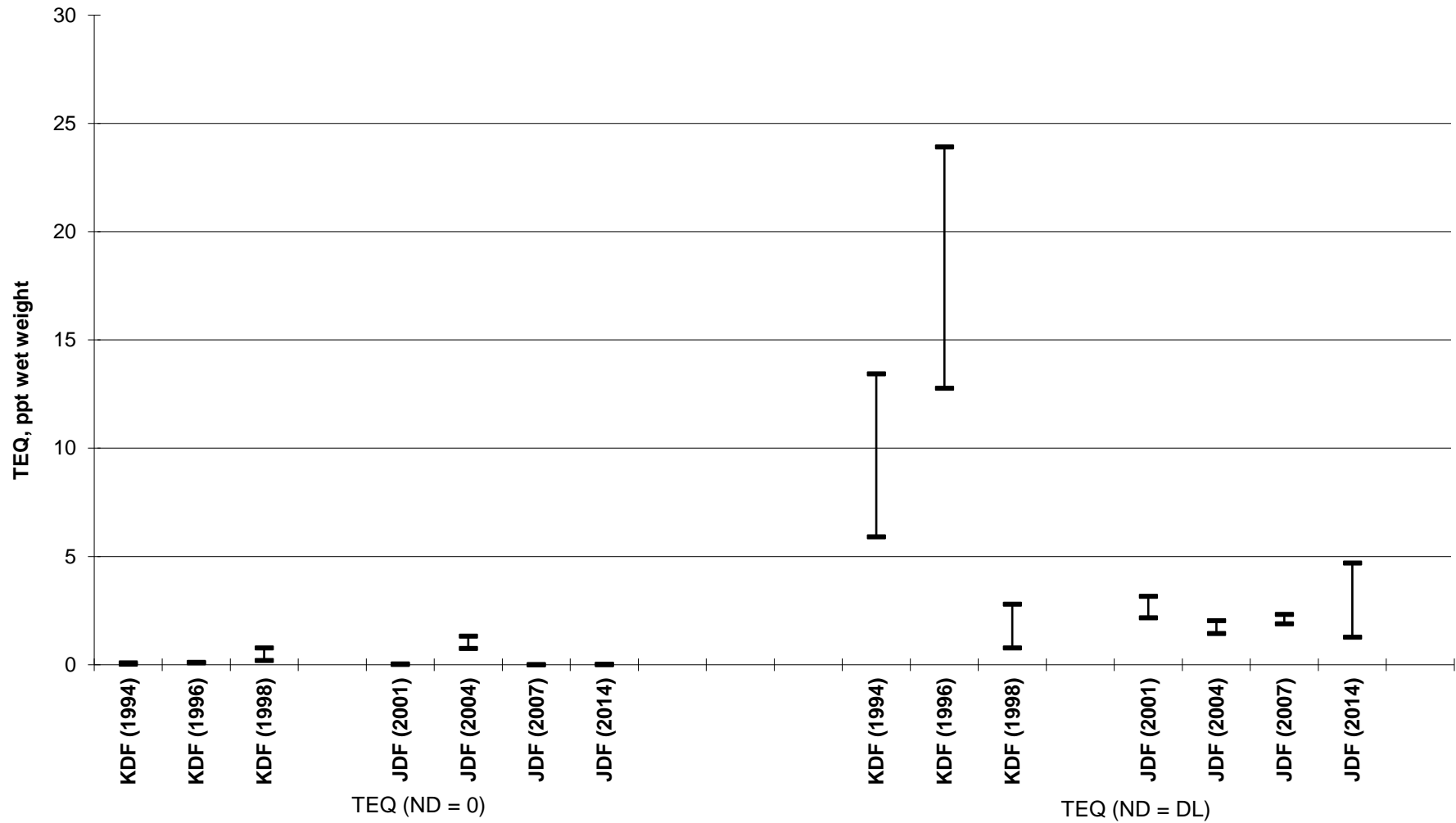


Table 4-18.
Dioxins/Furans (TEQs) in Hay
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



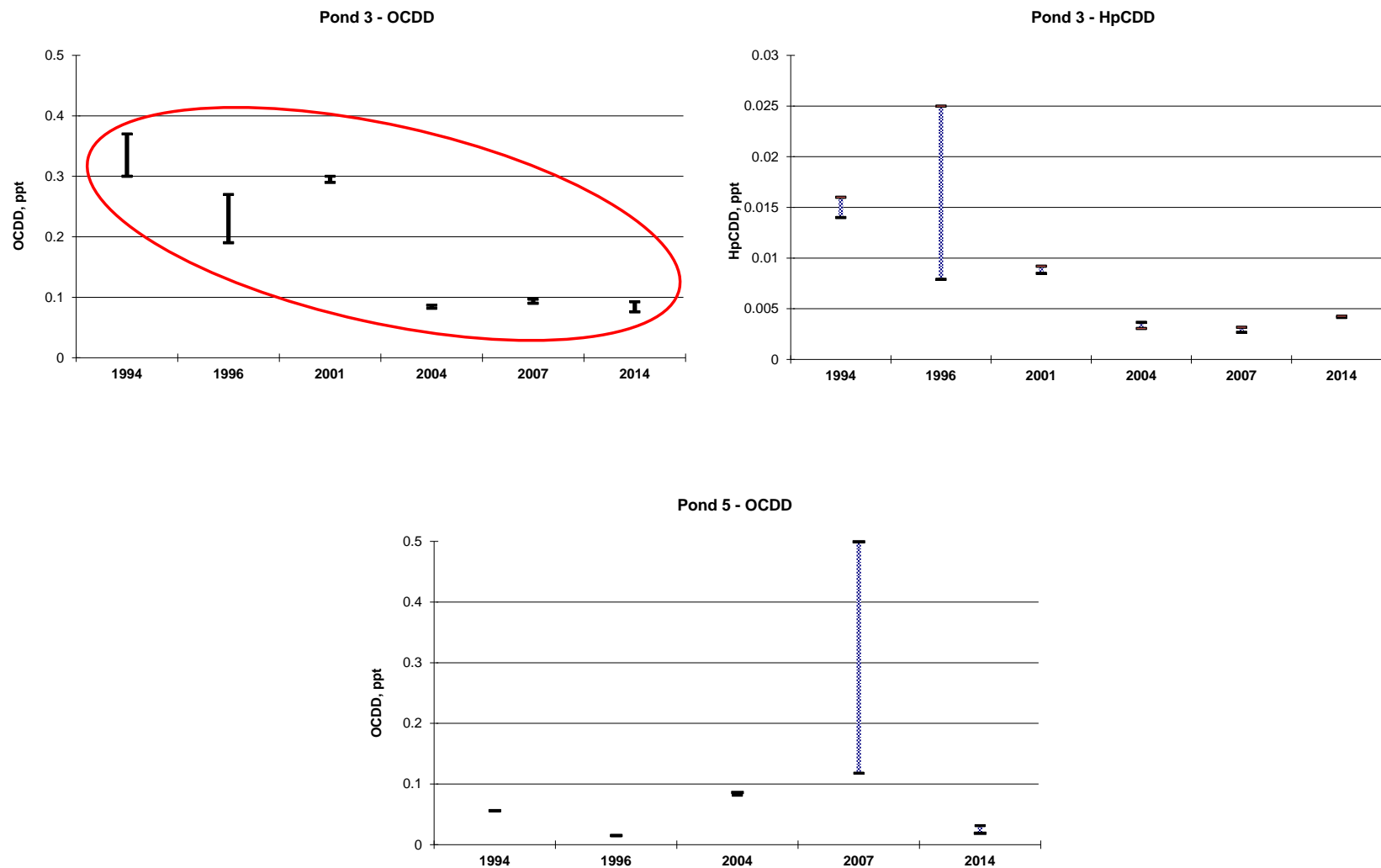
KDF = Kingsbury Dairy Farm
 LF = Lermond Farm
 JDF = Johnson Dairy Farm
 BK = Background in Lucketts, VA

Table 4-19.
Dioxins/Furans (TEQs) in Cow's Milk
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



KDF = Kingsbury Dairy Farm
 JDF = Johnson Dairy Farm

Figure 4-20.
Dioxin/Furan Congeners in Surface Water -Ponds 3 and 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland



Note: Red oval indicates statistically significant decreasing concentrations

Figure 4-21.
Dioxin/Furan Congeners in Sediment - Ponds 3 and 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

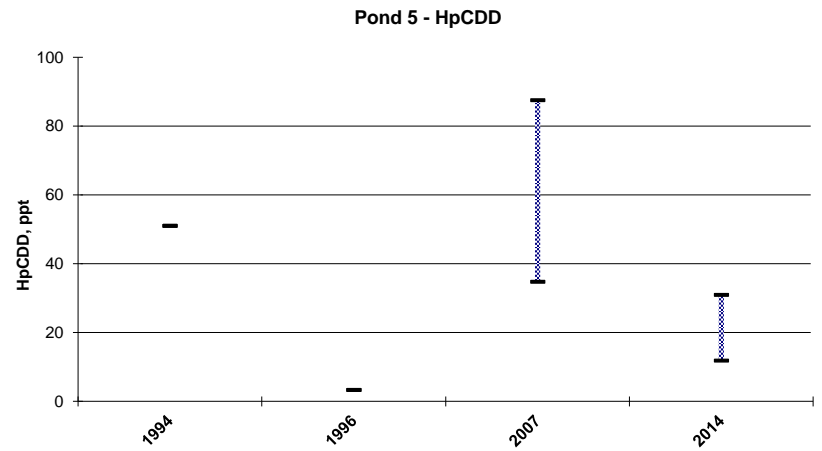
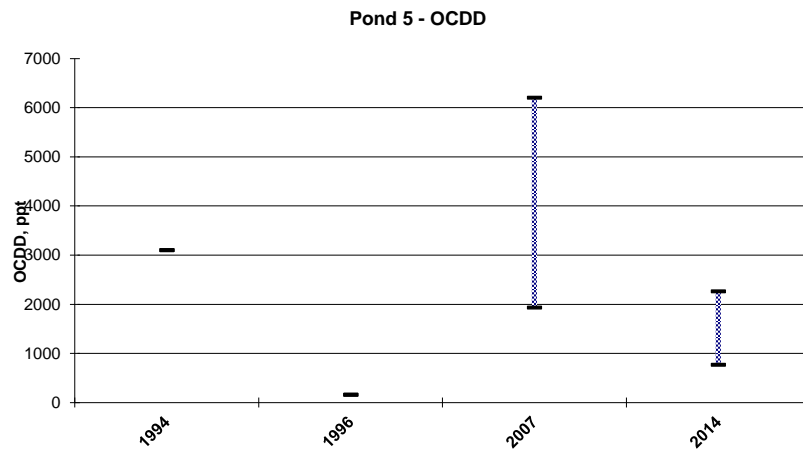
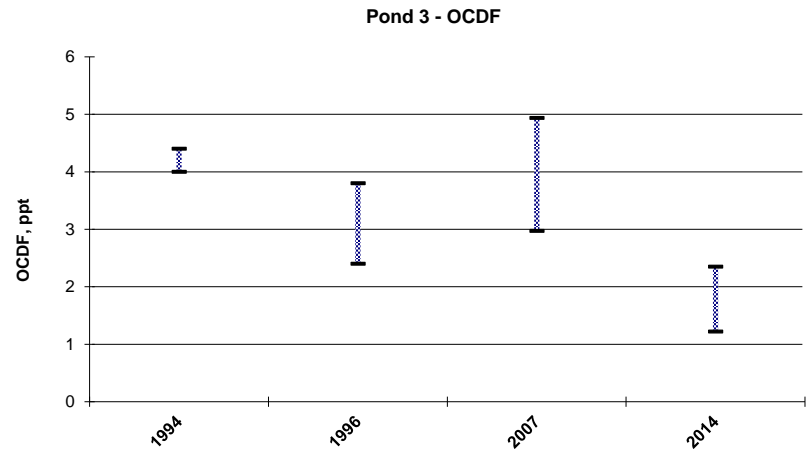
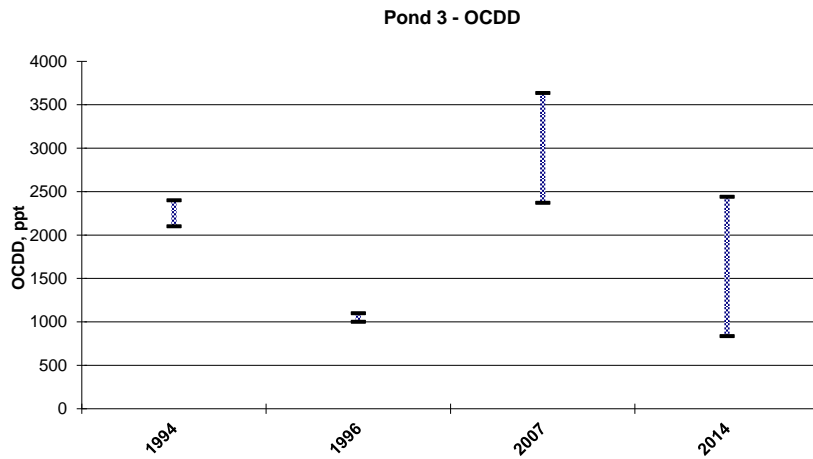


Figure 4-22.
Dioxin/Furan Congeners in Fish Tissue - Pond 3
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

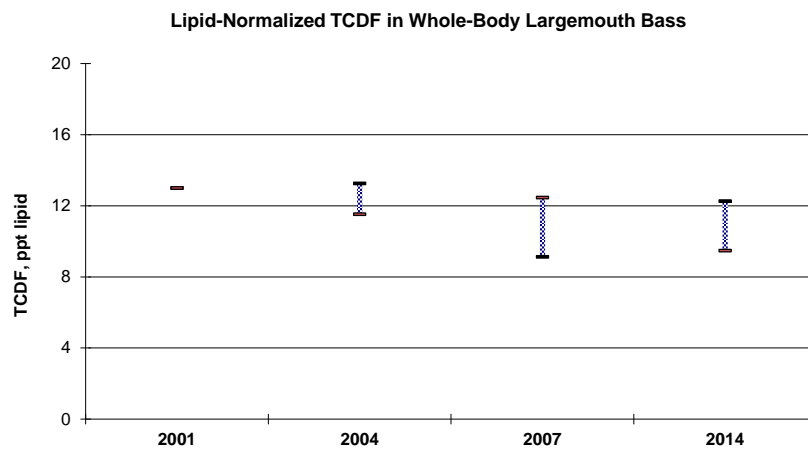
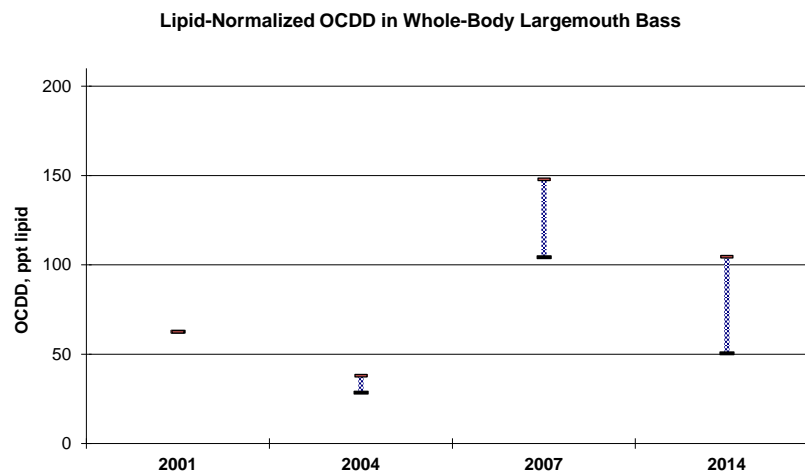
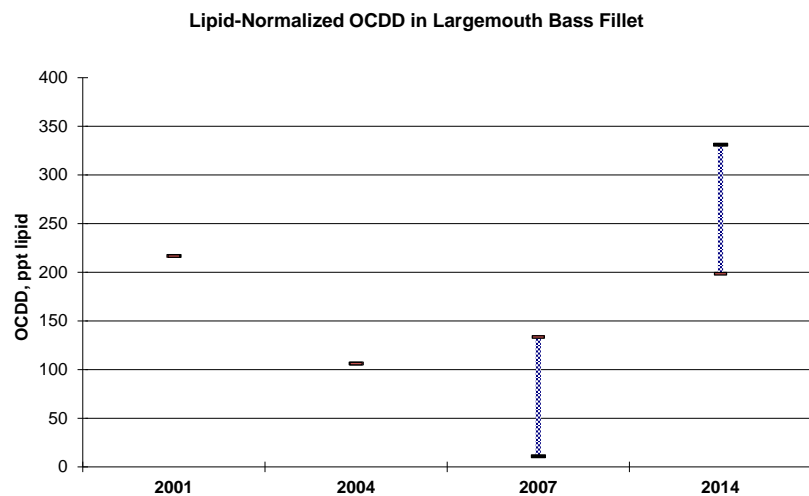
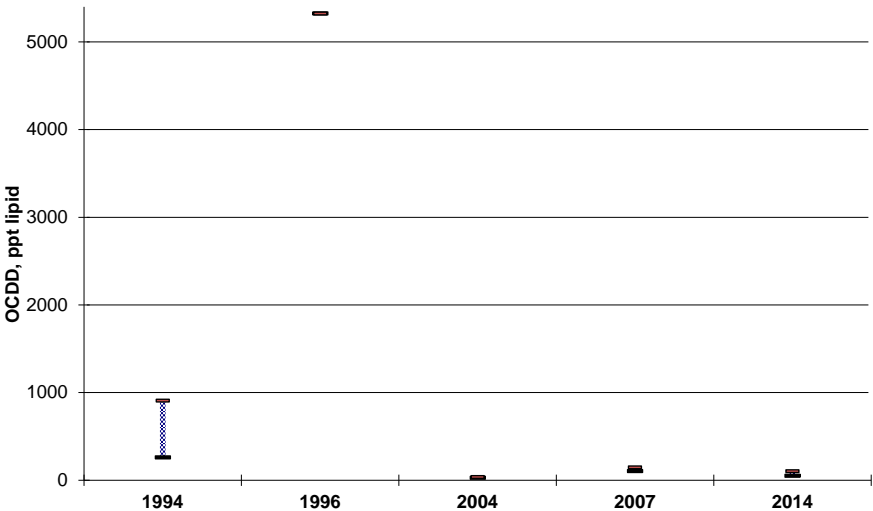


Figure 4-23.
Dioxin/Furan Congeners in Fish Tissue - Pond 5
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Lipid-Normalized OCDD in Whole-Body Largemouth Bass - Pond 5



Lipid-Normalized TCDF in Whole-Body Largemouth Bass - Pond 5

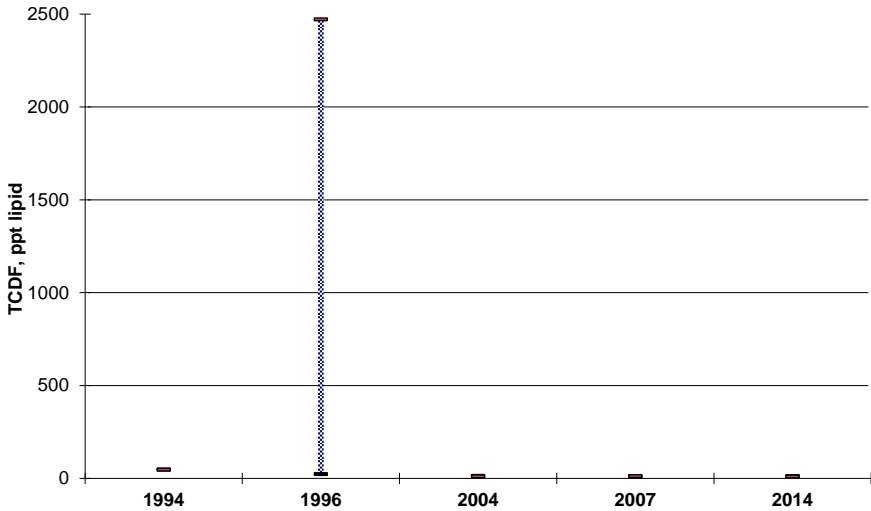


Figure 4-24.
Dioxin/Furan Congeners in Hay - Lermond Farm and Background
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

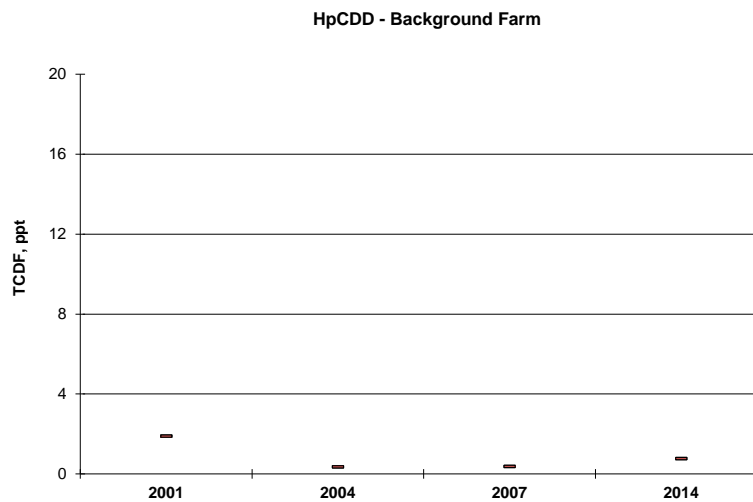
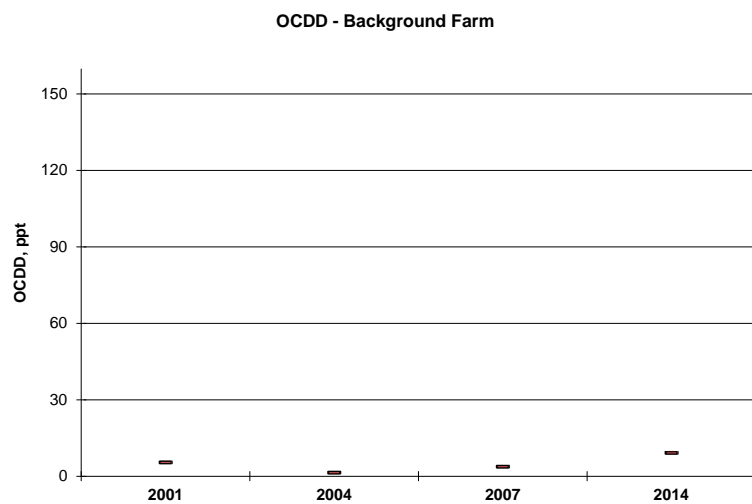
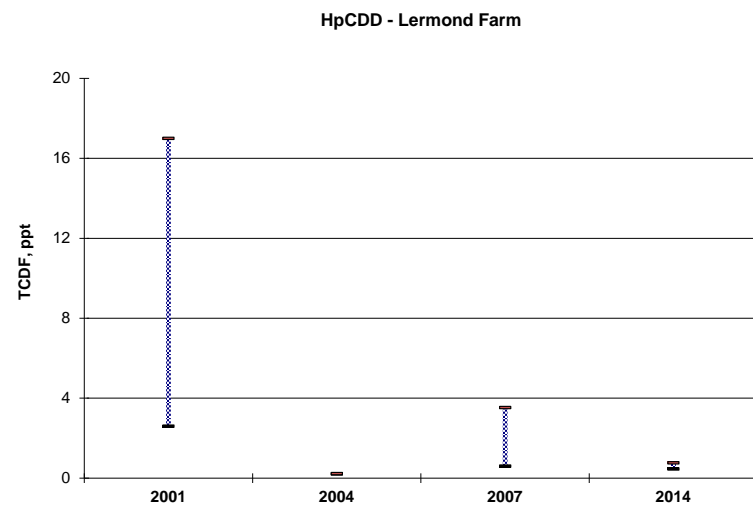
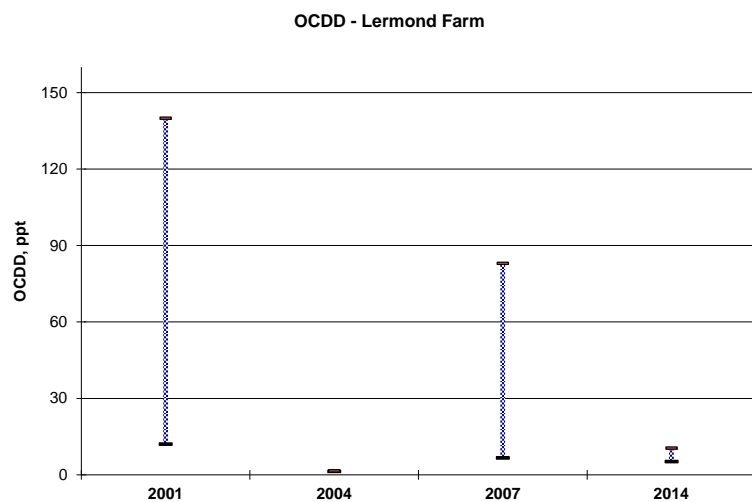


Figure 4-25.
Dioxin/Furan Congeners in Milk
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

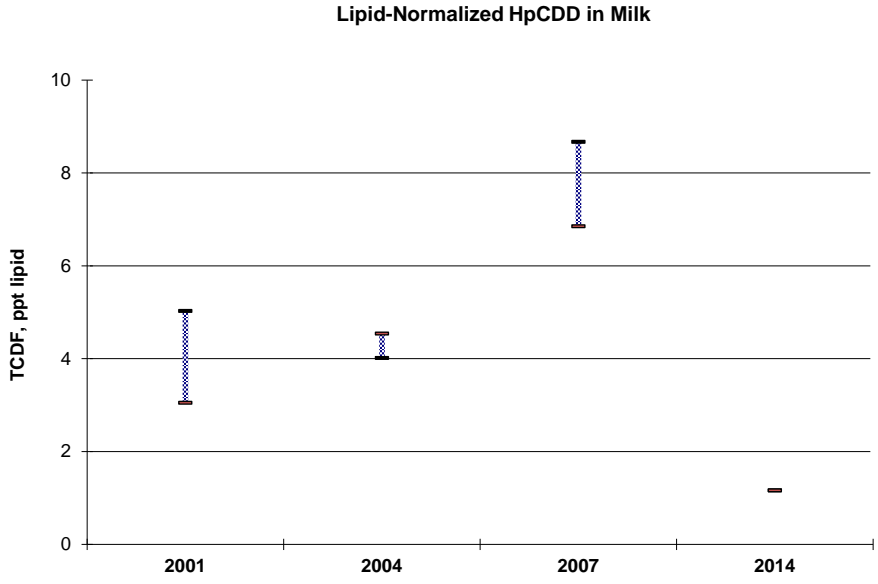
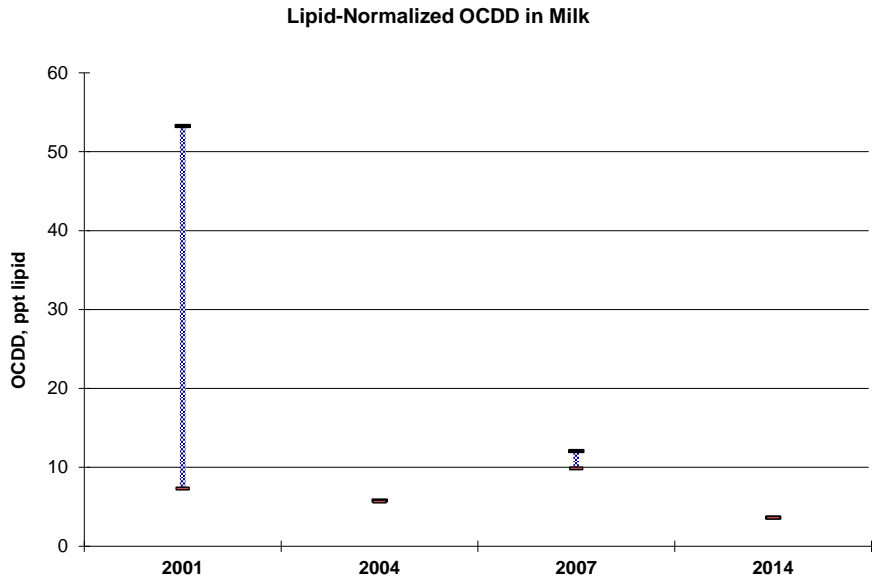


Figure 4-26.
Typical Pattern of PCDD/PCDF Emissions from Montgomery County RRF
(Basis: Average of All Stack Tests 2008 - 2013)

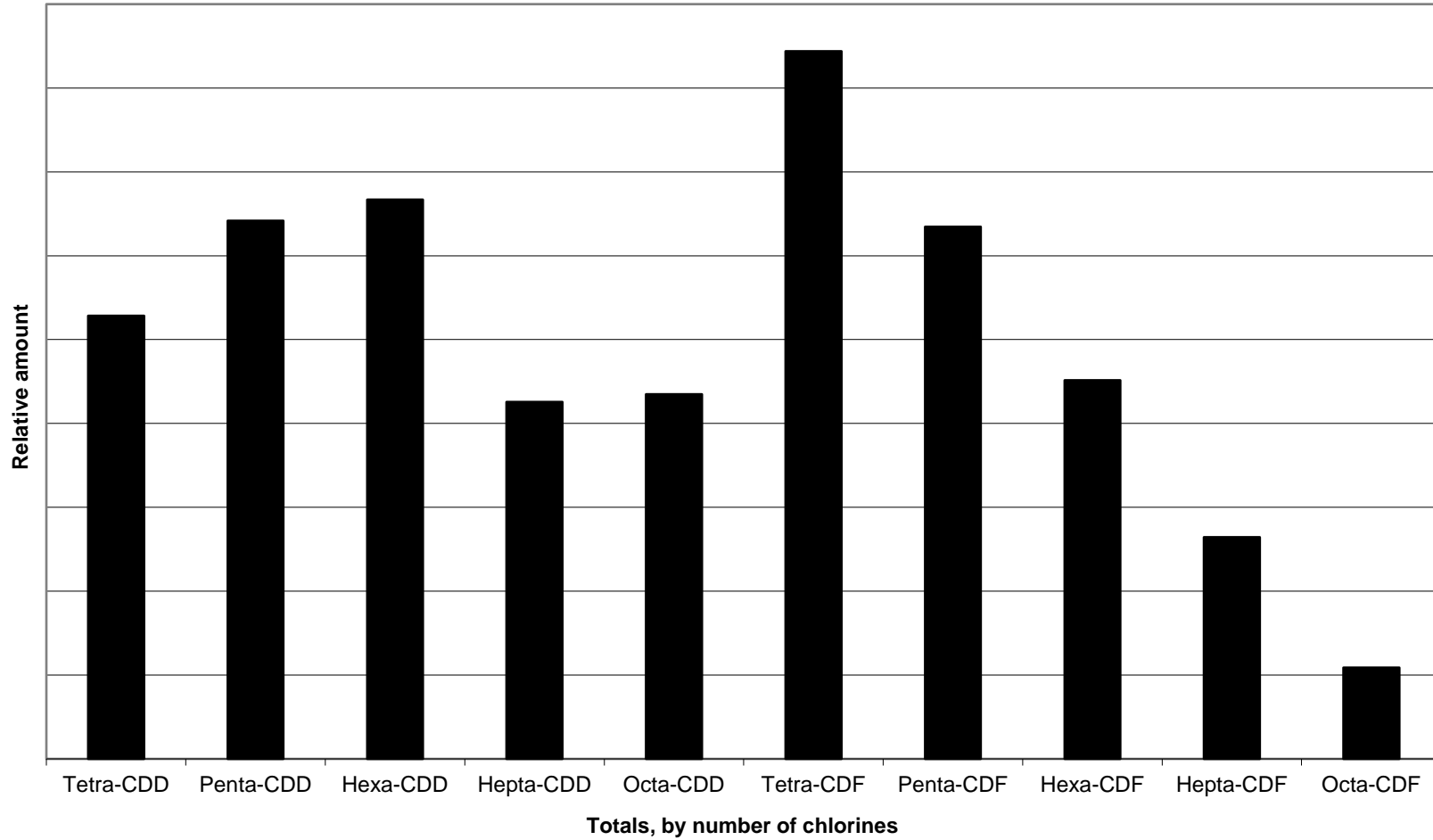


Figure 4-27.
Pattern of PCDD/PCDF Emissions from Montgomery County RRF
Compared to Surface Water Results

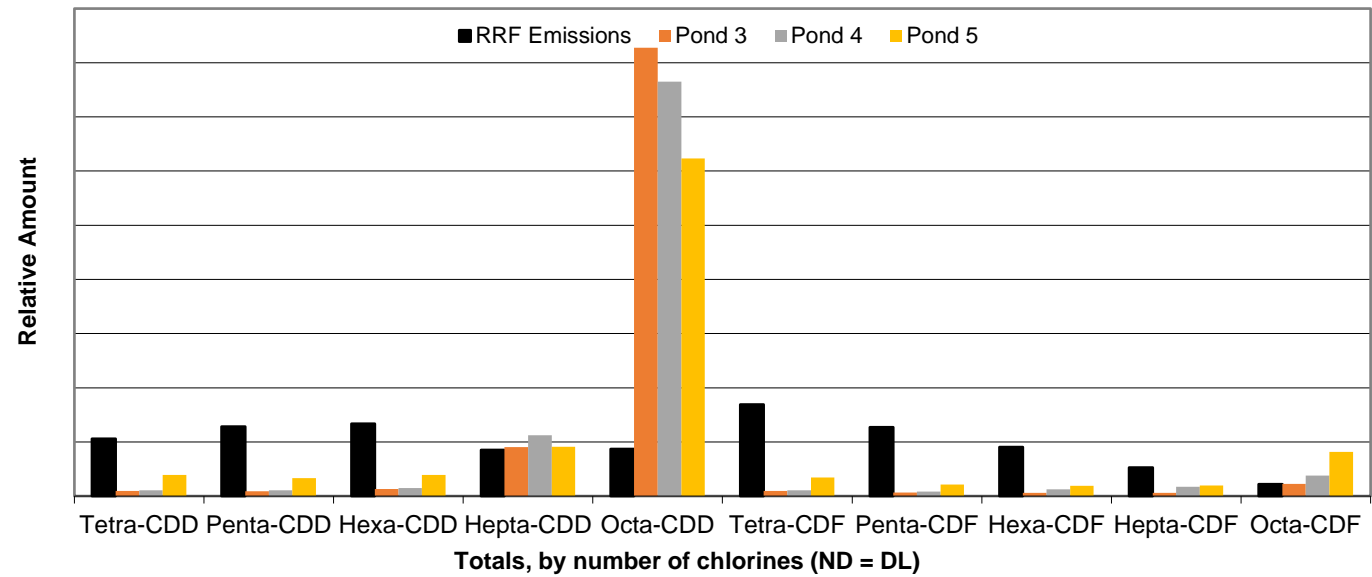
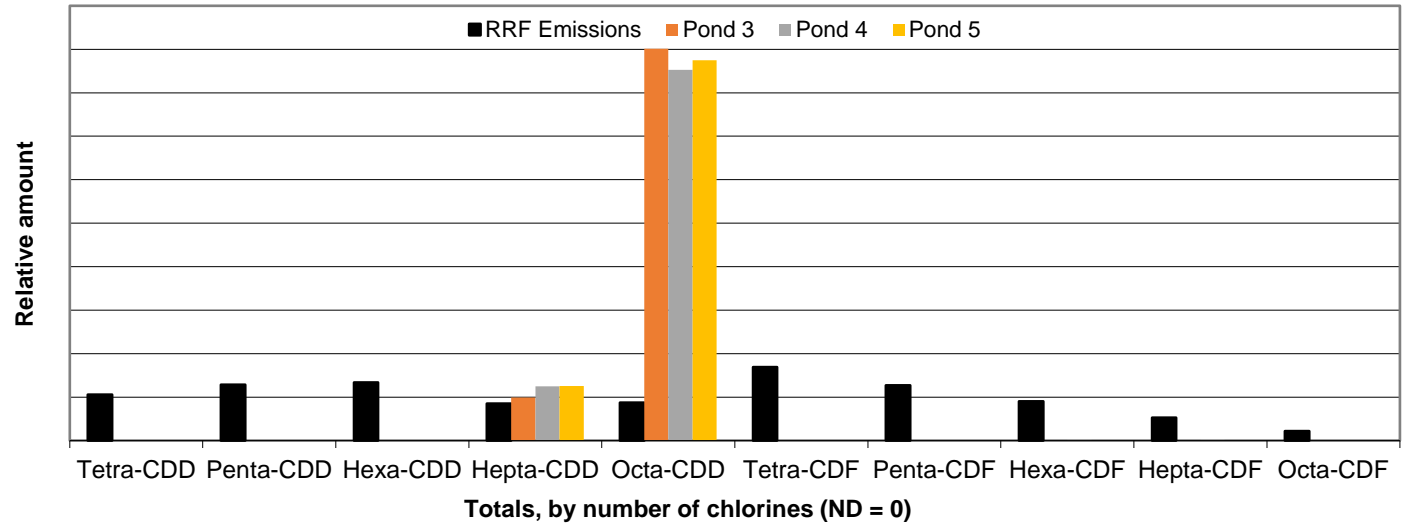


Figure 4-28a.
Pattern of PCDD/PCDF Emissions from Montgomery County RRF
Compared to Sediment Results

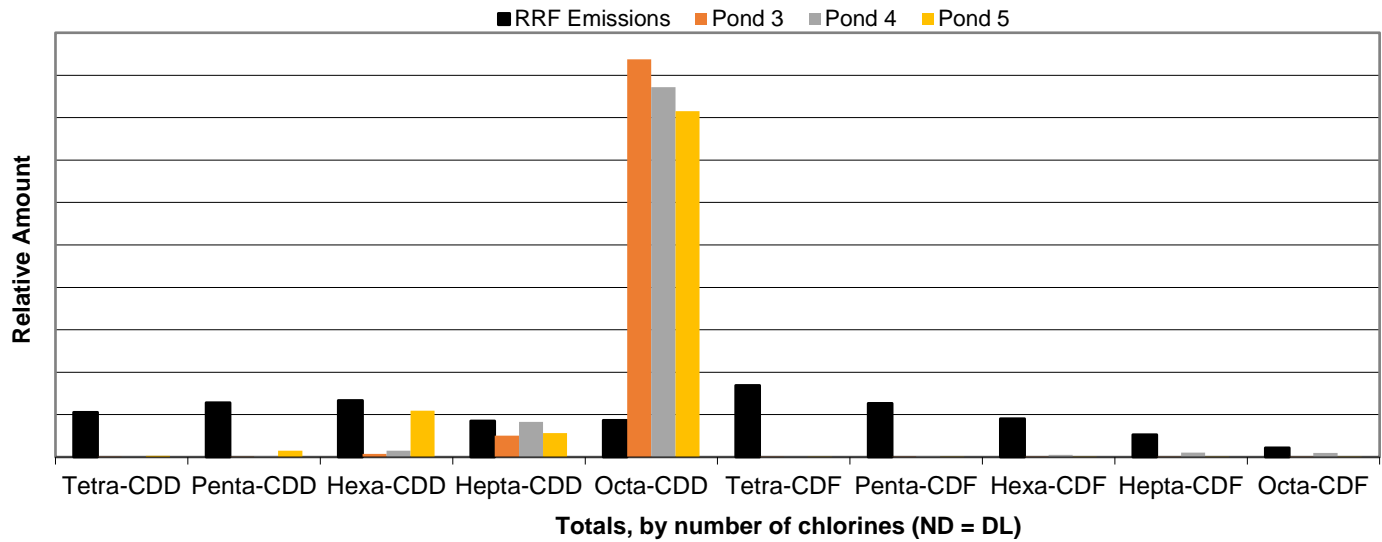
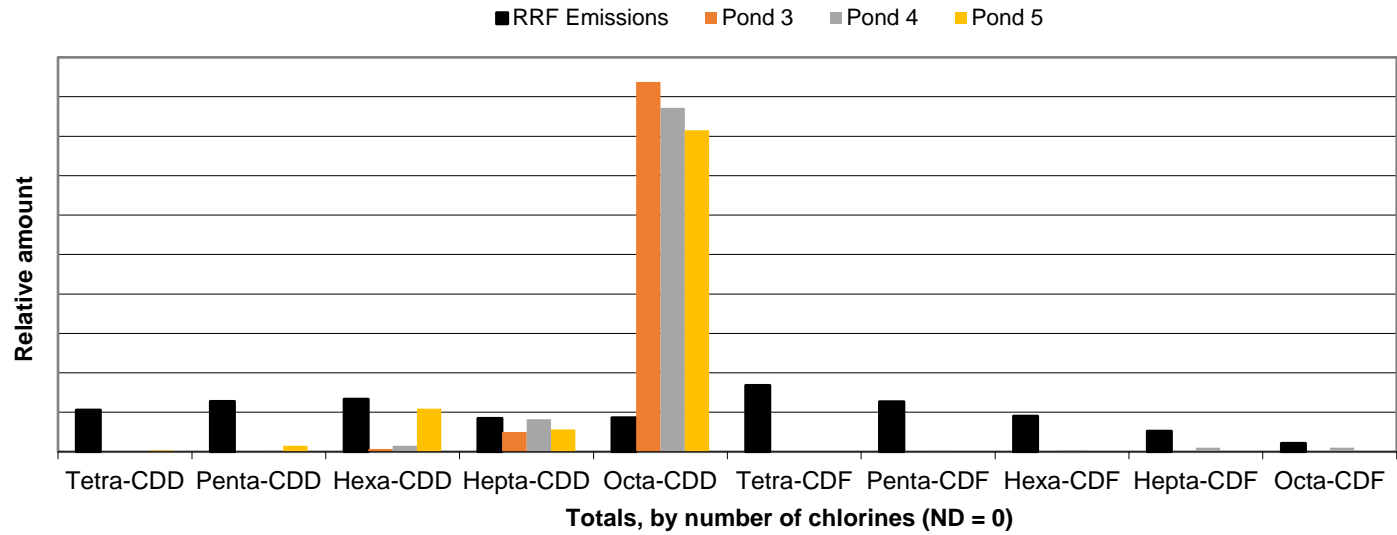


Figure 4-28b.
Pattern of HxCDF Emissions from Montgomery County RRF
Compared to Sediment Results (ND = 0)

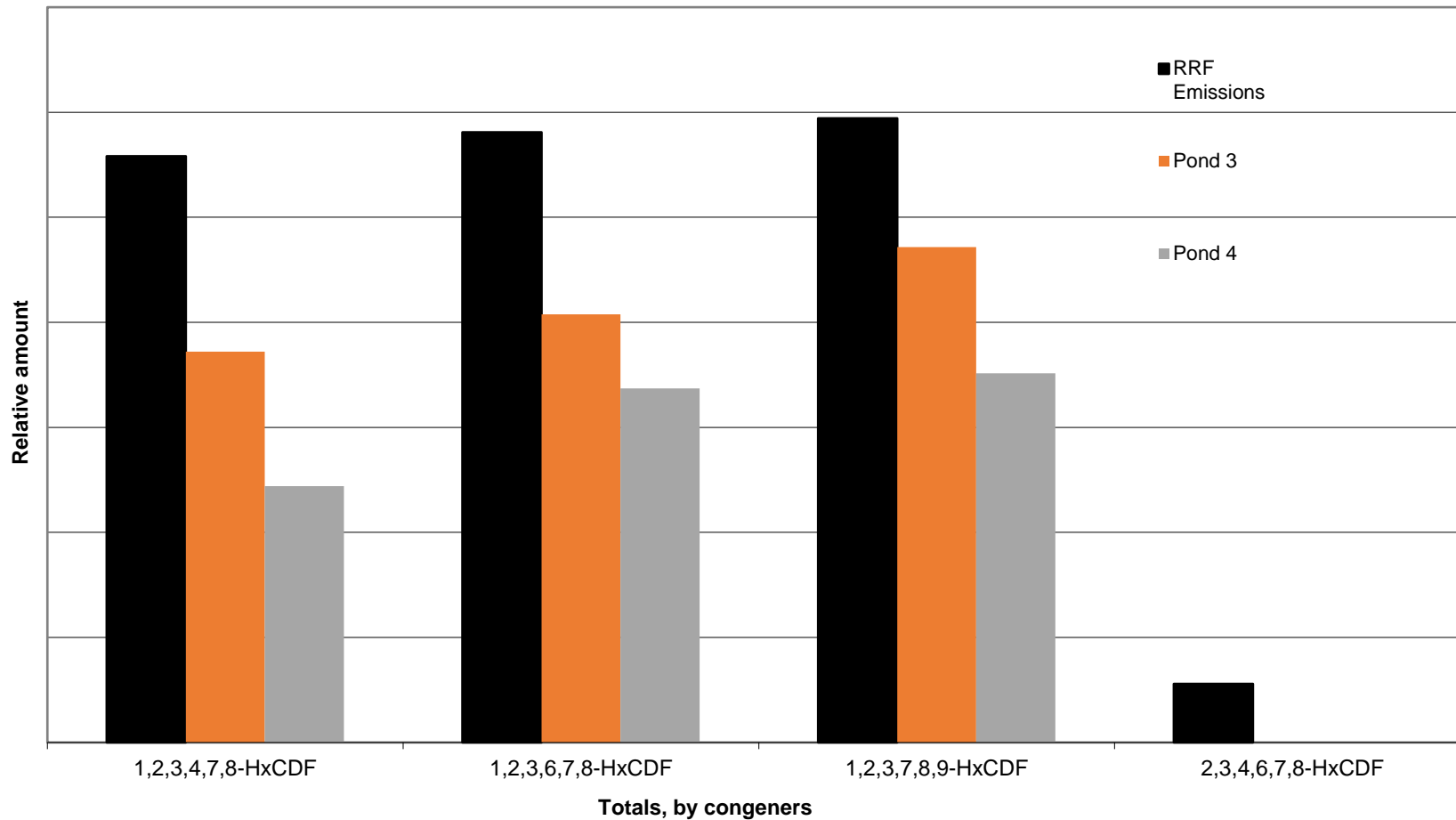


Figure 4-29a.
Pattern of PCDD/PCDF Air Emissions from Montgomery County RRF
Compared to Bluegill Whole-Body Results

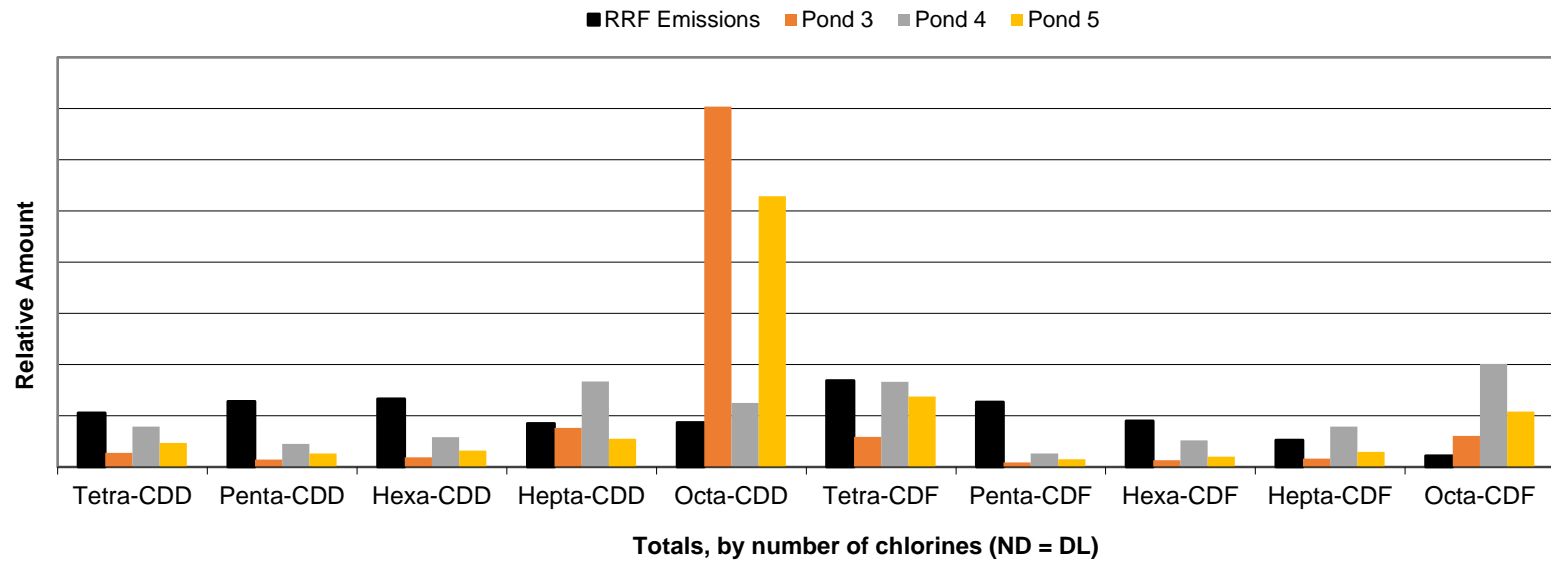
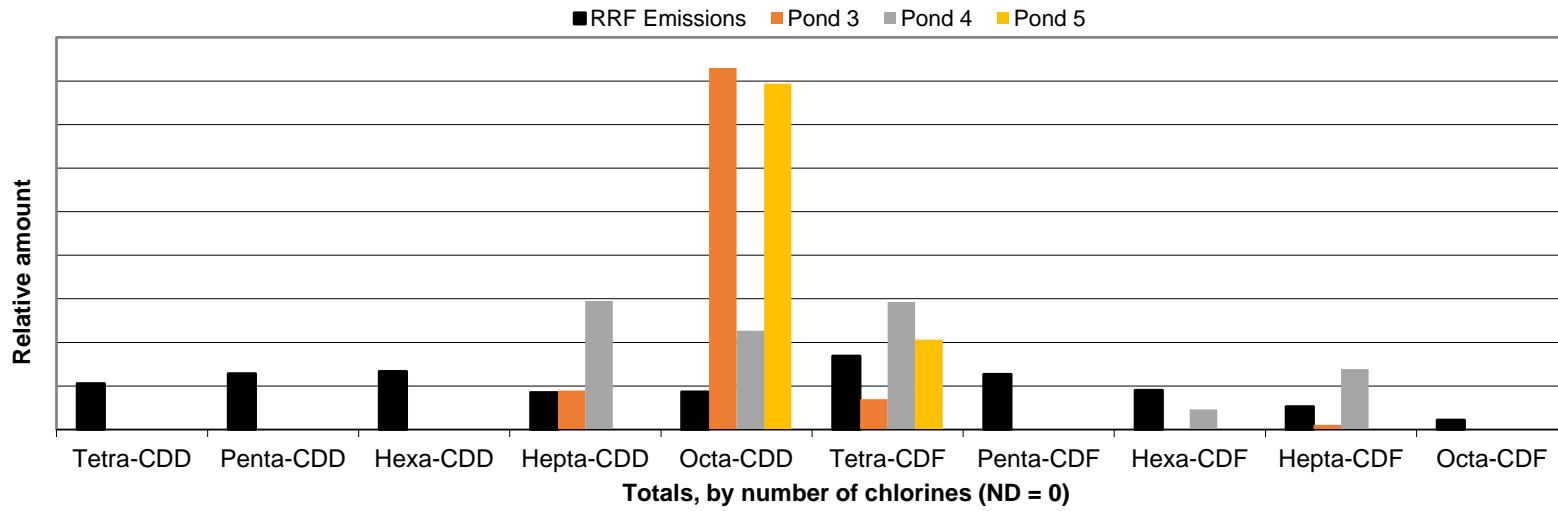


Figure 4-29b.
Pattern of PCDD/PCDF RRF Emissions from Montgomery County RRF
Compared to Bluegill Fillet Results

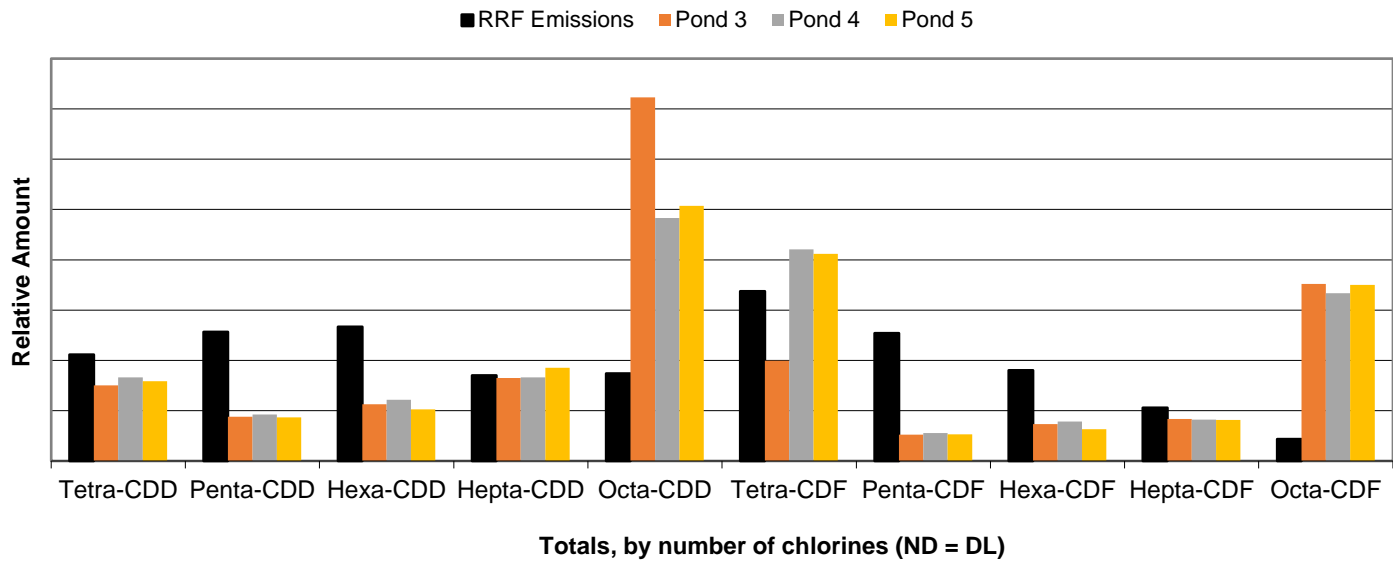
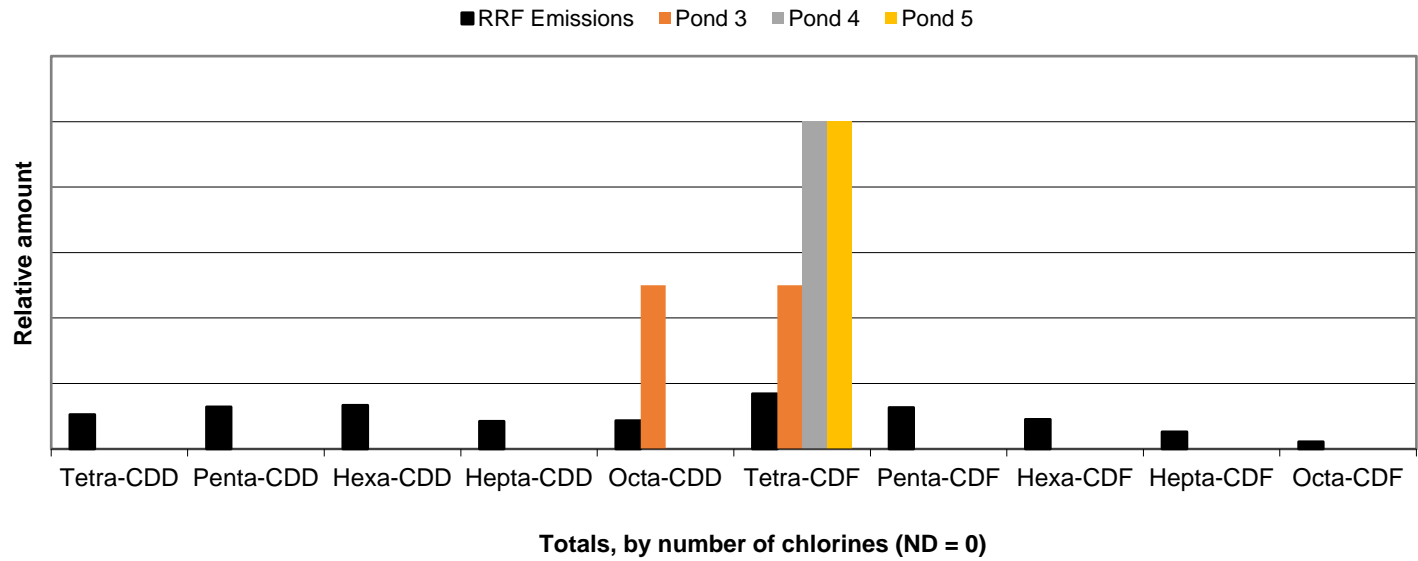


Figure 4-30a.
Pattern of PCDD/PCDF Emissions from Montgomery County RRF
Compared to Largemouth Bass Whole-Body Results

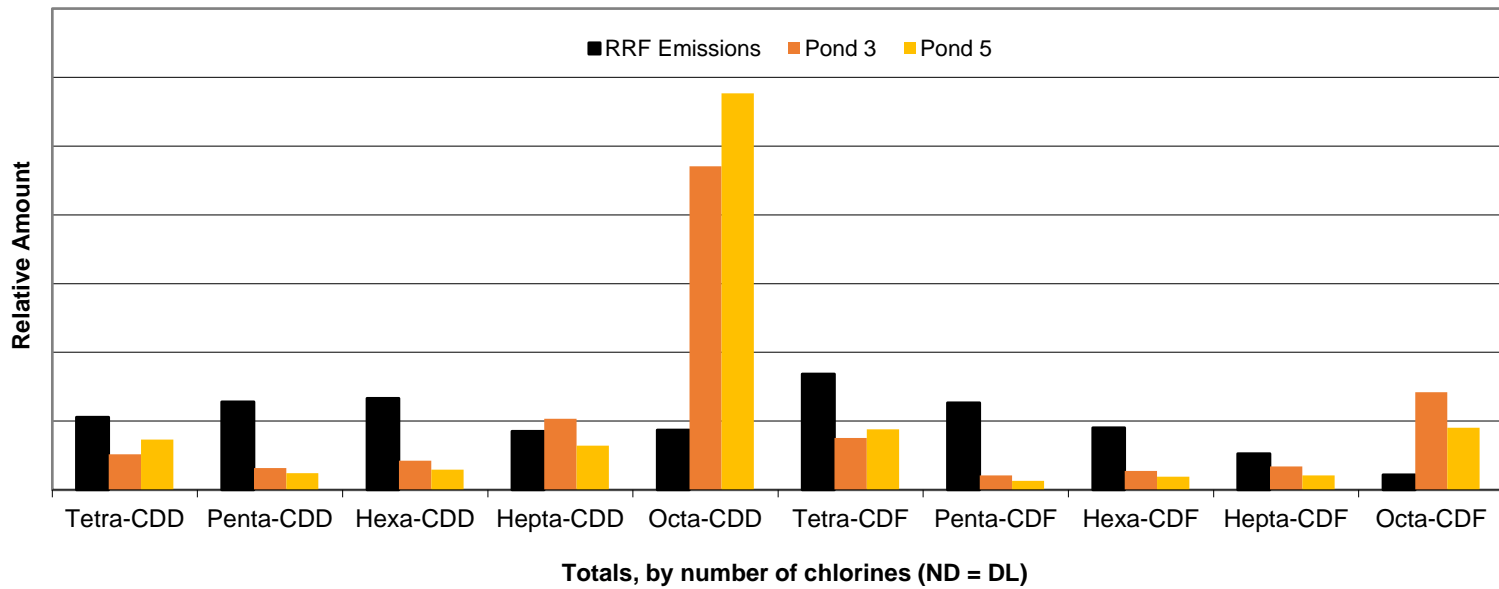
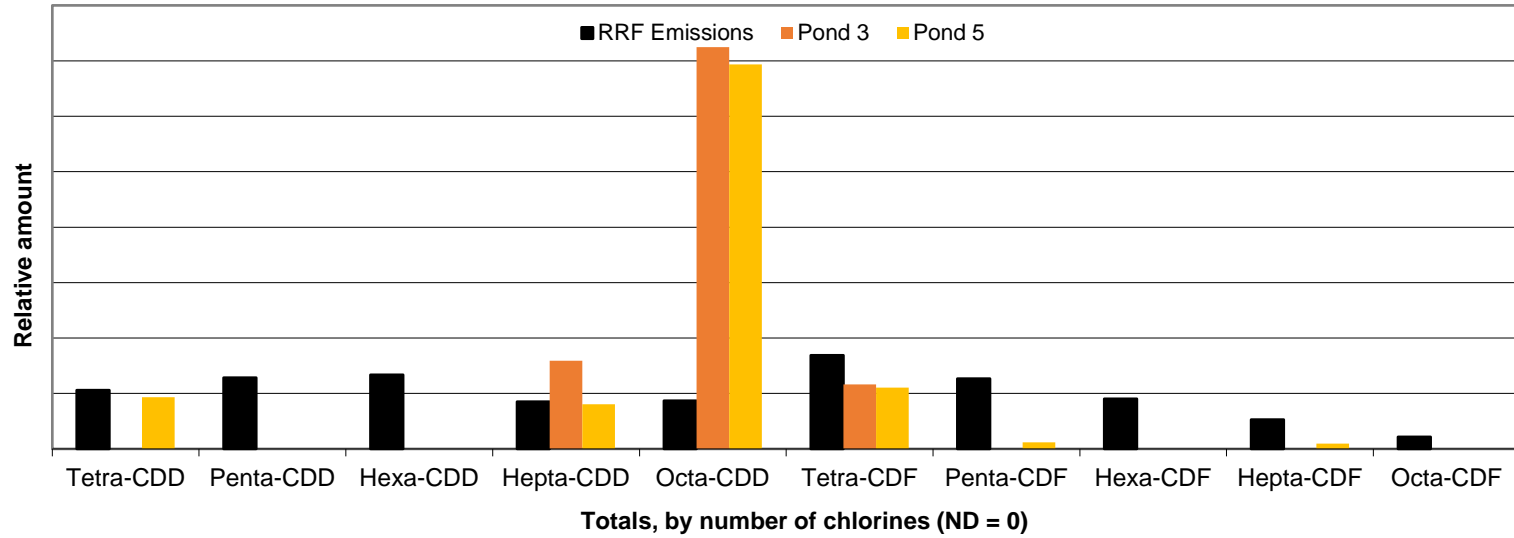


Figure 4-30b.
Pattern of PCDD/PCDF Emissions from Montgomery County RRF
Compared to Largemouth Bass Fillet Results

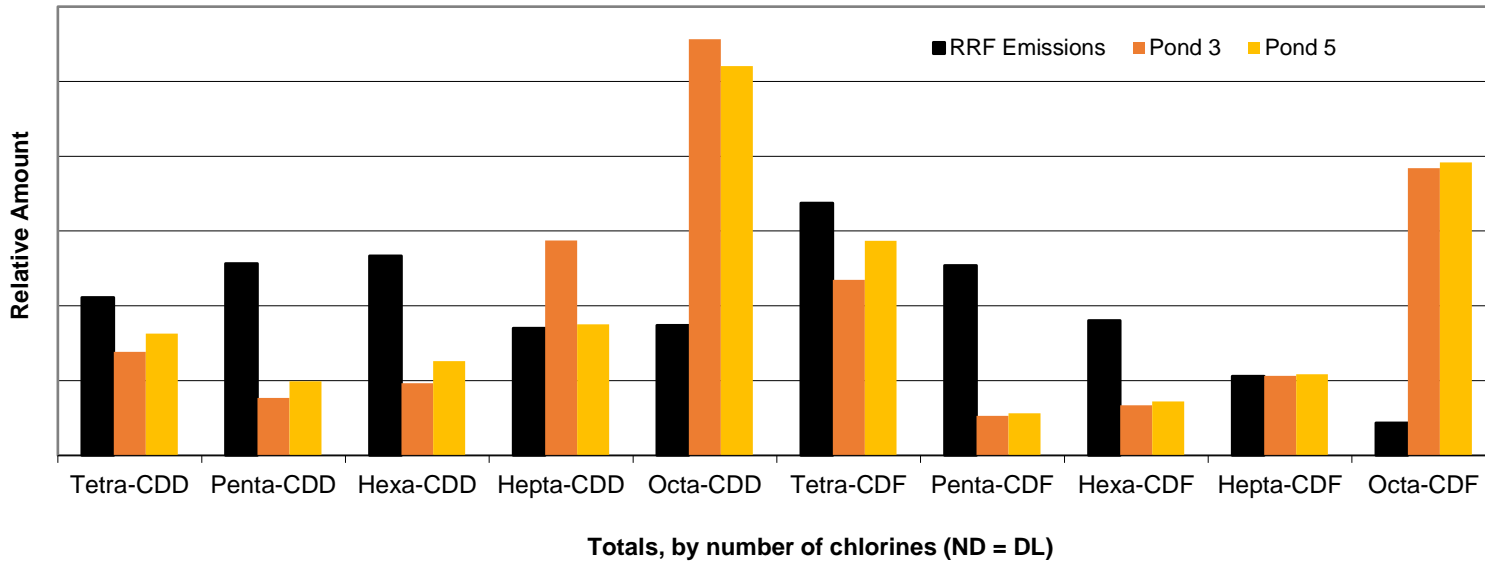
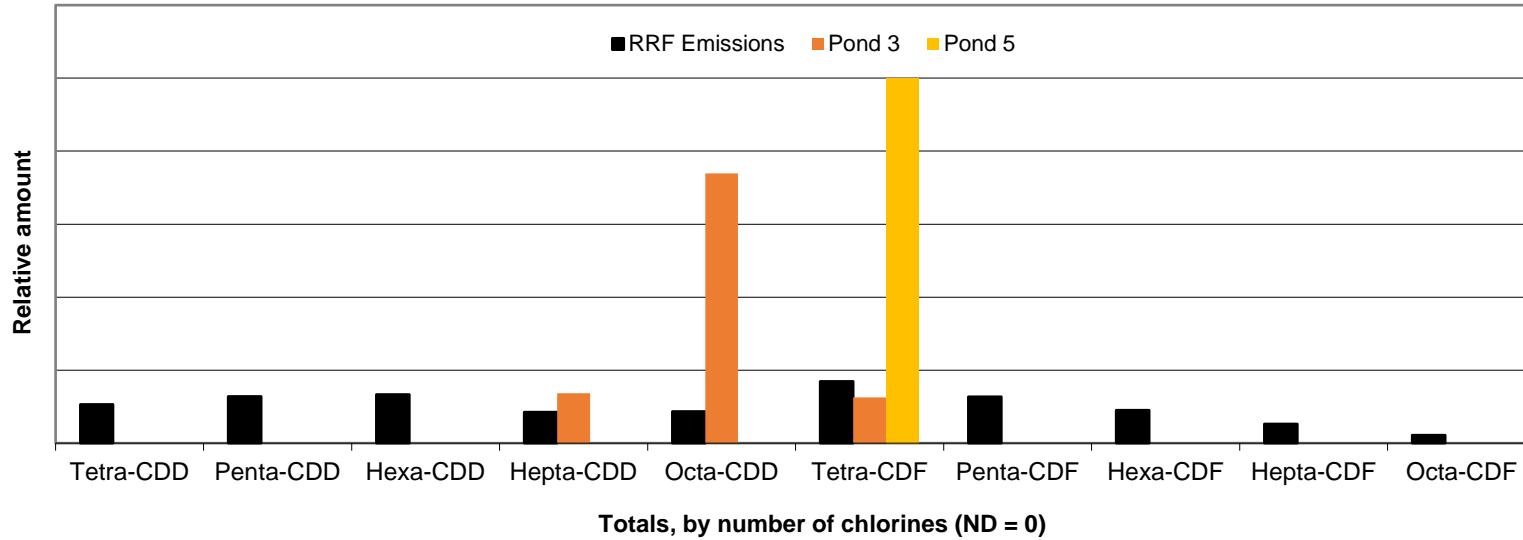


Figure 4-31.
Pattern of PCDD/PCDF Emissions from Montgomery County RRF
Compared to Hay Results

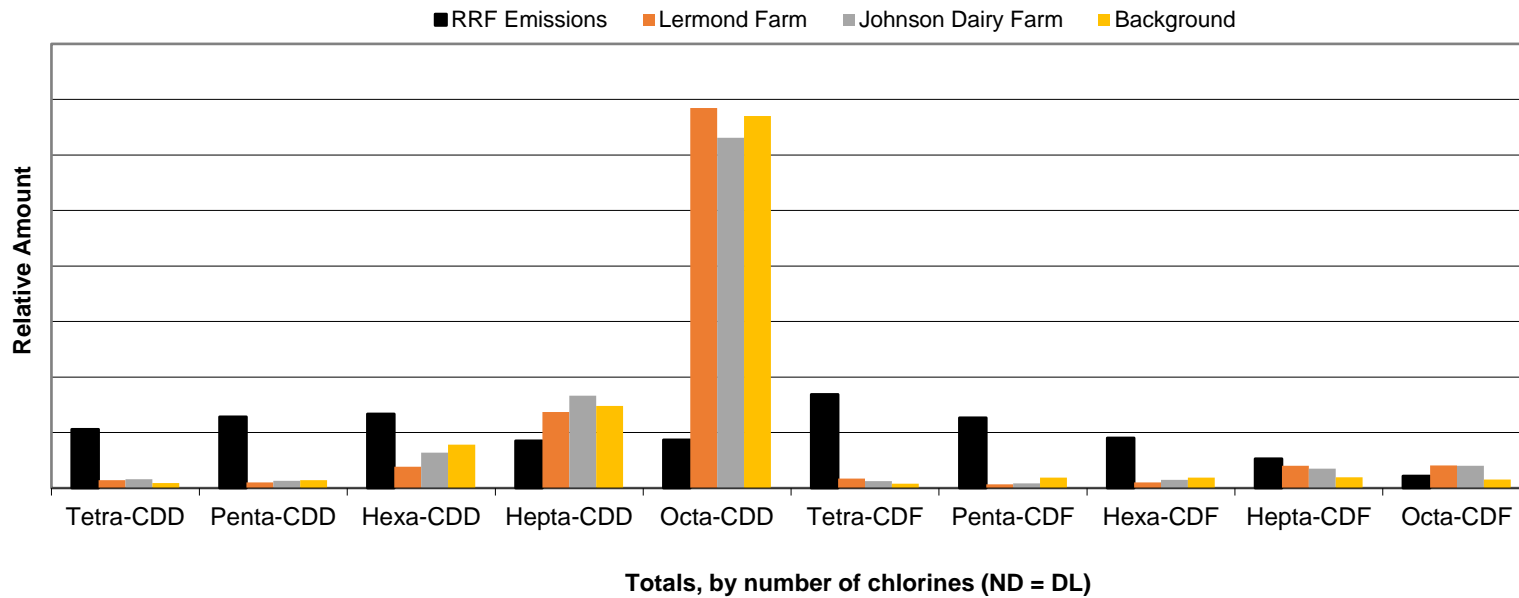
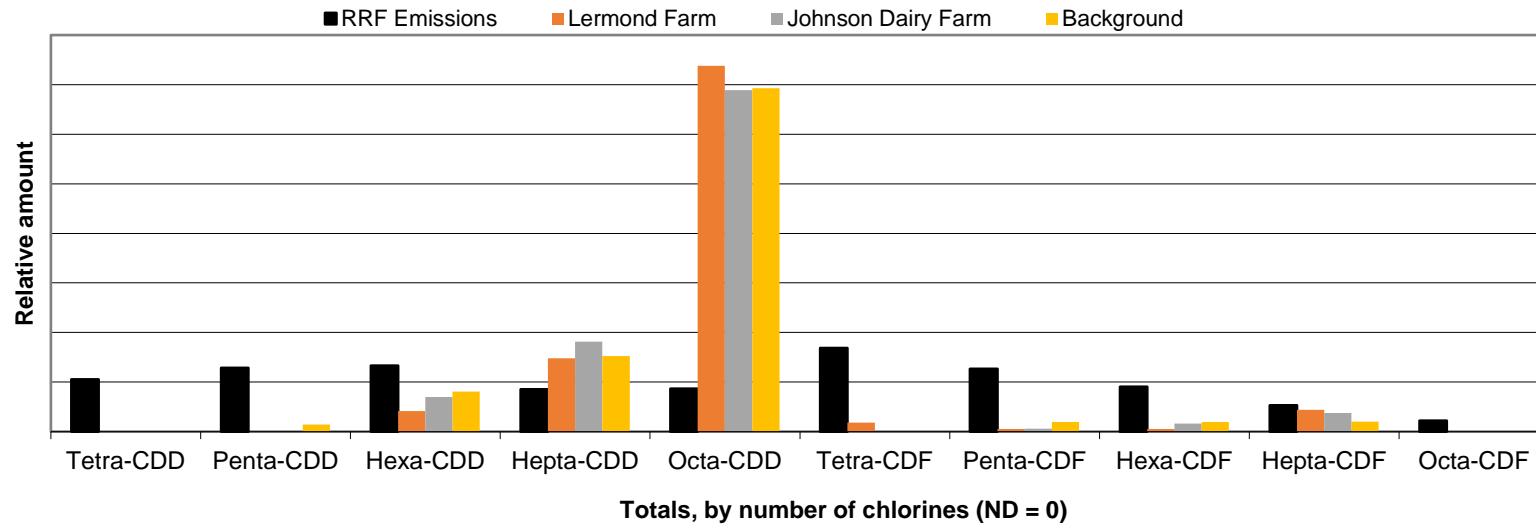


Figure 4-32.
Pattern of PCDD/PCDF Emissions from Montgomery County RRF
Compared to Milk Results

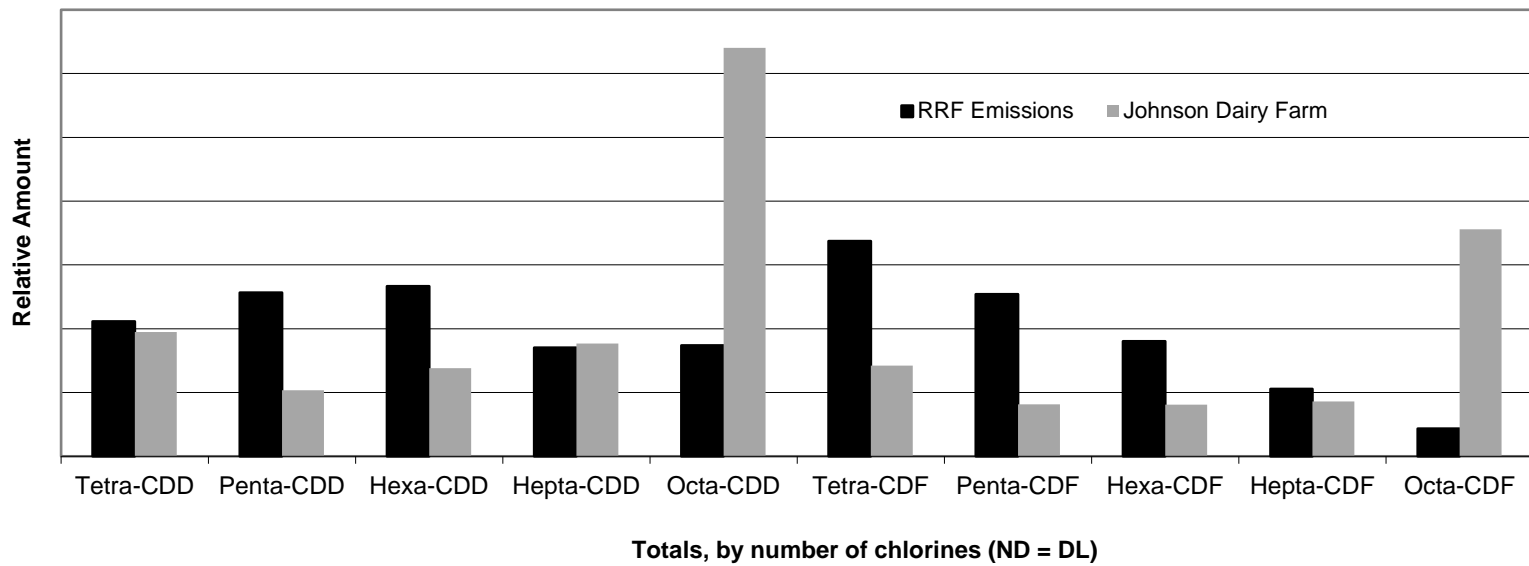
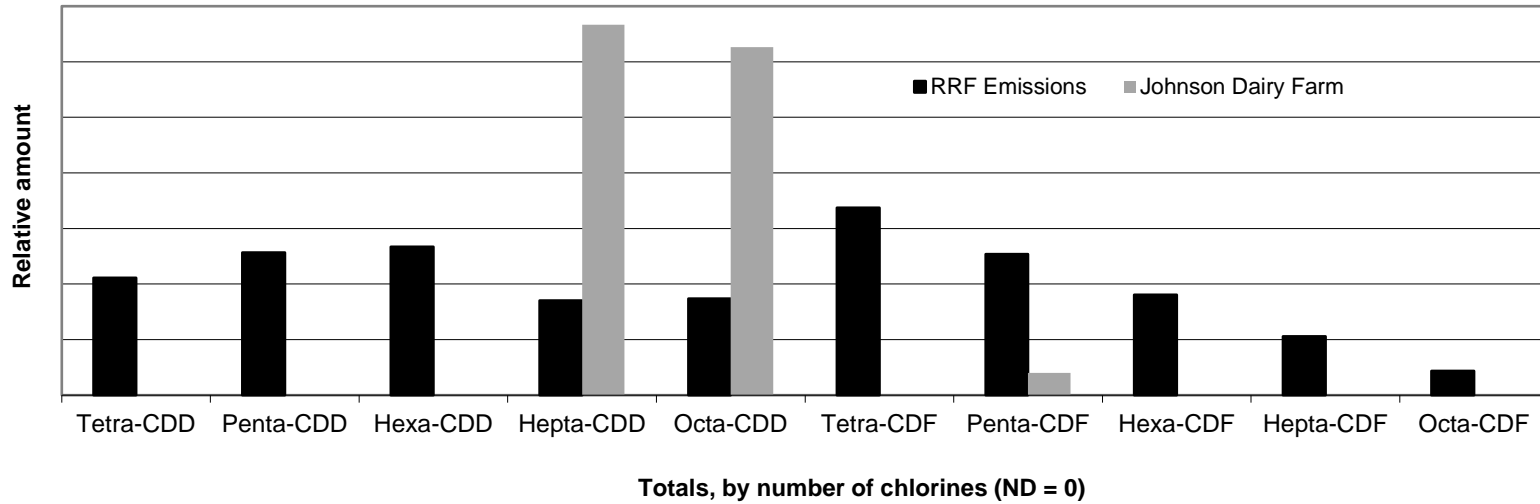
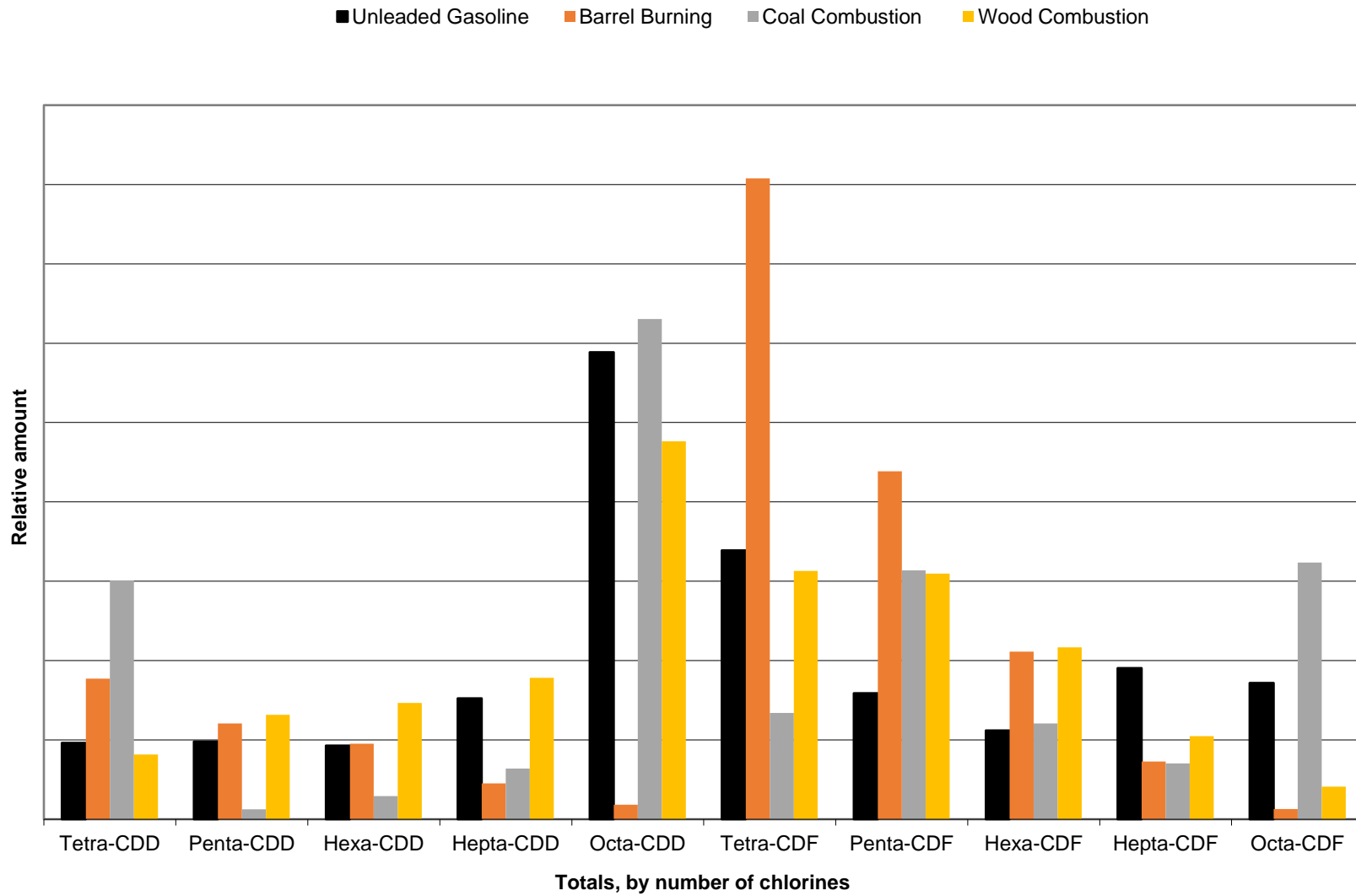


Figure 4-33.
Typical Pattern of PCDD/PCDF Emissions from Other Potential Sources



TABLES

Table 1-1.
Number of Location/Media/Analyte Samples
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Medium	Sampling Event	Location						
		Pond 2	Pond 3	Pond 4	Pond 5	Kingsbury Dairy Farm	Johnson Dairy Farm	Lucketts, VA Background
Dioxins/Furans								
Surface Water								
Pre-Operational	1994-1995	2	2	1	2	NA	NA	NA
Operational	1996	3	5	2	NS	NA	NA	NA
	2001	2	2	NS	NS	NA	NA	NA
	2004	2	2	2 [a]	2 [a]	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	2	2	NA	NA	NA
Sediment								
Pre-Operational	1994-1995	2	2	1	2	NA	NA	NA
Operational	1996	2	2	2	2	NA	NA	NA
	2001	NS	NS	NS	NS	NA	NA	NA
	2004	NS	NS	NS	NS	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	2	2	NA	NA	NA
Bluegills - Fillet								
Pre-Operational	1994-1995	2	0	2 [b]	NS	NA	NA	NA
Operational	1996	3	0	1 [b]	NS	NA	NA	NA
	2001	2	2	NS	NS	NA	NA	NA
	2004	0	3	1	2	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	1	2	NA	NA	NA
Bluegills - Whole-Body								
Pre-Operational	1994-1995	1	1 [b]	2 [b]	1	NA	NA	NA
Operational	1996	3	1 [b]	1 [b]	1	NA	NA	NA
	2001	2	2	NS	NS	NA	NA	NA
	2004	1	2	2	2	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	2	2	NA	NA	NA
Largemouth Bass - Fillet								
Pre-Operational	1994-1995	NS	NS	NS	2	NA	NA	NA
Operational	1996	NS	NS	NS	3	NA	NA	NA
	2001	NS	NS	NS	NS	NA	NA	NA
	2004	0	1	NS	2	NA	NA	NA
	2007	0	2	NS	2	NA	NA	NA
	2014	NS	2	0	2	NA	NA	NA
Largemouth Bass - Whole-Body								
Pre-Operational	1994-1995	1	NS	NS	2	NA	NA	NA
Operational	1996	NS	NS	NS	3	NA	NA	NA
	2001	NS	NS	NS	NS	NA	NA	NA
	2004	0	2	NS	2	NA	NA	NA
	2007	0	2	NS	2	NA	NA	NA
	2014	NS	2	0	2	NA	NA	NA
Hay								
Pre-Operational	1994-1995	NA	NS	NA	NA	5	NS	NS
Operational	1996	NA	NS	NA	NA	3	NS	NS
	1998	NA	NS	NA	NA	5	NS	NS
	2001	NA	2	NA	NA	NS	NS	1
	2004	NA	2	NA	NA	NS	2	1
	2007	NA	2	NA	NA	NS	2	1
	2014	NA	2	NA	NA	NS	2	1

Table 1-1.
Number of Location/Media/Analyte Samples
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Medium	Sampling Event	Location						
		Pond 2	Pond 3	Pond 4	Pond 5	Kingsbury Dairy Farm	Johnson Dairy Farm	Lucketts, VA Background
Cow's Milk								
Pre-Operational	1994-1995	NA	NA	NA	NA	4	NS	NA
Operational	1996	NA	NA	NA	NA	2	NS	NA
	1998	NA	NA	NA	NA	4	NS	NA
	2001	NA	NA	NA	NA	NS	2	NA
	2004	NA	NA	NA	NA	NS	2	NA
	2007	NA	NA	NA	NA	NS	2	NA
	2014	NA	NA	NA	NA	NS	2	NA
Metals								
Surface Water								
Pre-Operational	1994-1995	2	2	1	2	NA	NA	NA
Operational	1996	2	2	1	2	NA	NA	NA
	2001	2	2	NS	NS	NA	NA	NA
	2004	2	4 [a]	2 [a]	2 [a]	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	2	2	NA	NA	NA
	Sediment							
Pre-Operational	1994-1995	2	2	1	2	NA	NA	NA
Operational	1996	2	2	1	2	NA	NA	NA
	2001	NS	NS	NS	NS	NA	NA	NA
	2004	NS	NS	NS	NS	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	2	2	NA	NA	NA
	Bluegills - Fillet							
Pre-Operational	1994-1995	2	0	2 [b]	NS	NA	NA	NA
Operational	1996	3	0	1 [b]	NS	NA	NA	NA
	2001	2	2	NS	NS	NA	NA	NA
	2004	0	3	1	2	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	1	2	NA	NA	NA
	Bluegills - Whole-Body							
Pre-Operational	1994-1995	1	1 [b]	2 [b]	1	NA	NA	NA
Operational	1996	3	1 [b]	1 [b]	1	NA	NA	NA
	2001	2	2	NS	NS	NA	NA	NA
	2004	1	2	2	2	NA	NA	NA
	2007	2	2	NS	2	NA	NA	NA
	2014	NS	2	2	2	NA	NA	NA
	Largemouth Bass - Fillet							
Pre-Operational	1994-1995	NS	NS	NS	2	NA	NA	NA
Operational	1996	NS	NS	NS	3	NA	NA	NA
	2001	2	1	NS	NS	NA	NA	NA
	2004	0	1	NS	2	NA	NA	NA
	2007	0	2	NS	2	NA	NA	NA
	2014	NS	2	0	2	NA	NA	NA
	Largemouth Bass - Whole-Body							
Pre-Operational	1994-1995	1	NS	NS	2	NA	NA	NA
Operational	1996	NS	NS	NS	3	NA	NA	NA
	2001	2	1	NS	NS	NA	NA	NA
	2004	0	2	NS	2	NA	NA	NA
	2007	0	2	NS	2	NA	NA	NA
	2014	NS	2	0	2	NA	NA	NA

Table 1-1.
Number of Location/Media/Analyte Samples
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Medium	Sampling Event	Location						
		Pond 2	Pond 3	Pond 4	Pond 5	Kingsbury Dairy Farm	Johnson Dairy Farm	Lucketts, VA Background
Hay								
Pre-Operational	1994-1995	NA	NS	NA	NA	5	NS	NS
	1996	NA	NS	NA	NA	5	NS	NS
	2001	NA	2	NA	NA	NS	NS	NS
	2004	NA	2	NA	NA	NS	1	1
	2007	NA	2	NA	NA	NS	2	1
	2014	NA	2	NA	NA	NS	2	1
Cow's Milk								
Pre-Operational	1994-1995	NA	NA	NA	NA	4	NS	NA
	1996	NA	NA	NA	NA	4	NS	NA
	2001	NA	NA	NA	NA	NS	2	NA
	2004	NA	NA	NA	NA	NS	2	NA
	2007	NA	NA	NA	NA	NS	2	NA
	2014	NA	NA	NA	NA	NS	2	NA

Notes:

[a] Two samples collected in October

[b] Green Sunfish collected

NA = Not applicable; location not a target for this medium.

NS = Not sampled; no data available

Table 1-2.
Number of Samples from 2014 Monitoring Program
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Non-Air Medium	2014 Samples	Duplicate and MS/MSD Samples	Location of Sample	Number of Samples per Analyte					
				Dioxins/ Furans	Total Metals	Dissolved Metals	Lipid	Hardness	Total Organic Carbon
Surface Water	LFSW01	LFSW02 DUP	Pond 3 - Lermond	1	1	1	NA	1	NA
	LFSW02		Pond 3 - Lermond	1	1	1	NA	1	NA
	LFSW03		Pond 3 - Lermond	1	1	1	NA	0	NA
	YFSW01	MS/MSD	Pond 4 - Yates	1	1	1	NA	1	NA
	YFSW02		Pond 4 - Yates	1	1	1	NA	1	NA
	CPSW01		Pond 5 - County	1	1	1	NA	1	NA
	CPSW02		Pond 5 - County	1	1	1	NA	1	NA
Sediment	LFSD01	LFSD02 DUP	Pond 3 - Lermond	1	1	NA	NA	NA	1
	LFSD02		Pond 3 - Lermond	1	1	NA	NA	NA	1
	LFSD03		Pond 3 - Lermond	1	1	NA	NA	NA	0
	YFSD01	MS/MSD	Pond 4 - Yates	1	1	NA	NA	NA	1
	YFSD02		Pond 4 - Yates	1	1	NA	NA	NA	1
	CPSD01		Pond 5 - County	1	1	NA	NA	NA	1
	CPSD02		Pond 5 - County	1	1	NA	NA	NA	1
Bluegill - Fillet	LFBG01-F	LFBG02-F DUP	Pond 3 - Lermond	1	1	NA	1	NA	NA
	LFBG02-F		Pond 3 - Lermond	1	1	NA	1	NA	NA
	LFBG02-F DUP		Pond 3 - Lermond	1	1	NA	0	NA	NA
	YFBG01/BG02-F		Pond 4 - Yates	1	1	NA	1	NA	NA
	CPBG01-F		Pond 5 - County	1	1	NA	1	NA	NA
	CPBG02-F		Pond 5 - County	1	1	NA	1	NA	NA
Bluegill - Whole Body	LFBG01	LGBG02 DUP	Pond 3 - Lermond	1	1	NA	1	NA	NA
	LFBG02		Pond 3 - Lermond	1	1	NA	1	NA	NA
	LFBG02 DUP		Pond 3 - Lermond	1	1	NA	0	NA	NA
	YFBG01		Pond 4 - Yates	1	1	NA	1	NA	NA
	YFBG02		Pond 4 - Yates	1	1	NA	1	NA	NA
	CPBG01		Pond 5 - County	1	1	NA	1	NA	NA
	CPBG02		Pond 5 - County	1	1	NA	1	NA	NA
Largemouth Bass - Fillet	LFLMB01-F	CPLMB02-F DUP	Pond 3 - Lermond	1	1	NA	1	NA	NA
	LFLMB02-F		Pond 3 - Lermond	1	1	NA	1	NA	NA
	CPLMB01-F		Pond 5 - County	1	1	NA	1	NA	NA
	CPLMB02-F		Pond 5 - County	1	1	NA	1	NA	NA
	CPLMB02-F DUP		Pond 5 - County	1	1	NA	0	NA	NA
Largemouth Bass - Whole Body	LFLMB01	CPLMB02 DUP	Pond 3 - Lermond	1	1	NA	1	NA	NA
	LFLMB02		Pond 3 - Lermond	1	1	NA	1	NA	NA
	CPLMB01		Pond 5 - County	1	1	NA	1	NA	NA
	CPLMB02		Pond 5 - County	1	1	NA	1	NA	NA
	CPLMB02 DUP		Pond 5 - County	1	1	NA	0	NA	NA
Hay	MFH01	LFH01 DUP	Lucketts, VA	1	1	NA	1	NA	NA
	LFH01		Lermond Farm	1	1	NA	1	NA	NA
	LFH02		Lermond Farm	1	1	NA	1	NA	NA
	LFH03	MS/MSD	Lermond Farm	1	1	NA	0	NA	NA
	JFH01		Johnson Dairy Farm	1	1	NA	1	NA	NA
	JFH02		Johnson Dairy Farm	1	1	NA	1	NA	NA
Cow's Milk	JFM01	JFM01 DUP	Johnson Dairy Farm	1	1	NA	1	NA	NA
	JFM02		Johnson Dairy Farm	1	1	NA	1	NA	NA
	JFM03		Johnson Dairy Farm	1	1	NA	0	NA	NA

Notes: NA = Not Applicable for analysis in this medium

Table 2-1.
Summary of Achieved Detection Limits
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Constituent (units)	Sampling Event	Sample Matrix				
		Surface Water	Sediment	Fish	Hay	Cow's Milk
Dioxins/Furans (ppt)						
Pre-Operational	1994-1995	0.001600 - 0.15000	0.2200 - 7.8000	0.1000 - 79.0	0.2200 - 9.00	0.02000 - 2.10
	1996	0.003000 - 0.15000	0.4600 - 25.000	0.2700 - 27.0	0.1900 - 9.10	0.06600 - 1.30
	1998	NS	NS	NS	0.1000 - 1.300	0.00400 - 0.02000
Operational	2001	0.000560 - 0.000920	NS	0.0680 - 3.30	0.3000 - 0.7700	0.01100 - 0.08600
	2004	0.000400 - 0.001000	NS	0.1000	0.1000	0.01250
	2007	0.000508 - 0.000541	0.0376 - 0.1350	0.0471 - 0.0520	0.0449 - 0.050	0.00991 - 0.00998
	2014	0.000543 - 0.003820	0.0852 - 0.7060	0.0611 - 0.9610	0.0489 - 0.422	0.00604 - 0.11400
Arsenic (ppm)						
Pre-Operational	1994-1995	0.00300	---	0.15	0.150	0.015 - 0.150
	1996	0.00300	20.1 - 30.9	11.3	0.490 - 11.3	0.015
	2001	---	NS	0.20	0.200	0.006
Operational	2004	---	NS	0.04 - 0.07	0.070 - 0.080	0.0075
	2007	0.00345	---	0.09	0.140	0.0069
	2014	---	---	0.006 - 0.032	0.029 - 0.033	---
Beryllium (ppm)						
Pre-Operational	1994-1995	0.00100	---	0.050	0.050 - 1.00	0.00005 - 0.0050
	1996	0.00100	0.46 - 0.62	0.300	0.290	0.00500 - 0.0150
Operational	2001	0.00040	NS	0.040	0.040	0.00400
	2004	0.00010	NS	0.010	0.010	0.00100
	2007	0.00005	---	0.010	0.010	0.00100
	2014	0.00008	---	0.004 - 0.023	0.020 - 0.023	0.00086
Cadmium (ppm)						
Pre-Operational	1994-1995	0.00030 - 0.0010	---	0.015 - 0.075	0.015	0.00150
	1996	0.00100	0.46 - 0.62	0.200 - 0.300	0.190 - 0.200	0.0100 - 0.0150
	2001	0.00005	NS	0.020	---	0.00050
Operational	2004	0.00010	NS	0.010	---	0.00100
	2007	0.00005	---	0.010	0.010	---
	2014	0.00001 - 0.00008	---	0.002 - 0.010	---	0.00015
Chromium (ppm)						
Pre-Operational	1994-1995	0.00200 - 0.0080	---	0.11 - 0.30	0.11	0.006
	1996	0.00200	---	0.20 - 0.60	0.20	0.015
	2001	0.00040	NS	---	---	---
Operational	2004	---	NS	---	---	---
	2007	0.00095	---	---	---	---
	2014	0.00029	---	---	---	---
Lead (ppm)						
Pre-Operational	1994-1995	0.00200 - 0.00300	---	0.150	0.15	0.01500
	1996	0.00200	9.4 - 14.5	5.30	5.30	0.01000
	2001	---	NS	0.015	---	0.00300
Operational	2004	0.00015	NS	---	---	---
	2007	---	---	0.020	---	---
	2014	0.00060	---	0.002 - 0.014	---	0.00065
Mercury (ppm)						
Pre-Operational	1994-1995	0.00010 - 0.00020	0.16 - 0.20	0.10	0.100	0.00020
	1996	0.00010 - 0.00013	0.028 - 0.05	0.05	0.017	0.00050 - 0.0020
	2001	0.00005	NS	---	---	0.00010
Operational	2004	0.00001	NS	0.01	0.010	0.00008
	2007	0.00001	---	---	0.010	0.00025
	2014	0.00007	---	---	0.004	0.00014
Nickel (ppm)						
Pre-Operational	1994-1995	0.0020 - 0.0060	---	0.10 - 1.00	---	0.006
	1996	0.0030 - 0.0050	---	1.00	1.00	0.025
	2001	---	NS	---	---	---
Operational	2004	---	NS	---	---	---
	2007	---	---	0.02	---	---
	2014	---	---	0.012 - 0.061	---	---

Notes:

ppt = parts per trillion

ppm = parts per million

The achieved detection limits are the sample-specific Practical Quantitation Limits (PQL) achieved by the laboratory

"---" = Not applicable; detected in every sample

NS = Not sampled; no data available

Table 3-1.
Dioxin/Furan Toxic Equivalency Factors (TEFs)
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, MD

Congener	Mammalian Toxic Equivalency Factor (TEF) ¹	Fish Toxic Equivalency Factor (TEF) ²
Dioxins		
2,3,7,8-TCDD	1.0	1.0
1,2,3,7,8-PeCDD	1.0	1.0
1,2,3,4,7,8-HxCDD	0.1	0.5
1,2,3,6,7,8-HxCDD	0.1	0.01
1,2,3,7,8,9-HxCDD	0.1	0.01
1,2,3,4,6,7,8-HpCDD	0.01	0.001
OCDD	0.0003	<0.0001
Furans		
2,3,7,8-TCDF	0.1	0.05
1,2,3,7,8-PeCDF	0.03	0.05
2,3,4,7,8-PeCDF	0.3	0.5
1,2,3,4,7,8-HxCDF	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01
OCDF	0.0003	<0.0001

Notes:

¹from Van den Berg et al., 2006

²from Van den Berg et al., 1998

**Table 3-2
Benchmarks Levels
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland**

	MD TSC Human Health Criteria for Fish Consumption	Aquatic Life Benchmark Values - Federal/MD TSC Chronic AWQC			Milk	Hay[d]	Fish	Sediment	
		Pond 3	Pond 4	Pond 5				Consensus TEC [l]	USEPA Region 3
Dioxins/Furans (ppq)									
TCDD TEQ	0.51						1200 [e]		850 [m]
TCDD TEQ (lipid basis)	--	--	--	--	3000 [j]	--		--	--
Total Recoverable Metals (ppm)									
Arsenic	0.0014	0.15	0.15	0.15	0.01 [k]	0.0027 - 0.45	0.27 [f]	9.79	--
Beryllium	--	0.0051 [c]	0.0051 [c]	0.0051 [c]	0.004 [k]	0.0003 - 0.12	--	--	--
Cadmium	--	0.00018 [a]	0.00021 [a]	0.00009 [a]	0.005 [k]	0.009 - 0.09	4.0 [f]	0.99	--
Chromium	--	0.0537 [a,b]	0.0665 [a,b]	0.0248 [a,b]	0.10 [k]	0.006 - 0.06	12.0 [c,f]	43.4	--
Lead	--	0.0015 [a]	0.0021 [a]	0.0005 [a]	0.015 [i,k]	0.24 - 1.68	--	35.8	--
Mercury	--	0.00077	0.00077	0.00077	0.002 [k]	0.003	0.3 [f,g]	0.18	--
Nickel	4.6	0.0319 [a]	0.0399 [a]	0.0144 [a]	0.05 [h]	0.021 - 0.201	220 [f]	22.7	--
Hardness (mg/L as CaCO₃)		56.13	72.85	21.85					
Dissolved Metals (ppm)									
Arsenic (dissolved)	--	0.15	0.15	0.15	--	--	--	--	--
Beryllium (dissolved)	--	0.0051 [c]	0.0051 [c]	0.0051 [c]	--	--	--	--	--
Cadmium (dissolved)	--	0.00016 [a]	0.0002 [a]	0.00009 [a]	--	--	--	--	--
Chromium (dissolved)	--	0.0462 [a,b]	0.0572 [a,b]	0.0213 [a,b]	--	--	--	--	--
Lead (dissolved)	--	0.0013 [a]	0.0018 [a]	0.0005 [a]	--	--	--	--	--
Mercury (dissolved)	--	0.00077	0.00077	0.00077	--	--	--	--	--
Nickel (dissolved)	--	0.032 [a]	0.0398 [a]	0.0144 [a]	--	--	--	--	--
Hardness (mg/L as CaCO₃)		56.13	72.85	21.85					

Notes:

ppq = parts per quadrillion; pg/L for liquid, pg/kg for solids

ppm = parts per million; mg/L for liquid, mg/kg for solids

MD TSC = MD Toxic Substances Chronic Level Criteria; 26.08.02.03-2 Numerical Criteria for Toxic Substances in Surface Waters. September 12, 2012

Federal AWQC = Ambient Water Quality Criteria, USEPA (2013).

MCL = Maximum Contaminant Level; EPA 816-F-02-013, July 2002

USEPA Region 3 - Freshwater Sediment Benchmarks [<http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fwsed/screenbench.htm>]

[a] Values presented are for total metals and are normalized to site-specific hardness values for each Farm Pond.

[b] Criteria for total chromium

[c] USEPA Ecotox Threshold (1996)

[d] Values for hay are common concentrations measured in vegetation from Kabata-Pendias and Pendias, 1984

[e] TCDD TEQ of background fish samples collected in North America as reported in USEPA (2003) assuming non-detects equal to one-half detection limit.

[f] Virginia Department of Environmental Quality Fish Screening Value (proposed)

[g] U.S. EPA and MD TSC fish flesh criterion for mercury.

[h] Typical level in cow's milk. Univeristy of Guelph, Canada

[i] Value is the action limit posted in the MCLs.

[j] Value range is the European Commission (2002, 2005) maximum permissible level for dioxin in milk. Concentrations are lipid-normalized.

[k] Benchmark levels for milk are USEPA/MD TSC MCLs, which are protective of human exposure to groundwater (as tap water)

[l] Consensus-Based Threshold Effect Concentrations developed by MacDonald et al. (2000).

[m] Values expressed as TEQ based on TEF values for fish.

Table 3-3.
2014 Water Quality Data for Study Ponds
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Location/Measurement Depth	Temperature (C)	Spec.Cond. uS/cm	Dissolved Oxygen (mg/L)	pH
Pond 3 (water depth: 5 - 6 ft)				
<i>Measurements Taken June 17, 2014</i>				
A Measurement depth: 1.0 ft	26.0	202	11.40	7.25
A Measurement depth: 5.5 ft	21.3	332	0.66	6.67
B Measurement depth: 1.0 ft	25.0	203	15.50	8.06
B Measurement depth: 5.0 ft	20.3	295	0.45	6.57
Pond 4 (water depth: 2 ft)				
<i>Measurements Taken June 17, 2014</i>				
A Measurement depth: 1.0 ft	27.5	276	19.17	8.76
B Measurement depth: 1.0 ft	28.0	284	13.09	6.84
Pond 5 (water depth 3.5 - 7.5 ft)				
<i>Measurements Taken June 18, 2014</i>				
A Measurement depth: 1.0 ft	29.9	107	10.20	7.51
A Measurement depth: 7.0 ft	24.2	154	0.50	5.82
B Measurement depth: 1.0 ft	30.5	106	9.21	6.91
B Measurement depth: 3.0 ft	28.2	126	8.56	6.27

Notes

C = Celsius

uS/cm = micro Siemens per centimeter

mg/L = milligrams per liter; parts per million

Table 3-4.
Comparison of Surface Water Concentrations to Benchmarks
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

	Benchmark Values [a]		Pond 3		Pond 4		Pond 5	
	MD TSC Human Health Criteria for Fish Consumption	Aquatic Life Screening Values	LFSW01 6/17/2014	LFSW02[e] 6/17/2014	YFSW01 6/17/2014	YFSW02 6/17/2014	CPSW01 6/18/2014	CPSW02 6/18/2014
		Federal/ MD TSC						
Dioxins/Furans (ppq)								
2,3,7,8-TCDD	--	--	0.913 U	0.774 U	1.03 U	1.05 U	1.64 U	1.26 U
1,2,3,7,8-PeCDD	--	--	0.887 U	0.713 U	1.21 U	0.962 U	1.49 U	0.915 U
1,2,3,4,7,8-HxCDD	--	--	1.29 U	1.13 U	1.93 U	1.30 U	1.53 U	1.5 U
1,2,3,6,7,8-HxCDD	--	--	1.24 U	1.11 U	1.97 U	1.34 U	1.49 U	1.5 U
1,2,3,7,8,9-HxCDD	--	--	1.34 U	1.19 U	2.07 U	1.40 U	1.60 U	1.59 U
1,2,3,4,6,7,8-HpCDD	--	--	4.15 J	4.26 J	12.5 J	2.08 U	1.75 U	1.81 U
OCDD	--	--	92.4 J	76.0 J	173	46.8 J	18.6 J	31.5 J
2,3,7,8-TCDF	--	--	0.815 U	0.810 U	1.14 U	1.03 U	1.31 U	1.3 U
1,2,3,7,8-PeCDF	--	--	0.744 U	0.610 U	0.897 U	0.879 U	0.836 U	0.826 U
2,3,4,7,8-PeCDF	--	--	0.725 U	0.598 U	0.899 U	0.841 U	0.840 U	0.816 U
1,2,3,4,7,8-HxCDF	--	--	0.548 U	0.569 U	1.34 U	0.657 U	0.789 U	0.687 U
1,2,3,6,7,8-HxCDF	--	--	0.543 U	0.551 U	1.25 U	0.625 U	0.740 U	0.687 U
1,2,3,7,8,9-HxCDF	--	--	0.580 U	0.563 U	1.34 U	0.633 U	0.821 U	0.719 U
2,3,4,6,7,8-HxCDF	--	--	0.881 U	0.810 U	1.91 U	0.917 U	1.24 U	0.98 U
1,2,3,4,6,7,8-HpCDF	--	--	0.635 U	0.401 U	1.21 U	0.803 U	0.669 U	0.869 U
1,2,3,4,7,8,9-HpCDF	--	--	0.930 U	0.598 U	1.94 U	1.24 U	1.11 U	1.43 U
OCDF	--	--	2.19 U	1.80 U	3.82 U	2.62 U	3.23 U	2.93 U
TCDD TEQ[c]	0.51	--	0.069	0.065	0.177	0.014	0.006	0.009
TCDD TEQ[d]	0.51	--	2.849	2.434	4.041	3.137	4.401	3.392
Total Metals (ppb)								
Arsenic	1.4	150	1.71 J	1.28 J	1.25 J	0.75 J	0.90 J	0.88 J
Beryllium	--	5.1	0.11 J	0.10 J	0.23 J	0.08 U	0.09 J	0.08 U
Cadmium	--	0.09 [b]	0.03 J	0.01 J	0.02 J	0.01 U	0.01 U	0.03 J
Chromium	--	24.8 [b]	0.70	0.63 J	2.22	0.47 J	0.39 J	0.45 J
Lead	--	0.50 [b]	1.00 UJ	1.00 UJ	3.36	1.00 U	1.00 U	1.00 UJ
Mercury	--	0.77	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Nickel	4600	14.4 [b]	3.01	2.67	2.51	1.12	0.60	1.03
Hardness (mg/L as CaCO ₃)			61.3	51.0	72.5	73.2	22.0	21.7
Dissolved Metals (ppb)								
Arsenic (dissolved)	--	150	1.50 J	0.97 J	0.58 J	0.50 U	0.53 J	1.65 J
Beryllium (dissolved)	--	5.1	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Cadmium (dissolved)	--	0.09 [b]	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Chromium (dissolved)	--	21.3 [b]	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Lead (dissolved)	--	0.5 [b]	0.37 J	0.51 J	0.27 J	0.17 J	0.20 J	0.86 J
Mercury (dissolved)	--	0.77	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Nickel (dissolved)	--	14.4 [b]	2.33	2.37	0.85	0.84	0.40 J	0.48 J

Notes:

- [a] Refer to Table 3-2 for source of benchmark levels
- [b] Benchmark value normalized to site-specific hardness as CaCO₃. The screening value is presented for these metals based on the lowest mean water hardness (Pond 5).
- [c] TEQs calculated using mammalian TEFs and only detected PCDD/PCDFs.
- [d] TEQs calculated using mammalian TEFs and estimated detection limit (EDL) for undetected PCDD/PCDFs.
- [e] Concentration is average of sample and duplicate if detected in both samples or detected value if only detected in one sample.
- ppq - parts per quadrillion (pg/L)
- ppb = parts per billion (ug/L)
- mg/L as CaCO₃ = milligrams per liter as calcium carbonate
- U - compound was analyzed for but not detected above the laboratory estimated detection limit (EDL) or method detection limit (MDL).
- J - Estimated concentration as the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the lab's practical quantitation limit
- Bold text indicates the detected concentration exceeds one or more benchmark values.

Table 3-5.
Comparison of Sediment Concentrations to Benchmarks
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

	Sediment Screening Level [a]	Pond 3				Pond 4				Pond 5			
		LFSD01 6/17/2014		LFSD02[f] 6/17/2014		YFSD01 6/17/2014		YFSD02 6/17/2014		CPSD01 6/18/2014		CPSD02 6/18/2014	
Dioxins/Furans (ppt)													
2,3,7,8-TCDD	--	0.371	U	0.286	U	0.168	U	0.160	U	0.134	U	0.222	U
1,2,3,7,8-PeCDD	--	0.342	U	0.424	J	0.166	U	0.134	U	0.113	U	0.336	U
1,2,3,4,7,8-HxCDD	--	0.688	U	0.750	J	0.335	J	0.322	J	0.164	U	0.425	U
1,2,3,6,7,8-HxCDD	--	0.651	U	1.232	J	0.519	J	0.724	J	0.319	J	0.486	J
1,2,3,7,8,9-HxCDD	--	0.706	U	1.700	J	0.897	J	1.37	J	0.309	J	0.78	J
1,2,3,4,6,7,8-HpCDD	--	12.2		46.5	J	18.7		24		11.8		30.9	
OCDD	--	835		2440	J	541		610		767		2260	
2,3,7,8-TCDF	--	0.315	U	0.410	J	0.232	J	0.213	J	0.148	J	0.128	U
1,2,3,7,8-PeCDF	--	0.252	U	0.256	J	0.0893	U	0.138	U	0.0926	U	0.0766	U
2,3,4,7,8-PeCDF	--	0.211	U	0.272	J	0.0846	U	0.128	U	0.0849	U	0.0693	U
1,2,3,4,7,8-HxCDF	--	0.233	U	0.250	J	0.125	U	0.189	J	0.0852	U	0.104	U
1,2,3,6,7,8-HxCDF	--	0.197	U	0.274	J	0.230	J	0.261	J	0.0856	U	0.103	U
1,2,3,7,8,9-HxCDF	--	0.225	U	0.317	J	0.232	J	0.272	J	0.0889	U	0.112	U
2,3,4,6,7,8-HxCDF	--	0.356	U	0.312	U	0.184	U	0.253	U	0.127	U	0.158	U
1,2,3,4,6,7,8-HpCDF	--	0.485	J	1.855	J	2.060	J	2.76	J	0.330	J	0.351	J
1,2,3,4,7,8,9-HpCDF	--	0.414	U	0.347	U	0.226	U	0.204	U	0.243	U	0.205	U
OCDF	--	1.22	J	2.35	J	5.72	J	7.47	J	0.447	J	0.454	J
TCDD TEQ[b]	--	0.378		2.223		0.616		0.788		0.429		1.117	
TCDD TEQ[c]	--	1.503		2.543		1.011		1.152		0.762		1.803	
TCDD TEQ[d]	0.850	0.101		1.391		0.333		0.378		0.106		0.273	
TCDD TEQ[e]	0.850	1.410		1.712		0.747		0.770		0.523		1.138	
Total Metals (ppm)													
Arsenic	9.79	1.49	J	1.11	J	1.58	J	1.86	J	2.34	J	1.39	J
Beryllium	--	1.24		0.992		1.34		1.13		1.61		0.686	
Cadmium	0.99	0.160		0.077		0.057		0.163		0.104		0.034	
Chromium	43.4	22.6		19.6		11.5		17.2		17.0		18.8	
Lead	35.8	17.6		15.7		15.9		29.1		17.0		16.4	
Mercury	0.18	0.025		0.018		0.012		0.042		0.023		0.053	
Nickel	22.7	15.4		10.53		5.31		11.2		10.0		6.86	
Total Organic Carbon	--	20850		9325	J	11300	J	31250	J	7935	J	4400	J

Notes:

-- = No benchmark value available

[a] Refer to Table 3-2 for source of benchmark levels

[b] TEQs calculated using mamalian TEFs (Table 3-1) and only detected PCDD/PCDFs.

[c] TEQs calculated using mamalian TEFs (Table 3-1) and detection limit for undetected PCDD/PCDFs.

[d] TEQs calculated using fish TEFs (Table 3-1) and only detected PCDD/PCDFs.

[e] TEQs calculated using fish TEFs (Table 3-1) and detection limit for undetected PCDD/PCDFs.

[f] Concentration is average of sample and duplicate.

ppt = parts per trillion (pg/g)

ppm = parts per million (mg/kg)

U - compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.

J - Estimated concentration as the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the lab's practical quantitation limit

Bold text indicates the concentration exceeds one or more benchmark values.

Table 3-6a.
Comparison of Fish Tissue Concentrations to Benchmarks
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Screening Level [a]	Pond 3								Pond 4			
	LFBG01 Whole Bluegill 6/17/2014	LFBG02[b] Whole Bluegill 6/17/2014	LFBG01-F Fillet Bluegill 6/17/2014	LFBG02-F[b] Fillet Bluegill 6/17/2014	LFLMB01 Whole LMB 6/17/2014	LFLMB02 Whole LMB 6/19/2014	LFLMB01-F Fillet LMB 6/17/2014	LFLMB02-F Fillet LMB 6/19/2014	YFBG01 Whole Bluegill 6/17/2014	YFBG02 Whole Bluegill 6/17/2014	YFBG01/02-F Fillet Bluegill 6/17/2014	
Dioxins/Furans (ppt)												
2,3,7,8-TCDD	-- 0.1700 U	0.2130 U	0.2040 U	0.1510 U	0.2030 U	0.2890 U	0.1860 U	0.2750 U	0.1760 U	0.1800 U	0.1640 U	
1,2,3,7,8-PeCDD	-- 0.0826 U	0.1180 U	0.1010 U	0.0759 U	0.1280 U	0.1710 U	0.0921 U	0.1660 U	0.1060 U	0.0985 U	0.0910 U	
1,2,3,4,7,8-HxCDD	-- 0.1340 U	0.1310 U	0.1540 U	0.1080 U	0.1510 U	0.2850 U	0.1100 U	0.2270 U	0.1270 U	0.1460 U	0.1220 U	
1,2,3,6,7,8-HxCDD	-- 0.1260 U	0.1340 U	0.1440 U	0.1050 U	0.1490 U	0.2630 U	0.1070 U	0.2190 U	0.1160 U	0.1440 U	0.1200 U	
1,2,3,7,8,9-HxCDD	-- 0.1380 U	0.1410 U	0.1570 U	0.1120 U	0.1590 U	0.2870 U	0.1150 U	0.2350 U	0.1280 U	0.1540 U	0.1280 U	
1,2,3,4,6,7,8-HpCDD	-- 0.2490 J	0.4289 J	0.2200 U	0.1640 U	0.3490 J	0.5662 J	0.2740 J	0.3760 U	0.4067 J	0.2733 J	0.1640 U	
OCDD	-- 4.123 J	4.608 J	1.170 J	0.345 U	1.580 J	2.592 J	0.957 J	0.852 J	4.594 J	7.858 J	0.461 U	
2,3,7,8-TCDF	-- 0.2833 J	0.2860 J	0.1740 U	0.2710 J	0.3840 J	0.2351 J	0.3100 J	0.2410 U	0.2641 J	0.2805 J	0.2220 J	
1,2,3,7,8-PeCDF	-- 0.0800 U	0.0999 U	0.1030 U	0.0722 U	0.0971 U	0.1480 U	0.0838 U	0.1440 U	0.0931 U	0.0893 U	0.0769 U	
2,3,4,7,8-PeCDF	-- 0.0735 U	0.0887 U	0.0930 U	0.0628 U	0.0900 U	0.1350 U	0.0683 U	0.1230 U	0.0847 U	0.0840 U	0.0675 U	
1,2,3,4,7,8-HxCDF	-- 0.0944 U	0.0965 U	0.1060 U	0.0716 U	0.1060 U	0.1720 U	0.0725 U	0.1720 U	0.1090 U	0.0991 U	0.0810 U	
1,2,3,6,7,8-HxCDF	-- 0.0864 U	0.0942 U	0.0996 U	0.0665 U	0.1020 U	0.1630 U	0.0739 U	0.1540 U	0.1040 U	0.0945 U	0.0771 U	
1,2,3,7,8,9-HxCDF	-- 0.0976 U	0.0972 U	0.1120 U	0.0736 U	0.1100 U	0.1920 U	0.0769 U	0.1740 U	0.1160 U	0.1000 U	0.0836 U	
2,3,4,6,7,8-HxCDF	-- 0.1420 U	0.1530 U	0.1580 U	0.1120 U	0.1600 U	0.3010 U	0.1200 U	0.2630 U	0.1710 U	0.1510 U	0.1380 U	
1,2,3,4,6,7,8-HpCDF	-- 0.0988 U	0.1151 J	0.1100 U	0.0720 U	0.1170 U	0.2150 U	0.1020 U	0.2610 U	0.2076 J	0.1186 J	0.0808 U	
1,2,3,4,7,8,9-HpCDF	-- 0.1610 U	0.1820 U	0.1800 U	0.1250 U	0.1910 U	0.3730 U	0.1690 U	0.4720 U	0.2080 U	0.1820 U	0.1350 U	
OCDF	-- 0.3670 U	0.4750 U	0.4530 U	0.3490 U	0.4870 U	0.9060 U	0.3540 U	0.9610 U	0.5110 U	0.4110 U	0.3290 U	
Lipid (%)	3.17	1.83	0.744	0.245	3.13	2.48	0.289	0.429	0.99	0.736	0.293	
TCDD TEQ[c]	1.2 0.0321	0.0354	0.0004	0.0271	0.0424	0.0300	0.0340	0.0003	0.0339	0.0343	0.0222	
TCDD TEQ (lipid normalized)	-- 1.010	1.934	0.047	11.06	1.353	1.21	11.77	0.06	3.44	4.66	7.58	
TCDD TEQ[d]	1.2 0.3937	0.4827	0.4520	0.3437	0.5002	0.7073	0.4055	0.6624	0.4335	0.4315	0.3788	
TCDD TEQ (lipid normalized)	-- 12.409	26.35	60.76	140.28	15.981	28.54	140.30	154.39	43.95	58.64	129.27	
Metals (ppm)												
Arsenic	0.27 0.194	0.095 J	0.007 U	0.006 U	0.032 U	0.029 U	0.006 U	0.006 U	0.162	0.006 U	0.006 U	
Beryllium	-- 0.015 J	0.014 J	0.005 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.014 J	0.004 U	0.004 U	
Cadmium	4.0 0.005 J	0.010 U	0.002 J	0.002 U	0.010 U	0.009 U	0.002 U	0.002 U	0.013 J	0.010 U	0.002 U	
Chromium	12.0 13.54	1.12	5.85	1.30	1.43 J	3.01	1.77	0.946	0.976	0.708	0.893	
Lead	-- 0.082 J	0.077 J	0.006 J	0.003 U	0.014 U	0.030 J	0.003 U	0.003 J	0.269	0.079 J	0.004 J	
Mercury	0.3 0.017 J	0.007 J	0.025 J	0.014 J	0.036 J	0.011 J	0.033 J	0.022 J	0.023 J	0.040 J	0.044 J	
Nickel	220 8.86	0.773	2.94	0.449	0.772	2.12	0.799	0.616	0.872	0.741	0.162	

Notes:

LMB = Largemouth bass

-- = No benchmark value available

[a] Refer to Table 3-2 for source of benchmark levels

[b] Concentration is average of sample and duplicate.

[c] TEQs calculated using mammalian TEFs and only detected PCDD/PCDFs.

[d] TEQs calculated using mammalian TEFs and detection limit for undetected PCDD/PCDFs.

ppt = parts per trillion (pg/g)

ppm = parts per million (mg/kg)

U - compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.

J - Estimated concentration as the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the lab's practical quantitation limit

Bold text indicates the concentration exceeds one or more benchmark values.

Table 3-6a (cont...).
Comparison of Fish Tissue Concentrations to Benchmarks
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Screening Level [a]	Pond 5																
	CPBG01 Whole Bluegill 6/18/2014		CPBG02 Whole Bluegill 6/18/2014		CPBG01-F Fillet Bluegill 6/18/2014		CPBG02-F Fillet Bluegill 6/18/2014		CPLMB01 Whole LMB 6/18/2014		CPLMB02[b] Whole LMB 6/18/2014		CPLMB01-F Fillet LMB 6/18/2014		CPLMB02-F[b] Fillet LMB 6/18/2014		
Dioxins/Furans (ppt)																	
2,3,7,8-TCDD	--	0.1660	U	0.1700	U	0.1760	U	0.1860	U	0.2440	J	0.4445	J	0.1680	U	0.2330	U
1,2,3,7,8-PeCDD	--	0.1020	U	0.0847	U	0.0950	U	0.1030	U	0.0951	U	0.0921	U	0.0947	U	0.1240	U
1,2,3,4,7,8-HxCDD	--	0.1200	U	0.1150	U	0.1280	U	0.1340	U	0.1440	U	0.1400	U	0.1150	U	0.1790	U
1,2,3,6,7,8-HxCDD	--	0.1140	U	0.1140	U	0.1150	U	0.1190	U	0.1370	U	0.1270	U	0.1110	U	0.1740	U
1,2,3,7,8,9-HxCDD	--	0.1240	U	0.1210	U	0.1280	U	0.1330	U	0.1480	U	0.1400	U	0.1190	U	0.1870	U
1,2,3,4,6,7,8-HpCDD	--	0.2280	U	0.1690	U	0.1970	U	0.2250	U	0.3210	J	0.3485	J	0.1740	U	0.2610	U
OCDD	--	2.040	J	1.740	J	0.370	U	0.362	U	4.580	J	2.230	J	0.363	U	0.644	U
2,3,7,8-TCDF	--	0.3020	J	0.2980	J	0.2400	J	0.2880	J	0.3950	J	0.4160	J	0.2480	J	0.2245	J
1,2,3,7,8-PeCDF	--	0.0758	U	0.0694	U	0.0739	U	0.0733	U	0.0931	U	0.0961	U	0.0789	U	0.0846	U
2,3,4,7,8-PeCDF	--	0.0673	U	0.0620	U	0.0651	U	0.0641	U	0.0842	U	0.0831	U	0.0686	U	0.0750	U
1,2,3,4,7,8-HxCDF	--	0.0895	U	0.0686	U	0.0760	U	0.0741	U	0.0892	U	0.0860	U	0.0704	U	0.1160	U
1,2,3,6,7,8-HxCDF	--	0.0828	U	0.0611	U	0.0739	U	0.0702	U	0.0807	U	0.0818	U	0.0663	U	0.1100	U
1,2,3,7,8,9-HxCDF	--	0.0926	U	0.0664	U	0.0804	U	0.0781	U	0.0838	U	0.0904	U	0.0723	U	0.1190	U
2,3,4,6,7,8-HxCDF	--	0.1420	U	0.1020	U	0.1260	U	0.1250	U	0.1300	U	0.1410	U	0.1100	U	0.1840	U
1,2,3,4,6,7,8-HpCDF	--	0.1220	U	0.0909	U	0.0931	U	0.0927	U	0.1080	J	0.0921	U	0.0844	U	0.1600	U
1,2,3,4,7,8,9-HpCDF	--	0.2050	U	0.1480	U	0.1600	U	0.1540	U	0.1650	U	0.1460	U	0.1410	U	0.2650	U
OCDF	--	0.4190	U	0.3530	U	0.3800	U	0.4180	U	0.3500	U	0.4010	U	0.3760	U	0.6010	U
Lipid (%)		2.18		2.31		0.688		0.406		3.29		3.03		0.773		0.738	
TCDD TEQ[c]	1.2	0.0308		0.0303		0.0240		0.0288		0.2892		0.4903		0.0248		0.0225	
TCDD TEQ (lipid normalized)	--	1.41		1.31		3.49		7.09		8.79		16.18		3.21		3.04	
TCDD TEQ[d]	1.2	0.4034		0.3747		0.3942		0.4175		0.4953		0.6933		0.3811		0.5186	
TCDD TEQ (lipid normalized)	--	18.51		16.22		57.30		102.84		15.06		22.88		49.30		70.27	
Metals (ppm)																	
Arsenic	0.27	0.006	U	0.032	U	0.028	U	0.029	U	0.032	U	0.032	U	0.006	U	0.006	U
Beryllium	--	0.004	U	0.005	U	0.004	U	0.004	U	0.005	U	0.023	U	0.004	U	0.004	U
Cadmium	4.0	0.009	U	0.010	U	0.002	U	0.002	U	0.010	U	0.010	U	0.002	U	0.002	U
Chromium	12.0	3.19		4.55		1.14	J	0.924	J	1.67	J	1.41	J	1.73		0.796	
Lead	--	0.029	J	0.028	J	0.002	U	0.003	U	0.014	U	0.014	U	0.003	J	0.003	U
Mercury	0.3	0.037	J	0.051	J	0.048	J	0.040	J	0.140	J	0.164	J	0.148	J	0.164	J
Nickel	220	2.32		3.05		0.339	J	0.061	U	1.10		0.783		0.631		0.012	U

Notes:

LMB = Largemouth bass

-- = No benchmark value available

[a] Refer to Table 3-2 for source of benchmark levels

[b] Concentration is average of sample and duplicate.

[c] TEQs calculated using mammalian TEFs and only detected PCDD/PCDFs.

[d] TEQs calculated using mammalian TEFs and detection limit for undetected PCDD/PCDFs.

ppt = parts per trillion (pg/g) ppm = parts per million (mg/kg)

U - compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.

J - Estimated concentration as the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the lab's practical quantitation limit

Table 3-6b
Comparison of Estimated/Actual Fish PCDD/PCDF Concentrations
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Dioxin/Furan Congeners	Mean Sediment Concentration (mg/kg) ¹	TOC Normalized Sediment Concentration (mg/kg) ²	Fish Whole-Body BSAF ³		Fish Whole-Body Lipid Content (mg/kg) ⁴	Predicted Fish Whole-Body Concentration (mg/kg) ⁵		Actual Fish Whole-Body Concentration (mg/kg) ⁶	
			Minimum	Maximum		Minimum	Maximum	Minimum	Maximum
Pond 3									
1,2,3,4,6,7,8-HpCDD	2.94E-05	1.95E-03	0.0012	0.0348	0.0265	6.19E-08	1.79E-06	2.49E-07	5.66E-07
OCDD	1.64E-03	1.09E-01	0.0008	0.0300	0.0265	2.37E-06	8.64E-05	1.58E-06	4.61E-06
2,3,7,8-TCDF	3.63E-07	2.40E-05	0.0205	0.3970	0.0265	1.31E-08	2.53E-07	2.35E-07	3.84E-07
1,2,3,4,6,7,8-HpCDF	1.17E-06	7.75E-05	0.0035	0.2126	0.0265	7.12E-09	4.37E-07	1.15E-07	1.15E-07
Pond 4									
1,2,3,4,6,7,8-HpCDD	2.14E-05	1.00E-03	0.0012	0.0348	0.0086	1.04E-08	3.01E-07	2.73E-07	4.07E-07
OCDD	5.76E-04	2.71E-02	0.0008	0.0300	0.0086	1.92E-07	7.01E-06	4.59E-06	7.86E-06
2,3,7,8-TCDF	2.23E-07	1.05E-05	0.0205	0.3970	0.0086	1.85E-09	3.58E-08	2.64E-07	2.81E-07
1,2,3,4,6,7,8-HpCDF	2.41E-06	1.13E-04	0.0035	0.2126	0.0086	3.39E-09	2.08E-07	1.19E-07	2.08E-07
Pond 5									
2,3,7,8-TCDD	1.78E-07	2.89E-05	0.0387	0.6778	0.0270	3.02E-08	5.29E-07	2.44E-07	4.45E-07
1,2,3,4,6,7,8-HpCDD	2.14E-05	3.46E-03	0.0012	0.0348	0.0270	1.12E-07	3.25E-06	3.21E-07	3.49E-07
OCDD	1.51E-03	2.45E-01	0.0008	0.0300	0.0270	5.46E-06	1.99E-04	1.74E-06	4.58E-06
2,3,7,8-TCDF	1.38E-07	2.24E-05	0.0205	0.3970	0.0270	1.24E-08	2.40E-07	2.98E-07	4.16E-07
1,2,3,4,6,7,8-HpCDF	3.41E-07	5.52E-05	0.0035	0.2126	0.0270	5.17E-09	3.17E-07	1.08E-07	1.08E-07

Notes:

- ¹ Mean sediment concentration (dry weight) detected in each pond (see Table 3-5)
- ² Mean sediment concentration (dry weight) divided by mean TOC (dry weight) for each pond (see Table 3-5).
- ³ BSAF database (USEPA, 2007) - minimum and maximum sunfish/largemouth bass whole-body BSAFs.
- ⁴ Mean lipid content of whole-body samples for each pond (see Table 3-6).
- ⁵ TOC normalized sediment concentration * fish whole-body BSAF * fish whole-body lipid content.
- ⁶ Minimum and maximum of whole-body sample results for each pond (see Table 3-6).

Table 3-7.
Comparison of Hay Concentrations to Benchmarks
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

	Screening Level [a]	Background		Lermond Farm			Johnson Dairy Farm				
		MFH01 6/18/2014		LFH01[d] 6/17/2014		LFH02 6/17/2014		JFH01 6/17/2014		JFH02 6/17/2014	
Dioxins/Furans (ppt)											
2,3,7,8-TCDD	--	0.125	U	0.118	U	0.144	U	0.163	U	0.13	U
1,2,3,7,8-PeCDD	--	0.0926	U	0.082	U	0.0995	U	0.121	U	0.119	U
1,2,3,4,7,8-HxCDD	--	0.121	U	0.122	U	0.133	U	0.131	U	0.148	U
1,2,3,6,7,8-HxCDD	--	0.126	U	0.123	U	0.137	U	0.128	U	0.15	U
1,2,3,7,8,9-HxCDD	--	0.131	U	0.130	U	0.143	U	0.138	U	0.159	U
1,2,3,4,6,7,8-HpCDD	--	0.777	J	0.458	J	0.771	J	0.689	J	0.717	J
OCDD	--	9.16	J	5.15	J	10.5	J	5.84	J	5.93	J
2,3,7,8-TCDF	--	0.108	U	0.118	J	0.170	J	0.128	U	0.102	U
1,2,3,7,8-PeCDF	--	0.0622	U	0.0530	U	0.074	U	0.0864	U	0.0682	U
2,3,4,7,8-PeCDF	--	0.0585	U	0.0489	U	0.0663	U	0.0778	U	0.0638	U
1,2,3,4,7,8-HxCDF	--	0.067	U	0.0811	U	0.111	U	0.0918	U	0.0875	U
1,2,3,6,7,8-HxCDF	--	0.0642	U	0.0777	U	0.109	U	0.0886	U	0.0843	U
2,3,4,6,7,8-HxCDF	--	0.0685	U	0.0869	U	0.117	U	0.0964	U	0.0928	U
1,2,3,7,8,9-HxCDF	--	0.0987	U	0.120	U	0.178	U	0.147	U	0.138	U
1,2,3,4,6,7,8-HpCDF	--	0.0704	U	0.0847	U	0.106	U	0.120	U	0.29	J
1,2,3,4,7,8,9-HpCDF	--	0.118	U	0.142	U	0.181	U	0.216	U	0.18	U
OCDF	--	0.210	U	0.341	U	0.422	U	0.395	U	0.351	U
TCDD TEQ[b]	--	0.011		0.018		0.028		0.009		0.012	
TCDD TEQ (lipid)	--	0.65		2.23		3.25		0.33		0.43	
TCDD TEQ[c]	--	0.328		0.311		0.389		0.417		0.380	
TCDD TEQ (lipid normalized)	--	20.37		38.77		45.42		15.97		13.87	
Metals (ppm)											
Arsenic	0.0027 - 0.45	0.029	U	0.029	U	0.029	U	0.033	U	0.031	U
Beryllium	0.0003 - 0.12	0.020	U	0.021	U	0.020	U	0.023	U	0.022	U
Cadmium	0.009 - 0.09	0.036	J	0.027	J	0.016	J	0.033	J	0.058	J
Chromium	0.006 - 0.06	0.385	J	0.511		0.991		0.352	J	0.327	J
Lead	0.24 - 1.68	0.100	J	0.065		0.355		0.060	J	0.062	J
Mercury	0.003	0.004	U	0.004	U	0.004	U	0.005	J	0.004	U
Nickel	0.021 - 0.201	0.718		0.162	J	0.520		0.575		0.640	
Lipid (%)		1.61		0.801		0.857		2.61		2.74	

Notes:

-- = No benchmark value available

[a] Refer to Table 3-2 for source of benchmark levels

[b] TEQs calculated using mammalian TEFs and only detected PCDD/PCDFs.

[c] TEQs calculated using mammalian TEFs and detection limit for undetected PCDD/PCDFs.

[d] Concentration is average of sample and duplicate.

ppt = parts per trillion (pg/g)

ppm = parts per million (mg/kg)

U - compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.

J - Estimated concentration as the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the lab's practical quantitation limit

Bold text indicates the concentration exceeds one or more benchmark values.

Table 3-8.
Comparison of Cow's Milk Results to Benchmarks
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

	Screening Level [a]	JFM01[b] 6/17/2014		JFM02 6/17/2014	
Dioxins/Furans (ppq)					
2,3,7,8-TCDD	--	19.7	U	71.2	U
1,2,3,7,8-PeCDD	--	9.92	U	38.8	U
1,2,3,4,7,8-HxCDD	--	13.2	U	53.4	U
1,2,3,6,7,8-HxCDD	--	12.7	U	51.8	U
1,2,3,7,8,9-HxCDD	--	13.7	U	55.6	U
1,2,3,4,6,7,8-HpCDD	--	37.8	J	58.2	U
OCDD	--	118	J	82.8	U
2,3,7,8-TCDF	--	12.6	U	54.4	U
1,2,3,7,8-PeCDF	--	7.60	J	34.4	U
2,3,4,7,8-PeCDF	--	6.04	U	30.0	U
1,2,3,4,7,8-HxCDF	--	8.52	U	34.0	U
1,2,3,6,7,8-HxCDF	--	7.66	U	32.4	U
1,2,3,7,8,9-HxCDF	--	8.66	U	35.2	U
2,3,4,6,7,8-HxCDF	--	12.8	U	50.4	U
1,2,3,4,6,7,8-HpCDF	--	9.28	U	32.8	U
1,2,3,4,7,8,9-HpCDF	--	16.3	U	49.2	U
OCDF	--	53.2	U	114	U
TCDD TEQ[c]		0.641		0.000	
TCDD TEQ (lipid normalized)	3000	19.7		0.00	
TCDD TEQ[d]		41.329		158.213	
TCDD TEQ (lipid normalized)	3000	1271.7		4694.7	
Metals (ppb)					
Arsenic	10	0.85	U	5.96	J
Beryllium	4	0.86	U	0.86	U
Cadmium	5	0.27	J	0.15	U
Chromium	100	181		185	
Lead	15	0.65	U	0.65	U
Mercury	2	0.14	UJ	0.14	UJ
Nickel	50	16.59		16.78	
Lipid (%)		3.25		3.37	

Notes:

[a] Refer to Table 3-2 for source of benchmark levels

[b] Concentration is average of sample and duplicate if detected in both samples or detected value if only detected in one sample.

[c] TEQs calculated using mammalian TEFs and only detected PCDD/PCDFs.

[d] TEQs calculated using mammalian TEFs and detection limit for undetected PCDD/PCDFs.

ppq = parts per quadrillion (pg/L)

ppb = parts per billion (ug/L)

U - compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.

J - Estimated concentration since the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the lab's practical quantitation limit

Bold text indicates the concentration exceeds one or more benchmark values.

Table 4-1.
Summary of Trend Analysis Results
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Media/Constituent	Mann-Kendall Trend Analysis								
	Pond 3			Pond 4			Pond 5		
	ND = 0	All Detects	ND = DL	ND = 0	All Detects	ND = DL	ND = 0	All Detects	ND = DL
Surface Water									
Arsenic	0	NA	0	0	NA	0	0	NA	0
Beryllium	0	NA	0	0	NA	0	0	NA	0
Cadmium	0	NA	-	0	NA	0	0	NA	-
Chromium	0	NA	0	0	NA	0	0	NA	-
Lead	ND	NA	ND	0	NA	0	ND	NA	ND
Mercury	ND	NA	ND	ND	NA	ND	ND	NA	ND
Nickel	0	NA	-	0	NA	0	0	NA	-
1,2,3,4,6,7,8-HpCDD	NA	0	NA	NA	*	NA	NA	*	NA
OCDD	NA	-	NA	NA	*	NA	NA	0	NA
PCDD/PCDF - TEQs	0	NA	0	0	NA	-	0	NA	0
Sediment									
Arsenic	0	NA	0	*	NA	*	0	NA	0
Beryllium	0	NA	0	*	NA	*	0	NA	0
Cadmium	-	NA	-	*	NA	*	0	NA	0
Chromium	0	NA	0	*	NA	*	0	NA	0
Lead	0	NA	0	*	NA	*	0	NA	0
Mercury	0	NA	0	*	NA	*	0	NA	-
Nickel	0	NA	0	*	NA	*	0	NA	0
1,2,3,4,6,7,8-HpCDD	NA	*	NA	NA	*	NA	NA	0	NA
OCDD	NA	0	NA	NA	*	NA	NA	0	NA
OCDF	NA	0	NA	NA	*	NA	NA	*	NA
PCDD/PCDF - TEQs	0	NA	-	*	NA	*	0	NA	0
Bluegill Whole-body									
Arsenic	0	NA	0	0	NA	0	ND	NA	ND
Beryllium	0	NA	0	0	NA	0	ND	NA	ND
Cadmium	0	NA	-	0	NA	0	ND	NA	ND
Chromium	0	NA	0	0	NA	+	0	NA	0
Lead	0	NA	0	0	NA	0	0	NA	-
Mercury	0	NA	-	0	NA	0	0	NA	0
Nickel	0	NA	0	0	NA	0	0	NA	0
PCDD/PCDF - TEQs	0	NA	0	0	NA	0	0	NA	0
Bluegill Fillet									
Arsenic	ND	NA	ND	ND	NA	ND	ND	NA	ND
Beryllium	ND	NA	ND	ND	NA	ND	ND	NA	ND
Cadmium	0	NA	0	ND	NA	ND	ND	NA	ND
Chromium	0	NA	0	*	NA	*	*	NA	*
Lead	0	NA	0	*	NA	*	ND	NA	ND
Mercury	0	NA	0	*	NA	*	*	NA	*
Nickel	0	NA	0	*	NA	*	*	NA	*
PCDD/PCDF - TEQs	0	NA	0	*	NA	*	*	NA	*
Bass Whole-body									
Arsenic	ND	NA	ND	NA	NA	NA	ND	NA	ND
Beryllium	ND	NA	ND	NA	NA	NA	ND	NA	ND
Cadmium	ND	NA	ND	NA	NA	NA	ND	NA	ND
Chromium	0	NA	0	NA	NA	NA	0	NA	0
Lead	0	NA	0	NA	NA	NA	ND	NA	ND
Mercury	0	NA	0	NA	NA	NA	0	NA	0

Table 4-1.
Summary of Trend Analysis Results
Non-Air Environmental Media Sampling
Montgomery County Resource Recovery Facility - Dickerson, Maryland

Media/Constituent	Pond 3			Pond 4			Pond 5		
	ND = 0	All Detects	ND = DL	ND = 0	All Detects	ND = DL	ND = 0	All Detects	ND = DL
Nickel	0	NA	0	NA	NA	NA	0	NA	0
OCDD	NA	0	NA	NA	*	NA	NA	0	NA
2,3,7,8-TCDF	NA	0	NA	NA	*	NA	NA	0	NA
PCDDs/PCDFs	0	NA	0	NA	NA	NA	0	NA	0
Bass Fillet									
Arsenic	ND	NA	ND	NA	NA	NA	ND	NA	ND
Beryllium	ND	NA	ND	NA	NA	NA	ND	NA	ND
Cadmium	ND	NA	ND	NA	NA	NA	ND	NA	ND
Chromium	0	NA	0	NA	NA	NA	0	NA	0
Lead	0	NA	0	NA	NA	NA	0	NA	0
Mercury	0	NA	0	NA	NA	NA	0	NA	0
Nickel	0	NA	0	NA	NA	NA	0	NA	0
OCDD	NA	0	NA	NA	*	NA	NA	*	NA
PCDD/PCDF - TEQs	0	NA	0	NA	NA	NA	0	NA	0
Media/Constituent	Lermond Farm			Johnson Dairy Farm			Background		
	ND = 0	All Detects	ND = DL	ND = 0	All Detects	ND = DL	ND = 0	All Detects	ND = DL
Hay									
Arsenic	ND	NA	ND	ND	NA	ND	ND	NA	ND
Beryllium	ND	NA	ND	ND	NA	ND	ND	NA	ND
Cadmium	0	NA	0	*	NA	*	0	NA	0
Chromium	0	NA	0	*	NA	*	0	NA	0
Lead	0	NA	0	*	NA	*	0	NA	0
Mercury	0	NA	0	*	NA	*	0	NA	0
Nickel	0	NA	0	*	NA	*	0	NA	0
1,2,3,4,6,7,8-HpCDD	NA	0	NA	NA	*	NA	NA	0	NA
OCDD	NA	0	NA	NA	*	NA	NA	0	NA
PCDD/PCDF - TEQs	0	NA	0	*	NA	*	0	NA	0
Cow's Milk									
Arsenic	NA	NA	NA	0	NA	0	NA	NA	NA
Beryllium	NA	NA	NA	ND	NA	ND	NA	NA	NA
Cadmium	NA	NA	NA	0	NA	0	NA	NA	NA
Chromium	NA	NA	NA	0	NA	0	NA	NA	NA
Lead	NA	NA	NA	ND	NA	ND	NA	NA	NA
Mercury	NA	NA	NA	ND	NA	ND	NA	NA	NA
Nickel	NA	NA	NA	0	NA	0	NA	NA	NA
1,2,3,4,6,7,8-HpCDD	NA	*	NA	NA	0	NA	NA	*	NA
OCDD	NA	*	NA	NA	0	NA	NA	*	NA
PCDD/PCDF - TEQs	NA	NA	NA	0	NA	0	NA	NA	NA

Notes

- NA: Not Applicable
- ND: Not Detected in 2014 samples
- * Insufficient data to conduct statistical trend analysis
- + Statistically significant increasing trend
- 0 No statistical trend present
- Statistically significant decreasing trend

APPENDIX A

AIR DISPERSION ANALYSIS

Figure 1 – Windrose for Complete 5 Year Period (2008-01-01 to 2012-12-13)

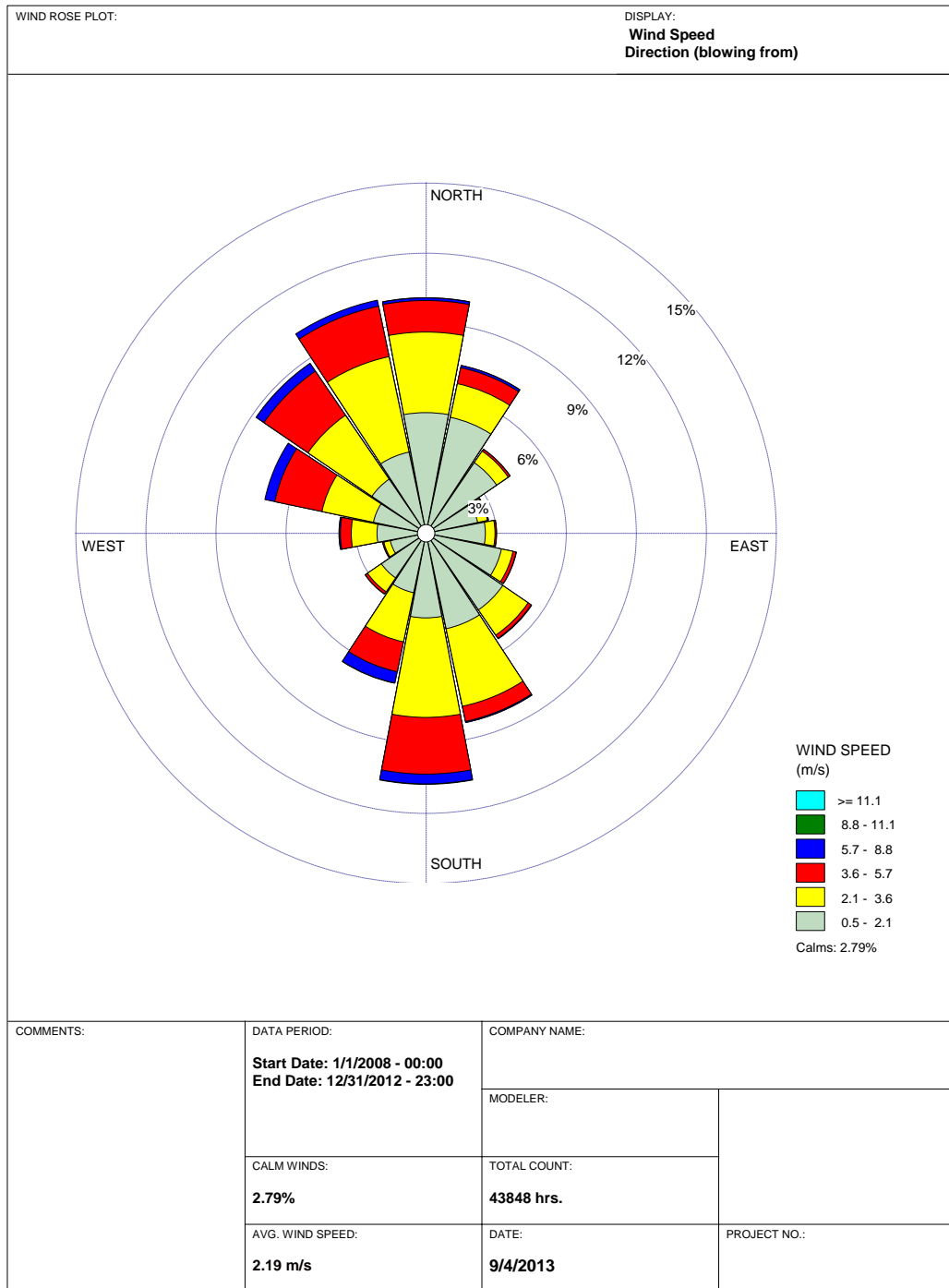


Figure 2 –TRC Windrose to Compare to AECOM 2008 Report’s “Figure 1-2: Windrose for Winter 2008 Sampling Period” (2008-01-01 to 2008-02-16)

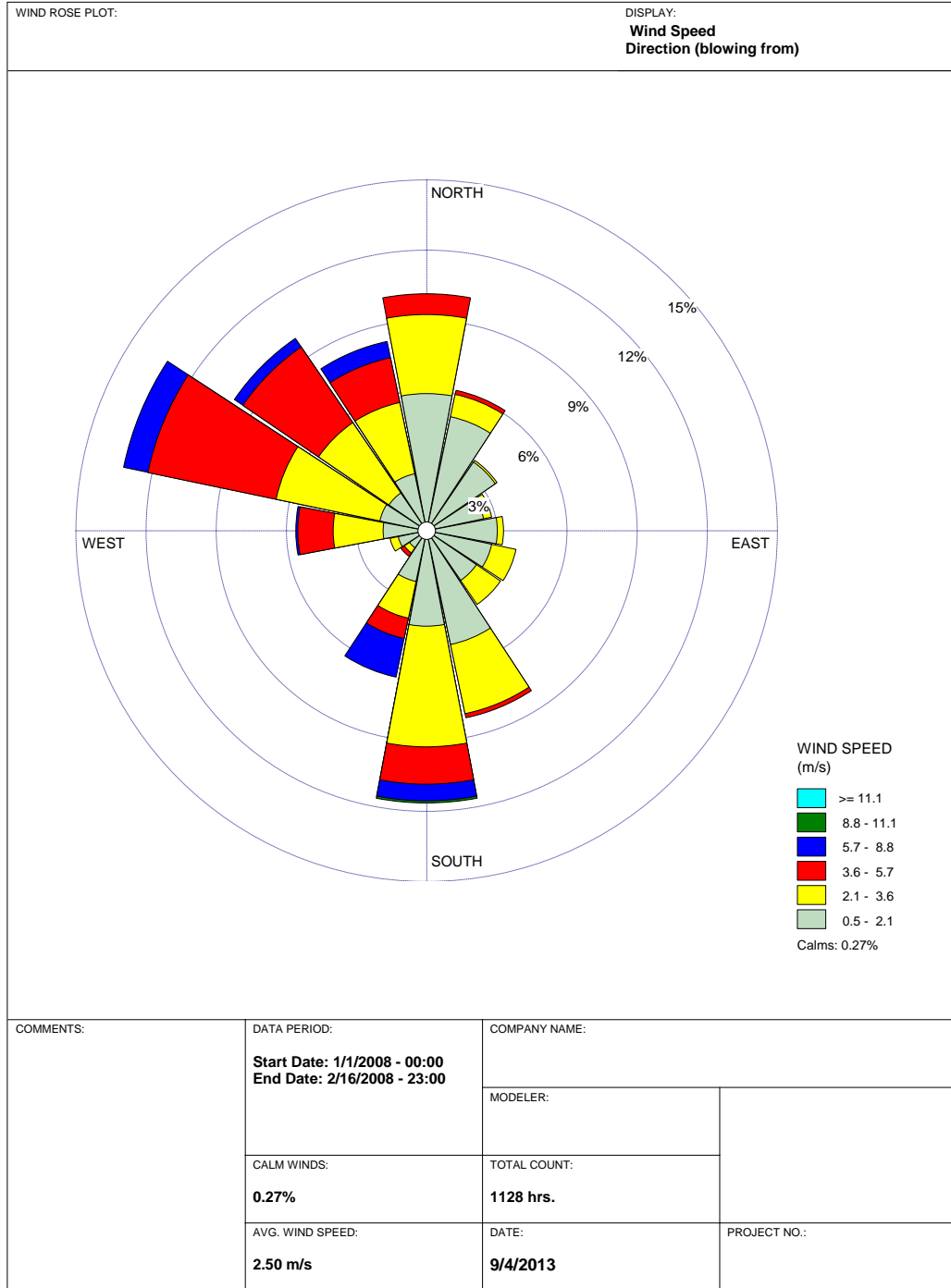
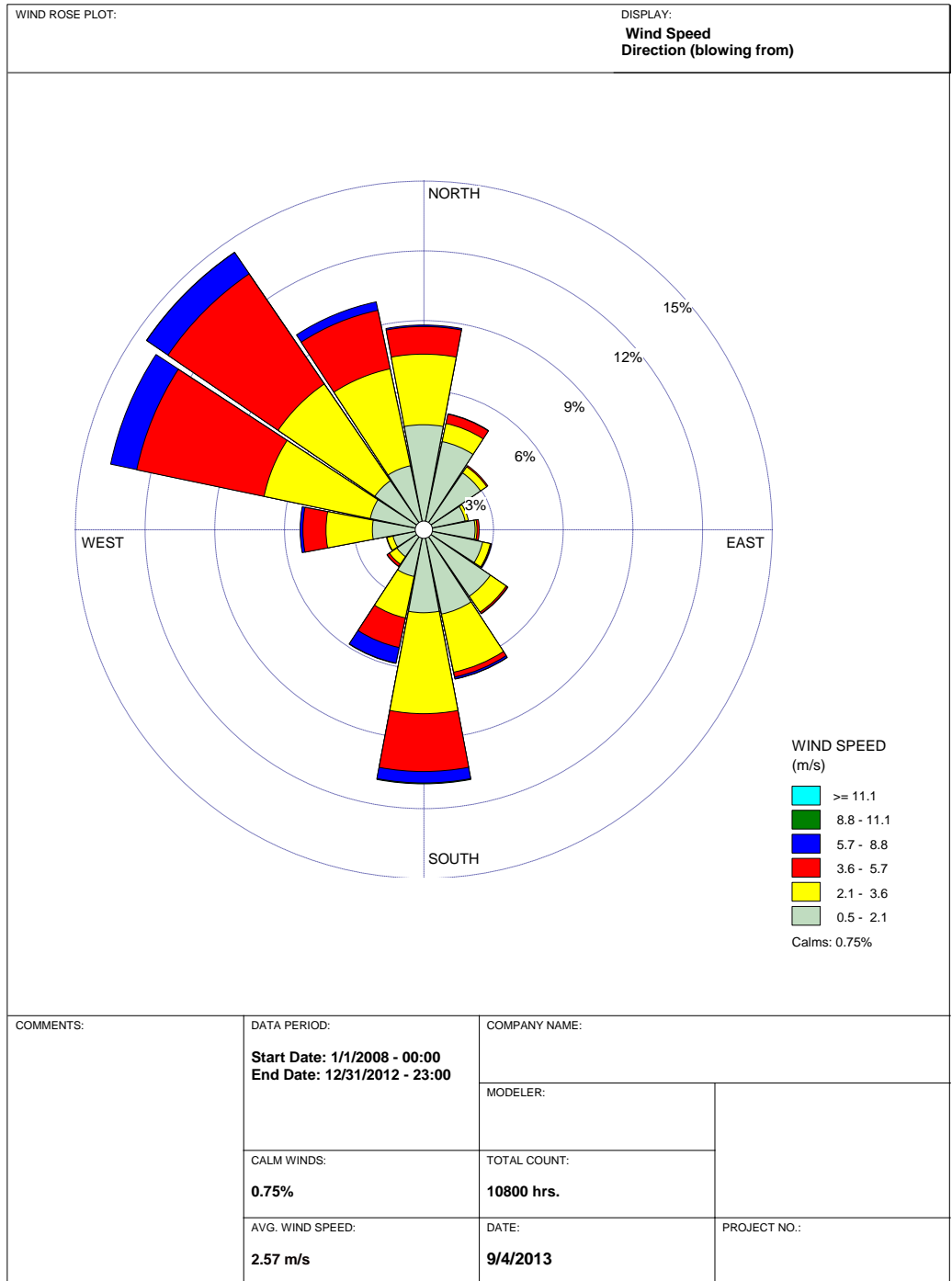
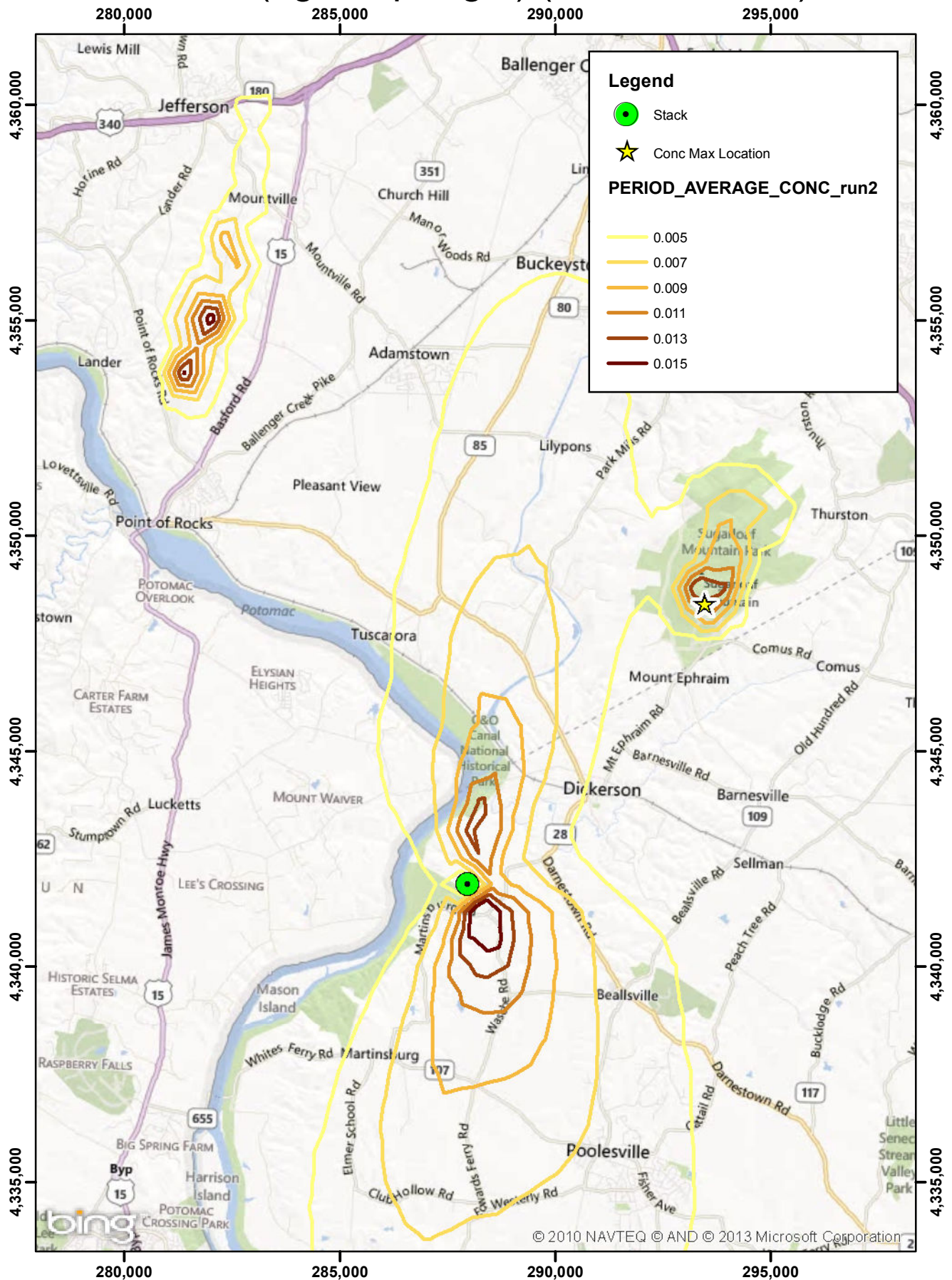


Figure 3 –Windrose for Winter Months (Dec, Jan, Feb) Across All 5 Years (2008-2012)



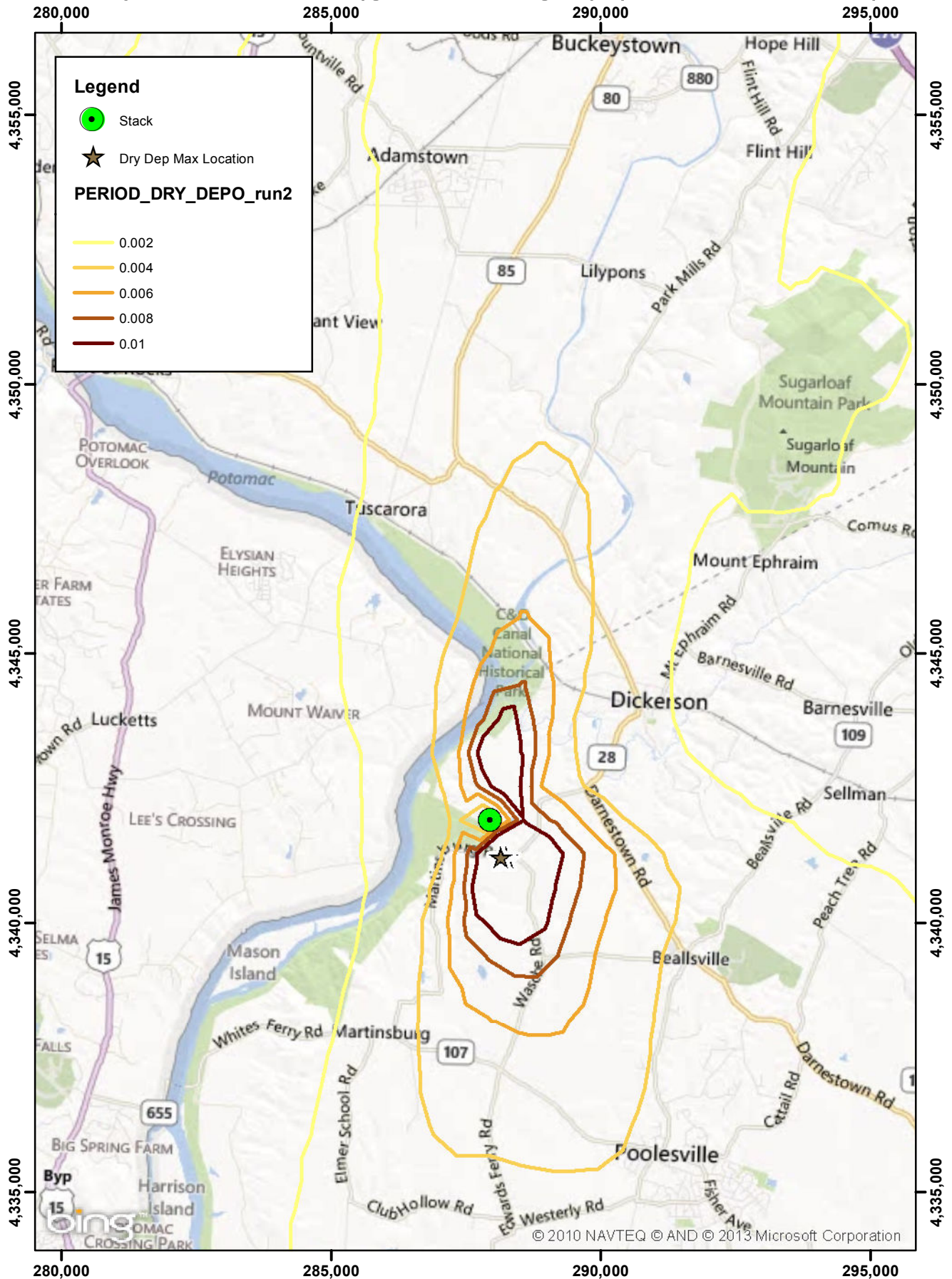
Conc (ug/m3 per g/s) (5 Year Period)



NAD 1983 UTM Zone 18N Meters



Dry Deposition (g/m² per g/s) (5 Year Period)

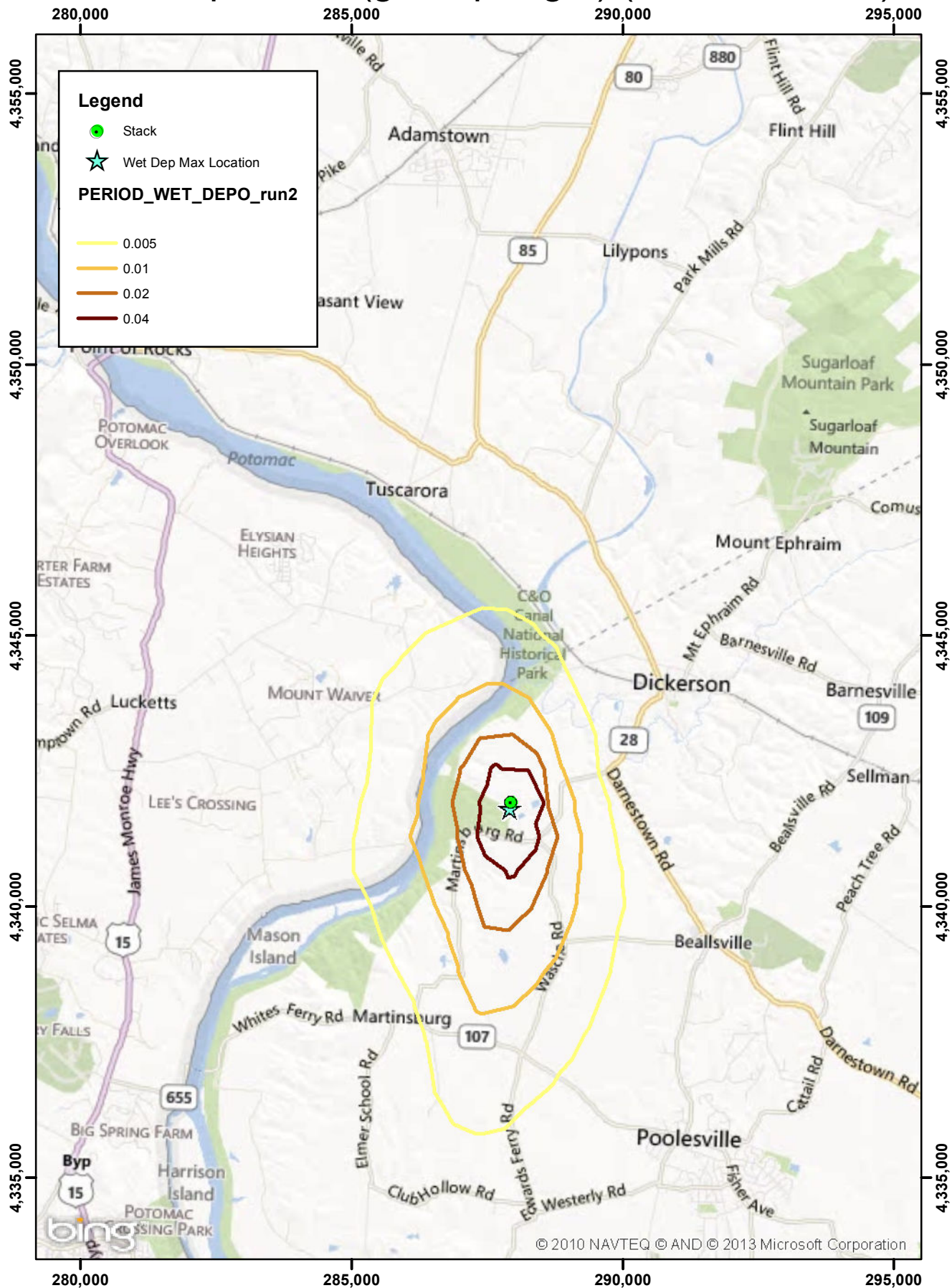


2,900 1,450 0 2,900 Meters

NAD 1983 UTM Zone 18N Meters



Wet Deposition (g/m2 per g/s) (5 Year Period)



APPENDIX B

MARYLAND SCIENTIFIC COLLECTION PERMIT



MARYLAND DEPARTMENT OF NATURAL RESOURCES
FISHERIES SERVICE
SCIENTIFIC COLLECTION PERMIT

1. PERMITTEE TRC SOLUTIONS 650 SUFFOLK STREET LOWELL, MA 01854	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: right;">2. PERMIT NUMBER</td> <td style="text-align: right;">SCP201477</td> </tr> <tr> <td style="width: 50%;">3. EFFECTIVE</td> <td style="width: 50%;">4. EXPIRES</td> <td></td> </tr> <tr> <td style="text-align: center;">5-22-2014</td> <td style="text-align: center;">12-31-2014</td> <td></td> </tr> <tr> <td colspan="2">5. PHONE</td> <td style="text-align: right;">978-656-3583 (WORK)</td> </tr> <tr> <td colspan="2">E-MAIL</td> <td style="text-align: right;">sheim@tresolutions.com</td> </tr> </table>	2. PERMIT NUMBER		SCP201477	3. EFFECTIVE	4. EXPIRES		5-22-2014	12-31-2014		5. PHONE		978-656-3583 (WORK)	E-MAIL		sheim@tresolutions.com
2. PERMIT NUMBER		SCP201477														
3. EFFECTIVE	4. EXPIRES															
5-22-2014	12-31-2014															
5. PHONE		978-656-3583 (WORK)														
E-MAIL		sheim@tresolutions.com														
6. NAME AND TITLE OF PRINCIPAL OFFICER SCOTT HEIM, SENIOR ECOLOGIST																
7. CONDITIONS AND AUTHORIZATIONS: <p>A. AUTHORITY FOR THIS PERMIT IS UNDER THE ANNOTATED CODE OF MARYLAND §4-212. THE CONDITIONS IN STATE LAW AND REGULATIONS ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS, AND CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, FEDERAL, LOCAL OR OTHER STATE LAWS.</p> <p>B. YOU MUST REPORT THE COLLECTION OF ANY MARKED FISH TO THE APPROPRIATE AGENCY. MARKINGS MAY INCLUDE FIN CLIPS, STREAMER OR FLOY TAGS, ETC.</p> <p>C. YOU MUST CONTACT THE DEPARTMENT OF NATURAL RESOURCES POLICE AT 410-260-8940 TO LET THEM KNOW WHEN YOU WILL BE OPERATING IN MARYLAND WATERS. THIS ELIMINATES UNNECESSARY POLICE INVESTIGATIONS.</p> <p>D. THIS PERMIT DOES NOT AUTHORIZE THE COLLECTION, SALVAGE, POSSESSION OR TRANSPORTATION OF ANY SPECIES CLASSIFIED AS PROHIBITED, THREATENED OR ENDANGERED AT THE STATE OR FEDERAL LEVEL (EXCEPT AS LISTED BELOW).</p> <p>E. PROJECT DESCRIPTION: COLLECTION OF FISH FROM THREE PONDS FOR CONTAMINANT ANALYSIS TO ASSESS IMPACT OF EMISSIONS FROM THE MONTGOMERY COUNTY SOLID WASTE RESOURCE RECOVERY FACILITY.</p> <p>F. COLLECTION IS PERMITTED OF UP TO 10 LARGEMOUTH BASS AND 50 BLUEGILL SUNFISH; UP TO 20 OF ANY OTHER (NON-ENDANGERED) SPECIES MAY BE COLLECTED IF NECESSARY.</p> <p>G. ALL FISH HELD IN CAPTIVITY MUST BE SACRIFICED. DO NOT RETURN TO STATE WATERS.</p> <p>H. PRIOR PERMISSION TO SAMPLE IS REQUIRED FROM BOTH PRIVATE PROPERTY OWNERS AND MONTGOMERY COUNTY.</p> <p>I. GILL NET RESTRICTIONS: GILL NETS ARE NOT PERMITTED TO BE SET FOR MORE THAN TWO (2) HOURS.</p> <p>J. SAMPLING AND COLLECTION OF FISH USING SEINES, GILL NETS AND HOOK & LINE IS PERMITTED ACCORDING TO SECTIONS 7A-1 (SEE ABOVE) IN THREE PONDS IN MONTGOMERY COUNTY FOR PURPOSES OF CONTAMINANT ANALYSIS.</p> <p>K. SPECIES COLLECTED AND/OR HELD UNDER THIS PERMIT ARE NOT PERMITTED FOR PERSONAL CONSUMPTION OR SALE.</p>																
8. LIST OF COLLECTORS IN ADDITION TO THE PRINCIPAL OFFICER (at least one collector on site must be carrying a copy of this permit): <div style="display: flex; justify-content: space-around;"> MATT WYANT KEVIN O'BRION </div>																
9. REPORTING REQUIREMENTS: SUMMARY REPORT OF PERMIT ACTIVITY DUE BY JANUARY 31, 2015																
ISSUED BY 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;">PERMIT COORDINATOR</td> <td style="width: 40%; text-align: center;">EXPIRES</td> </tr> <tr> <td style="text-align: center;">410-260-8317</td> <td style="text-align: center;">12-31-2014</td> </tr> </table>	PERMIT COORDINATOR	EXPIRES	410-260-8317	12-31-2014											
PERMIT COORDINATOR	EXPIRES															
410-260-8317	12-31-2014															

APPENDIX C

DATA VALIDATION MEMORANDUMS

Memorandum

To: Karen Vetrano
From: Paula DiMattei
CC: Elizabeth Denly
Date: December 11, 2014
Subject: Inorganic and Wet Chemistry Data Validation Review: Montgomery County RRF/Dickerson, MD site: Laboratory Project Nos: L1413507 and L1413508

SUMMARY

Limited validation was performed on the data for seven surface water samples, seven sediment samples, three milk samples, six hay samples, 10 whole body fish tissue samples and 10 fillet fish samples collected at the Montgomery County site in Dickerson, Maryland. The samples were collected on June 17-19, 2014 and submitted to Alpha Analytical in Mansfield, Massachusetts for analysis. The samples were analyzed for select total and/or dissolved metals using SW-846 Methods 6020A/7470A/7471B, total organic carbon (TOC) using the Lloyd Kahn method, percent lipids using the NOAA Technical Memorandum NOS ORCA 130 (March 1998) and/or total hardness using Standard Methods SM 2340B. The laboratory reported the results under laboratory project numbers L1413507 and L1413508.

The sample results were assessed using the "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010.

In general, the data appear valid as reported and may be used for decision-making purposes. The following issues were noted which may have a minor impact on the data usability:

- The positive results for TOC in select sediment samples were qualified as estimated biased low (J-) due to a calibration nonconformance.
- Arsenic (total and dissolved) and lead (total) in select surface water and milk samples, arsenic and nickel in select whole body and fillet fish samples, and beryllium in select hay samples were qualified as nondetects at the reporting limit (RL) due to laboratory blank contamination.
- Arsenic (total and dissolved) in select surface water and milk samples, arsenic, nickel and chromium in select whole body and fillet fish samples, and chromium in select hay samples were qualified as estimated biased high (J+) due to laboratory blank contamination.
- The positive and nondetect results for mercury in select milk and whole body and fillet fish samples were qualified as estimated biased low (J-, UJ) due to low matrix spike/matrix spike duplicate (MS/MSD) recoveries.
- The positive result for arsenic in milk sample JFM02 was qualified as estimated biased high (J+) due to high recoveries in the MS/MSD analyses.
- The positive results for arsenic in all sediment samples were qualified as estimated (J) due to laboratory duplicate variability.
- The positive and nondetect results for total and dissolved lead in surface water samples LFSW01, LFSW02, LFSW03 and CPSW02 were qualified as estimated (J, UJ) since the dissolved results were greater than the total results.
- The positive results for total and dissolved arsenic in surface water sample CPSW02 were qualified as estimated (J) since the dissolved results were greater than the total results.

- Potential uncertainty exists for select results which were below the RL, but greater than or equal to the method detection limit (MDL).

SAMPLES

Samples included in this review are listed below:

L1413507

EB01

Surface water:	LFSW01	LFSW02	LFSW03 ¹	YFSW01	YFSW02
	CPSW01	CPSW02			
Sediment:	LFSD01	LFSD02	LFSD03 ²	YFSD01	YFSD02
	CPSD01	CPSD02			
Milk:	JFM01	JFM02	JFM03 ³		

¹Field duplicate of LFSW02

²Field duplicate of LFSD02

³Field duplicate of JFM01

L1413508

Hay:	LFH01	LFH02	LFH03 ⁴	JFH01	JFH02	MFH01
Blue Gill Whole Body:	LFBG01	LFBG02	YFBG01	YFBG02	CPBG01	
	CPBG02					
Large Mouth Bass Whole Body:	LFLMB01	LFLMB02	CPLMB01	CPLMB02		
Blue Gill Fillet:	LFBG01-F	LFBG02-F	YFBG01-F/YFBG02-F			
	CPBG01-F	CPBG02-F				
Large Mouth Bass Fillet:	LFLMB01-F	LFLMB02-F	CPLMB01-F	CPLMB02-F		

⁴Field duplicate of LFH01

REVIEW ELEMENTS

Sample data were reviewed for the following parameters:

- Agreement of analyses conducted with chain-of-custody requests
- Data completeness
- Holding times and sample preservation
- Initial and continuing calibrations
- Blanks
- Matrix spike/matrix spike duplicate (MS/MSD) results
- Laboratory control sample (LCS) results
- Laboratory duplicate results
- Field duplicate results
- ICP serial dilution results

- Total and dissolved metals results
- Reporting limits and sample results

DISCUSSION

Agreement of Analyses Conducted with Chain-of-Custody Requests

Sample reports were checked to verify that the results corresponded to analytical requests as designated on the chain-of-custody (COC) and any correspondence between TRC and the laboratory. The following discrepancies were noted.

- Sample MFH01 was received by the laboratory but was not listed on the COC. The laboratory was directed to proceed with the metals and percent lipids analyses for this sample.
- According to the sample receipt form, the tissue samples were not frozen upon receipt at the laboratory. However, the laboratory confirmed that the samples were indeed frozen upon receipt and updated the documentation accordingly.

Data Completeness

The data package was found to be complete as received from the laboratory.

Holding Times and Sample Preservation

All samples were prepared and analyzed within the method-specified holding times. The cooler temperatures were within the acceptance criteria upon sample receipt at the laboratory.

Initial and Continuing Calibrations

All correlation coefficients were within the acceptance criteria in the initial calibrations associated with the samples in this data set. All initial and continuing calibration verifications were within criteria with the following exception.

CCV	Analyte	% Recovery	Associated Samples
7/9/14 10:15	TOC	61	LFSD03, YFSD01, YFSD02, CPSD01, CPSD02

The positive results for TOC in the above-listed samples were qualified as estimated biased low (J-).

Blanks

The tables below list the contamination detected and the resulting validation actions. The maximum concentrations of contamination for all associated samples were used to establish the validation actions.

Laboratory Project ID: L1413507			
Analyte ¹	Maximum Blank Concentration	Blank ID: Associated Samples	Validation Action
Arsenic (total)	0.00027 J mg/L	MB (WG703169-1): EBo1, LFSWo1, LFSWo2, LFSWo3, YFSWo1, YFSWo2, CPSWo1, CPSWo2	The positive arsenic results in all associated samples were qualified as estimated biased high (J+). The result for arsenic in sample CPSWo2 was subsequently qualified as estimated (J) due to a total/dissolved metals nonconformance; therefore, the arsenic result in sample CPSWo2 is qualified with the overall qualifier (J).
Lead (total)	0.00009 J mg/L		The positive lead results in samples LFSWo1, LFSWo2, LFSWo3, YFSWo2, CPSWo1 and CPSWo2 were qualified as nondetect (U) at the RL. No validation actions were required on samples YFSWo1 and EBo1 since lead was detected at a concentration >10x the blank concentration.
Arsenic (dissolved)	0.00028 J mg/L	CCB2 (7/9/14 10:21): LFSWo1, LFSWo2, LFSWo3, YFSWo1, YFSWo2, CPSWo1, CPSWo2	The positive arsenic (dissolved) result in sample YFSWo2 was qualified as nondetect (U) at the RL. The positive arsenic (dissolved) results in samples LFSWo1, LFSWo2, LFSWo3, YFSWo1, CPSWo1 and CPSWo2 were qualified as estimated biased high (J+). The result for arsenic (dissolved) in sample CPSWo2 was subsequently qualified as estimated (J) due to a total/dissolved metals nonconformance; therefore, the arsenic result in sample CPSWo2 is qualified with the overall qualifier (J).
Arsenic	0.000224 J mg/L	CCB1 (7-10-14 17:37): JFMo1, JFMo2, JFMo3	The positive arsenic results in samples JFMo1 and JFMo3 were qualified as nondetect (U) at the RL. The positive arsenic result in sample JFMo2 was qualified as estimated biased high (J+).
Lead	0.00006 J mg/L	MB (WG703170-1): JFMo1, JFMo2, JFMo3	The positive lead result in sample JFMo1 was qualified as nondetect (U) at the RL. No validation actions were required on the remaining samples since lead was not detected.
Arsenic	0.051 mg/kg	EBo1: LFSDo1, LFSDo2, LFSDo3, YFSDo1, YFSDo2, CPSDo1, CPSDo2	No validation actions were required since all associated results for arsenic were >10x the blank concentration.
Beryllium	0.0045 J mg/kg		No validation actions were required since all associated results for beryllium were >10x the blank concentration.
Cadmium	0.0025 J mg/kg		No validation actions were required since all associated results for cadmium were >10x the blank concentration.

Laboratory Project ID: L1413507			
Analyte ¹	Maximum Blank Concentration	Blank ID: Associated Samples	Validation Action
Chromium	0.126 mg/kg		No validation actions were required since all associated results for chromium were >10x the blank concentration.
Lead	0.114 mg/kg		No validation actions were required since all associated results for lead were >10x the blank concentration.
Nickel	0.098 mg/kg		No validation actions were required since all associated results for nickel were >10x the blank concentration.

Laboratory Project ID: L1413508			
Analyte	Maximum Blank Concentration	Blank ID: Associated Samples	Validation Action
Arsenic	0.014 mg/kg	MB (WG706876-1): LFBG01, LFBG02, LFLMBo1, YFBG01, YFBG02, CPBG01, CPBG02, CPLMBo1, CPLMBo2, LFLMBo2	The positive arsenic results in samples LFLMBo1, YFBG02, CPBG01, CPBG02, CPLMBo1, CPLMBo2, and LFLMBo2 were qualified as nondetect (U) at the RL. The positive arsenic result in sample LFBG02 was qualified as estimated biased high (J+). No validation actions were required for the remaining samples (LFBG01 and YFBG01) since results for arsenic were >10x the blank concentration.
Chromium	0.056 mg/kg		The positive chromium results in samples LFLMBo1, CPLMBo1 and CPLMBo2 were qualified as estimated biased high (J+). No validation actions were required for the remaining samples since results for chromium were >10x the blank concentration.
Chromium	0.029 mg/kg		MB (WG705829-1): LFBG01-F, LFBG02-F, LFLMBo1-F, YFBG01-F/ YFBG02-F, CPBG01-F, CPBG02-F, CPLMBo1-F, CPLMBo2-F, LFLMBo2-F

Laboratory Project ID: L1413508			
Analyte	Maximum Blank Concentration	Blank ID: Associated Samples	Validation Action
Nickel	0.012 mg/kg		<p>The positive nickel results in samples CPBGo2-F and CPLMBo2-F were qualified as nondetect (U) at the RL.</p> <p>The positive nickel result in sample CPBGo1-F was qualified as estimated biased high (J+).</p> <p>No validation actions were required for the remaining samples since results for nickel were >10x the blank concentration.</p>
Arsenic	0.0099 mg/kg	CCB1 (7-27-14 10:34): LFLMBo1, CPBGo2, CPLMBo1, CPLMBo2	The positive arsenic results in samples LFLMBo1, CPBGo2, CPLMBo1 and CPLMBo2 were qualified as nondetect (U) at the RL.
Arsenic	0.0070 mg/kg	CCB3 (7-27-14 11:08): LFLMBo2	The positive arsenic result in sample LFLMBo2 was qualified as nondetect (U) at the RL.
Arsenic	0.0077 mg/kg	CCB4 (7-27-14 11:27): LFBGo1-F, LFBGo2-F, LFLMBo1-F, YFBGo1-F/YFBGo2-F, CPBGo1-F, CPBGo2-F	The positive arsenic results in samples LFBGo1-F, LFBGo2-F, LFLMBo1-F, YFBGo1-F/YFBGo2-F, CPBGo1-F and CPBGo2-F were qualified as nondetect (U) at the RL.
Arsenic	0.0072 mg/kg	CCB6 (7-27-14 11:59): CPLMBo1-F, CPLMBo2-F, LFLMBo2-F	The positive arsenic results in samples CPLMBo1-F, CPLMBo2-F and LFLMBo2-F were qualified as nondetect (U) at the RL.
Arsenic	0.024 mg/kg	MB (WG705785-1): LFHo1, LFHo2, LFHo3, JFHo1, JFHo2, MFHo1	<p>The positive arsenic results in samples LFHo2, LFHo3, JFHo2 and MFHo1 were qualified as nondetect (U) at the RL.</p> <p>No validation actions were required for the remaining samples since arsenic was not detected.</p>
Chromium	0.0079 mg/kg	CCB2 (7-17-14 12:36): LFHo1, LFHo2, LFHo3, JFHo1, JFHo2, MFHo1	<p>The positive chromium results in samples JFHo1, JFHo2 and MFHo1 were qualified as estimated biased high (J+).</p> <p>No validation actions were required for the remaining samples since results for chromium were >10x the blank concentration.</p>
Beryllium	0.0030 mg/kg	ICB (7-17-14 12:06): LFHo1, LFHo2, LFHo3, JFHo1, JFHo2, MFHo1	<p>The positive beryllium results in samples JFHo1 and JFHo2 were qualified as nondetect (U) at the RL.</p> <p>No validation actions were required for the remaining samples since beryllium was not detected.</p>

Qualification of the data was performed as follows:

- Sample results < the RL were qualified as nondetects (U) at the RL if detected in the associated blank.
- Sample results \geq RL were qualified as estimated biased high (J+) if the result was $\leq 10x$ the concentration detected in the blank.
- Qualification was not required for nondetect results or for positive results $> 10x$ the concentration detected in the blank.

MS/MSD Results

MS/MSD analyses were performed as summarized in the following table:

Sample ID	MS/MSD Analyses
CPSW01	Total and dissolved metals, total and dissolved mercury, hardness
JFM01	Total metals, total mercury
CPSD01	Metals, mercury, TOC
JFH02	Metals, mercury
CPLMB02	Metals, mercury
CPLMB02-F	Metals, mercury

The following table summarizes the percent recoveries (%Rs) which were outside of the acceptance criteria in the MS/MSD analyses.

Sample ID	Analyte	MS/MSD % Recovery	QC Limits (%)	Associated Samples	Validation Action
JFM01	Mercury	53/51	75-125	JFM01, JFM02 JFM03	The nondetect results for mercury in all associated samples were qualified as estimated (UJ).
JFM01	Arsenic	137/137	75-125	JFM01, JFM02, JFM03	The positive result for arsenic in sample JFM02 was qualified as estimated biased high (J+). The positive results for arsenic in samples JFM01 and JFM03 were previously qualified as nondetect (U) at the RL; therefore, qualification as a result of the high bias in the MS and MSD analyses is not required.

Sample ID	Analyte	MS/MSD % Recovery	QC Limits (%)	Associated Samples	Validation Action
CPLMBo2	Mercury	68/54	80-120	LFBG01, LFBG02, LFLMBo1, YFBG01, YFBG02, CPBG01, CPBG02, CPLMBo1, CPLMBo2, LFLMBo2	The positive results for mercury in all associated samples were qualified as estimated biased low (J-).
CPLMBo2-F	Mercury	51/32	80-120	LFBG01-F, LFBG02-F, LFLMBo1-F, CPBG01-F, CPBG02-F, CPLMBo1-F, CPLMBo2-F, LFLMBo2-F, YFBG01-F/YFBG02-F	The positive results for mercury in all associated samples were qualified as estimated biased low (J-).
- criterion met					

LCS Results

All criteria were met.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed as summarized in the following table:

Sample ID	Laboratory Duplicate Analyses
LFSW03	Total and dissolved metals, total and dissolved mercury, hardness
JFM03	Total metals, total mercury
JFM01	Lipids
LFSD03	Metals, mercury, TOC
LFH03	Metals, mercury
LFBG02	Metals, mercury
CPLMBo2	Metals, mercury
CPLMBo1	Lipids
CPLMBo2-F	Metals, mercury
LFBG02-F	Metals, mercury

The following table summarizes the relative percent differences (RPDs) which were outside of the acceptance criteria in the laboratory duplicate analyses.

Sample ID	Analyte	RPD (%)	QC Limits	Associated Samples	Validation Action
LFSD03	Arsenic	23	20	LFSD01, LFSD02, LFSD03, YFSD01, YFSD02, CPSD01, CPSD02	The positive results for arsenic in all associated samples were qualified as estimated (J).

Field Duplicate Results

Samples LFH01/LFH03 (hay), LFSW02/LFSW03 (surface water), LFSD02/LFSD03 (sediment) and JFM01/JFM03 (milk) were submitted as the field duplicate pairs with this sample data set. The following tables summarize the RPDs of the detected analytes in the field duplicate pairs. Several RPDs were not calculable (NC) due to a nondetect result in one of the two samples. The calculated RPDs were within the acceptance criteria in all field duplicate pairs.

Analyte	LFSW02 (mg/L)	LFSW03 (mg/L)	RPD (%)
Arsenic (total)	0.00129	0.00126	2.4
Beryllium (total)	0.00050 U	0.00010 J	NC
Cadmium (total)	0.00001 J	0.00050 U	NC
Chromium (total)	0.00063 J	0.00063 J	0.0
Nickel (total)	0.00266	0.00268	0.7
Hardness	50.7	51.2	1.0
Arsenic (dissolved)	0.00103	0.0009	13.5
Lead (dissolved)	0.00038 J	0.00037 J	2.7
Nickel (dissolved)	0.00236	0.00238	0.8

NC: not calculable
 Criteria : For results $\geq 5x$ RL , RPD <30
 For results <5x RL, the difference between the results must be <RL

Analyte	LFSD02 (mg/kg)	LFSD03 (mg/kg)	RPD (%)
Arsenic	0.914	1.31	35.6
Beryllium	0.883	1.10	21.9
Cadmium	0.067	0.087	26.0
Chromium	18.6	20.6	10.2
Lead	14.3	17.1	17.8
Mercury	0.017	0.018	5.7
Nickel	9.36	11.7	22.2

NC: not calculable
 Criteria : For results $\geq 5x$ RL , RPD <50
 For results <5x RL, the difference between the results must be <2x RL

Analyte	JFM01 (mg/L)	JFM03 (mg/L)	RPD (%)
Cadmium	0.00027 J	0.0050 U	NC
Chromium	0.178	0.183	2.8
Nickel	0.01669	0.01648	1.3
NC: not calculable Criteria : For results $\geq 5x$ RL , RPD <30 For results <5x RL, the difference between the results must be <RL			

Analyte	LFH01 (mg/kg)	LFH03 (mg/kg)	RPD (%)
Cadmium	0.026 J	0.028 J	7.4
Chromium	0.535	0.487	9.4
Lead	0.079 J	0.051 J	43.1
Nickel	0.164 J	0.160 J	2.5
NC: not calculable Criteria : For results $\geq 5x$ RL , RPD <50 For results <5x RL, the difference between the results must be <2x RL			

ICP Serial Dilution Results

ICP serial dilution analysis was not performed on samples in this data set. No data validation actions were required on this basis.

Total and Dissolved Metals Results

The total and dissolved metals results were evaluated to ensure that the concentration of each dissolved metal was not greater than the concentration of each total metal when detected at concentrations greater than 5x the MDL. All criteria were met with the following exceptions.

- The results for total lead in samples LFSW01, LFSW02, LFSW03 and CPSW02 were qualified as nondetect at the RL due to blank contamination. Dissolved lead was present in these samples at concentrations greater than 5x the MDL. Consequently, the positive and nondetect results for total and dissolved lead in these samples were qualified as estimated (J and UJ, respectively).
- The result for dissolved arsenic in sample CPSW02 was greater than the total result by more than 20%. The positive results for total and dissolved arsenic in sample CPSW02 were qualified as estimated (J).

Reporting Limits and Sample Results

Select metals results were reported which were below the RL, but greater than or equal to the MDL. These results were qualified by the laboratory as estimated (J).

Diluted analyses were required to avoid exceeding the calibration range or as a result of matrix interferences for the samples and analytes summarized in the table below. RLs were adjusted accordingly.

Analyte	Dilution Factor	Affected Samples
Arsenic Beryllium Cadmium Chromium Nickel	2-fold	LFSD01, LFSD02, LFSD03, YFSD01, YFSD02, CPSD01, CPSD02
Lead	10-fold	
Arsenic Beryllium Cadmium Chromium Lead Nickel	10-fold	JFM01, JFM02, JFM03
Mercury	2-fold	
Arsenic Beryllium Cadmium Chromium Lead Nickel	10-fold	LFH01, LFH02, LFH03, JFH01, JFH02, CPLMB02, MFH01
Arsenic Beryllium Chromium Nickel	2-fold	LFBG01, LFBG02, YFBG01, YFBG02, CPBG01
Cadmium Lead	10-fold	
Arsenic Cadmium Chromium Lead Nickel	10-fold	LFLMB01, CPBG02, CPLMB01, LFLMB02
Beryllium	2-fold	
Arsenic Beryllium Cadmium Chromium Lead Nickel	2-fold	LFBG01-F, LFBG02-F, LFLMB01-F, YFBG01-F/YFBG02-F, CPLMB01-F, CPLMB02-F, LFLMB02-F

Analyte	Dilution Factor	Affected Samples
Arsenic Chromium Nickel	10-fold	CPBGo1-F, CPBGo2-F
Beryllium Cadmium Lead	2-fold	

Qualified Form Is

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-01
Client ID: LFH01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 08:05
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/kg	0.588	0.033	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.294	0.023	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Cadmium, Total	0.026	J	mg/kg	0.118	0.011	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Chromium, Total	0.535	J W	mg/kg	0.294	0.064	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Lead, Total	0.079	J	mg/kg	0.118	0.014	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:54	EPA 7471B	1,7471B	AK
Nickel, Total	0.164	J	mg/kg	0.294	0.069	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-02
Client ID: LFH02
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 08:25
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.230	J	mg/kg	0.510	0.029	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.255	0.020	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Cadmium, Total	0.016	J	mg/kg	0.102	0.009	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Chromium, Total	0.991		mg/kg	0.255	0.056	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Lead, Total	0.355		mg/kg	0.102	0.012	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:56	EPA 7471B	1,7471B	AK
Nickel, Total	0.520		mg/kg	0.255	0.060	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-03
Client ID: LFH03
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 08:10
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.031	J	mg/kg	0.521 ^u	0.029	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.260	0.021	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Cadmium, Total	0.028	J	mg/kg	0.104	0.009	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Chromium, Total	0.487	J	mg/kg	0.260	0.057	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Lead, Total	0.051	J	mg/kg	0.104	0.013	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:59	EPA 7471B	1,7471B	AK
Nickel, Total	0.160	J	mg/kg	0.260	0.061	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-07
Client ID: JFH01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:20
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/kg	0.581	0.033	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Beryllium, Total	0.057	J	mg/kg	0.291	0.023	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Cadmium, Total	0.033	J	mg/kg	0.116	0.010	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Chromium, Total	0.352	J+ ✓	mg/kg	0.291	0.063	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Lead, Total	0.060	J	mg/kg	0.116	0.014	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Mercury, Total	0.005	J	mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 16:07	EPA 7471B	1,7471B	AK
Nickel, Total	0.575		mg/kg	0.291	0.068	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-08
Client ID: JFH02
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:25
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.044	J	mg/kg	0.556	0.031	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Beryllium, Total	0.028	J	mg/kg	0.278	0.022	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Cadmium, Total	0.058	J	mg/kg	0.111	0.010	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Chromium, Total	0.327	Jx ✓	mg/kg	0.278	0.060	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Lead, Total	0.062	J	mg/kg	0.111	0.014	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 16:10	EPA 7471B	1,7471B	AK
Nickel, Total	0.640		mg/kg	0.278	0.065	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-16
Client ID: MFH01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.270	J	mg/kg	0.510	0.029	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.255	0.020	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Cadmium, Total	0.036	J	mg/kg	0.102	0.009	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Chromium, Total	0.385	J ✓	mg/kg	0.255	0.056	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Lead, Total	0.10	J	mg/kg	0.102	0.012	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 16:28	EPA 7471B	1,7471B	AK
Nickel, Total	0.718		mg/kg	0.255	0.060	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-01
Client ID: LFH01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:05
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.801		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-02
Client ID: LFH02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:25
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.857		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-07
Client ID: JFH01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:20
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.61		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-08
Client ID: JFH02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:25
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.74		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-16
Client ID: MFH01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	1.61		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-04
Client ID: LFBG01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 11:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.223		mg/kg	0.108	0.006	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD
Beryllium, Total	0.0090	J	mg/kg	0.054	0.004	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.108	0.010	10	07/18/14 14:00	07/27/14 10:58	EPA 3051A	1,6020A	PD
Chromium, Total	14.7		mg/kg	0.054	0.012	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD
Lead, Total	0.094	J	mg/kg	0.108	0.013	10	07/18/14 14:00	07/27/14 10:58	EPA 3051A	1,6020A	PD
Mercury, Total	0.016	J- ✓	mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 11:40	EPA 7471B	1,7471B	AK
Nickel, Total	9.76		mg/kg	0.054	0.013	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-05
Client ID: LFBG02
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 12:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.109	J ✓	mg/kg	0.108	0.006	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD
Beryllium, Total	0.006	J	mg/kg	0.054	0.004	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.108	0.010	10	07/18/14 14:00	07/27/14 10:32	EPA 3051A	1,6020A	PD
Chromium, Total	1.08		mg/kg	0.054	0.012	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD
Lead, Total	0.088	J	mg/kg	0.108	0.013	10	07/18/14 14:00	07/27/14 10:32	EPA 3051A	1,6020A	PD
Mercury, Total	0.005	J ✓	mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 11:42	EPA 7471B	1,7471B	AK
Nickel, Total	0.838		mg/kg	0.054	0.013	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-06
Client ID: LFLMB01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 08:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.083	J	mg/kg	0.562	0.032	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.056	0.004	2	07/18/14 14:00	07/27/14 09:51	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.112	0.010	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Chromium, Total	1.43	J+J	mg/kg	0.281	0.061	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.112	0.014	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Mercury, Total	0.036	J-✓	mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 11:50	EPA 7471B	1,7471B	AK
Nickel, Total	0.772	J+✓	mg/kg	0.281	0.066	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-09
Client ID: YFBG01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.162	J	mg/kg	0.118	0.007	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD
Beryllium, Total	0.007	J	mg/kg	0.059	0.005	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD
Cadmium, Total	0.011	J	mg/kg	0.118	0.011	10	07/18/14 14:00	07/27/14 10:40	EPA 3051A	1,6020A	PD
Chromium, Total	0.976		mg/kg	0.059	0.013	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD
Lead, Total	0.269		mg/kg	0.118	0.014	10	07/18/14 14:00	07/27/14 10:40	EPA 3051A	1,6020A	PD
Mercury, Total	0.023	J	mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 11:54	EPA 7471B	1,7471B	AK
Nickel, Total	0.872		mg/kg	0.059	0.014	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-10

Date Collected: 06/17/14 13:55

Client ID: YFBG02

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.098	J	mg/kg	0.111	0.006	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.056	0.004	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.111	0.010	10	07/18/14 14:00	07/27/14 10:41	EPA 3051A	1,6020A	PD
Chromium, Total	0.708		mg/kg	0.056	0.012	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD
Lead, Total	0.079	J	mg/kg	0.111	0.014	10	07/18/14 14:00	07/27/14 10:41	EPA 3051A	1,6020A	PD
Mercury, Total	0.040	J	mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 11:56	EPA 7471B	1,7471B	AK
Nickel, Total	0.741		mg/kg	0.056	0.013	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-11
Client ID: CPBG01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.079	J	mg/kg	0.105	0.006	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.053	0.004	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.105	0.009	10	07/18/14 14:00	07/27/14 10:42	EPA 3051A	1,6020A	PD
Chromium, Total	3.19		mg/kg	0.053	0.011	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD
Lead, Total	0.029	J	mg/kg	0.105	0.013	10	07/18/14 14:00	07/27/14 10:42	EPA 3051A	1,6020A	PD
Mercury, Total	0.037	J ✓	mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 12:00	EPA 7471B	1,7471B	AK
Nickel, Total	2.32		mg/kg	0.053	0.012	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-12
Client ID: CPBG02
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.091	J	mg/kg	0.575	0.032	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.058	0.005	2	07/18/14 14:00	07/27/14 09:56	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.115	0.010	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Chromium, Total	4.55		mg/kg	0.287	0.063	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Lead, Total	0.028	J	mg/kg	0.115	0.014	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Mercury, Total	0.051	J ✓	mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 12:08	EPA 7471B	1,7471B	AK
Nickel, Total	3.05		mg/kg	0.287	0.067	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-13
Client ID: CPLMB01
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.047	J	mg/kg	0.575	0.032	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.058	0.005	2	07/18/14 14:00	07/27/14 09:57	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.115	0.010	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Chromium, Total	1.67	J+ ✓	mg/kg	0.287	0.063	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.115	0.014	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Mercury, Total	0.140	J- ✓	mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 12:12	EPA 7471B	1,7471B	AK
Nickel, Total	1.10	J- ✓	mg/kg	0.287	0.067	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-14
Client ID: CPLMB02
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.041	J	mg/kg	0.575	0.032	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.287	0.023	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.115	0.010	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Chromium, Total	1.41	J+ J	mg/kg	0.287	0.063	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.115	0.014	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Mercury, Total	0.164	J- J	mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 12:16	EPA 7471B	1,7471B	AK
Nickel, Total	0.783	J+ J	mg/kg	0.287	0.067	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-15
Client ID: LFLMB02
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/19/14 09:30
Date Received: 06/20/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.078	J	mg/kg	0.521	0.029	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.052	0.004	2	07/18/14 14:00	07/27/14 10:00	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.104	0.009	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Chromium, Total	3.56		mg/kg	0.260	0.057	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Lead, Total	0.037	J	mg/kg	0.104	0.013	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Mercury, Total	0.008	J	mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 12:31	EPA 7471B	1,7471B	AK
Nickel, Total	2.53		mg/kg	0.260	0.061	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-17
Client ID: LFBG01-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 11:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.029 J		mg/kg	0.116	0.007	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.058	0.005	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Cadmium, Total	0.002	J	mg/kg	0.023	0.002	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Chromium, Total	5.85		mg/kg	0.058	0.013	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Lead, Total	0.006	J	mg/kg	0.023	0.003	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Mercury, Total	0.025 J ↓		mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:03	EPA 7471B	1,7471B	AK
Nickel, Total	2.94		mg/kg	0.058	0.014	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-18
Client ID: LFBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 12:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.031	J	mg/kg	0.109	0.006	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.054	0.004	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.022	0.002	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Chromium, Total	1.30		mg/kg	0.054	0.012	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.022	0.003	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Mercury, Total	0.014	J	mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:06	EPA 7471B	1,7471B	AK
Nickel, Total	0.449		mg/kg	0.054	0.013	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-19
Client ID: LFLMB01-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 08:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.023	J	mg/kg	0.112	0.006	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.056	0.004	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.023	0.002	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Chromium, Total	1.77		mg/kg	0.056	0.012	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.023	0.003	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Mercury, Total	0.033	J	mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:14	EPA 7471B	1,7471B	AK
Nickel, Total	0.799		mg/kg	0.056	0.013	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-20
Client ID: YFBG01-F / YFBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.063	J	mg/kg	0.108	0.006	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.054	0.004	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.022	0.002	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Chromium, Total	0.893		mg/kg	0.054	0.012	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Lead, Total	0.004	J	mg/kg	0.022	0.003	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Mercury, Total	0.044	J	mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:17	EPA 7471B	1,7471B	AK
Nickel, Total	0.162	J	mg/kg	0.054	0.013	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-22
Client ID: CPBG01-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.037	J	mg/kg	0.505	0.028	10	07/15/14 16:00	07/27/14 11:16	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.051	0.004	2	07/15/14 16:00	07/27/14 11:41	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.020	0.002	2	07/15/14 16:00	07/27/14 11:41	EPA 3051A	1,6020A	PD
Chromium, Total	1.14	J+ ✓	mg/kg	0.252	0.055	10	07/15/14 16:00	07/27/14 11:16	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.020	0.002	2	07/15/14 16:00	07/27/14 11:41	EPA 3051A	1,6020A	PD
Mercury, Total	0.048	J ↓	mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:21	EPA 7471B	1,7471B	AK
Nickel, Total	0.339	J+ ✓	mg/kg	0.252	0.059	10	07/15/14 16:00	07/27/14 11:16	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-23
 Client ID: CPBG02-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.039	J	mg/kg	0.521	0.029	10	07/15/14 16:00	07/27/14 11:17	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.052	0.004	2	07/15/14 16:00	07/27/14 11:42	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.021	0.002	2	07/15/14 16:00	07/27/14 11:42	EPA 3051A	1,6020A	PD
Chromium, Total	0.924	J+	mg/kg	0.260	0.057	10	07/15/14 16:00	07/27/14 11:17	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.021	0.003	2	07/15/14 16:00	07/27/14 11:42	EPA 3051A	1,6020A	PD
Mercury, Total	0.040	J	mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:24	EPA 7471B	1,7471B	AK
Nickel, Total	0.235	J	mg/kg	0.260	0.061	10	07/15/14 16:00	07/27/14 11:17	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-24
Client ID: CPLMB01-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.019	J	mg/kg	0.103	0.006	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.052	0.004	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.021	0.002	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Chromium, Total	1.73		mg/kg	0.052	0.011	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Lead, Total	0.003	J	mg/kg	0.021	0.003	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Mercury, Total	0.148	J	mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:39	EPA 7471B	1,7471B	AK
Nickel, Total	0.631		mg/kg	0.052	0.012	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-25
Client ID: CPLMB02-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.024	J	mg/kg	0.106	0.006	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.053	0.004	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.021	0.002	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Chromium, Total	0.796		mg/kg	0.053	0.012	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.021	0.003	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Mercury, Total	0.164	J	mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:44	EPA 7471B	1,7471B	AK
Nickel, Total	0.025	J	mg/kg	0.053	0.012	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-26
Client ID: LFLMB02-F
Sample Location: DICKERSON, MD
Matrix: Tissue
Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/19/14 09:30
Date Received: 06/20/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.035	J	mg/kg	0.110	0.006	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.055	0.004	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.022	0.002	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Chromium, Total	0.946		mg/kg	0.055	0.012	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Lead, Total	0.003	J	mg/kg	0.022	0.003	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Mercury, Total	0.022	J	mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 13:02	EPA 7471B	1,7471B	AK
Nickel, Total	0.616		mg/kg	0.055	0.013	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-04
Client ID: LFBG01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 11:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.54		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-05
Client ID: LFBG02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 12:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.15		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-06
Client ID: LFLMB01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.90		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-09
Client ID: YFBG01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	1.10		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-10
Client ID: YFBG02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:55
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.823		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-11
Client ID: CPBG01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.18		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-12
Client ID: CPBG02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.31		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-13
Client ID: CPLMB01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.29		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-14
Client ID: CPLMB02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.03		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-15
Client ID: LFLMB02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/19/14 09:30
Date Received: 06/20/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.06		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-17
Client ID: LFBG01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 11:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.744		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-18
Client ID: LFBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 12:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.245		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-19
Client ID: LFLMB01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.289		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-20
Client ID: YFBG01-F / YFBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.293		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-22
Client ID: CPBG01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.688		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-23
Client ID: CPBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.406		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-24
Client ID: CPLMB01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.773		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-25
Client ID: CPLMB02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.738		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-26
Client ID: LFLMB02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/19/14 09:30
Date Received: 06/20/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.429		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-02
Client ID: LFSW01
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/17/14 09:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00171	J+ ✓	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00011	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00003	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Chromium, Total	0.00070	J ✓	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Lead, Total	0.00078 0.0010	J ✓	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:43	EPA 7470A	1,7470A	AK
Nickel, Total	0.00301		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Total Hardness by SM-2340B - Mansfield Lab											
Hardness	61.3		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS

Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	0.00150	J+ ✓	mg/l	0.00050	0.00008	1		07/09/14 10:01	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:01	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:01	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:01	NA	1,6020A	PD
Lead, Dissolved	0.00037	J	mg/l	0.00100	0.00006	1		07/09/14 10:01	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:34	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00233		mg/l	0.00050	0.00015	1		07/09/14 10:01	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-03
Client ID: LFSW02
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/17/14 10:20
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00129	J+ ✓	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00001	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Chromium, Total	0.00063	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Lead, Total	0.00065 0.00104 J ✓	J ✓	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:45	EPA 7470A	1,7470A	AK
Nickel, Total	0.00266		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	50.7		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS

Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00103	J+ ✓	mg/l	0.00050	0.00008	1		07/09/14 10:02	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:02	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:02	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:02	NA	1,6020A	PD
Lead, Dissolved	0.00038	J	mg/l	0.00100	0.00006	1		07/09/14 10:02	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:37	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00236		mg/l	0.00050	0.00015	1		07/09/14 10:02	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
 Project Number: MONTGOMERY COUNT

Lab Number: L1413507
 Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-04
 Client ID: LFSW03
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 10:20
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00126	J+ ✓	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00010	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Chromium, Total	0.00063	J ✓	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Lead, Total	0.00001 0.00104	J ✓	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:48	EPA 7470A	1,7470A	AK
Nickel, Total	0.00268		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	51.2		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00090	J+ ✓	mg/l	0.00050	0.00008	1		07/09/14 10:07	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:07	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:07	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:07	NA	1,6020A	PD
Lead, Dissolved	0.00037	J	mg/l	0.00100	0.00006	1		07/09/14 10:07	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:39	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00238		mg/l	0.00050	0.00015	1		07/09/14 10:07	NA	1,6020A	PD

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-11
Client ID: YFSW01
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/17/14 14:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00125	J + ✓	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00023	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00002	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Chromium, Total	0.00222		mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Lead, Total	0.00336		mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:56	EPA 7470A	1,7470A	AK
Nickel, Total	0.00251		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	72.5		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS

Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	0.00058	J + ✓	mg/l	0.00050	0.00008	1		07/09/14 10:08	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:08	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:08	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:08	NA	1,6020A	PD
Lead, Dissolved	0.00027	J	mg/l	0.00100	0.00006	1		07/09/14 10:08	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:47	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00085		mg/l	0.00050	0.00015	1		07/09/14 10:08	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-12
Client ID: YFSW02
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/17/14 15:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00075	J+ ✓	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Chromium, Total	0.00047	J ✓	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Lead, Total	0.00060 0.00104	J ✓	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:59	EPA 7470A	1,7470A	AK
Nickel, Total	0.00112		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	73.2		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS

Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	0.00046 0.00050	J ✓	mg/l	0.00050	0.00008	1		07/09/14 10:10	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:10	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:10	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:10	NA	1,6020A	PD
Lead, Dissolved	0.00017	J	mg/l	0.00100	0.00006	1		07/09/14 10:10	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:50	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00084		mg/l	0.00050	0.00015	1		07/09/14 10:10	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-15
Client ID: CPSW01
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/18/14 11:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00090	J+ ✓	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00009	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Chromium, Total	0.00039	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Lead, Total	0.00052 0.00100 ✓	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:08	EPA 7470A	1,7470A	AK
Nickel, Total	0.00060		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	22.0		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS

Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	0.00053	J+ ✓	mg/l	0.00050	0.00008	1		07/09/14 10:11	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:11	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:11	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:11	NA	1,6020A	PD
Lead, Dissolved	0.00020	J	mg/l	0.00100	0.00006	1		07/09/14 10:11	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:53	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00040	J	mg/l	0.00050	0.00015	1		07/09/14 10:11	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-16
Client ID: CPSW02
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/18/14 11:30
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00088	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00003	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Chromium, Total	0.00045	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Lead, Total	0.00046	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:18	EPA 7470A	1,7470A	AK
Nickel, Total	0.00103		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	21.7		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00165	J	mg/l	0.00050	0.00008	1		07/09/14 10:18	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:18	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:18	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:18	NA	1,6020A	PD
Lead, Dissolved	0.00086	J	mg/l	0.00100	0.00006	1		07/09/14 10:18	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 11:14	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00048	J	mg/l	0.00050	0.00015	1		07/09/14 10:18	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-01
Client ID: EB01
Sample Location: DICKERSON, MD
Matrix: Water

Date Collected: 06/17/14 09:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00102	J+ J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00009	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00005	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Chromium, Total	0.00251		mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Lead, Total	0.00227		mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:40	EPA 7470A	1,7470A	AK
Nickel, Total	0.00195		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	0.358	J	mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-05
Client ID: LFSD01
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 53%

Date Collected: 06/17/14 10:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Total Metals - Mansfield Lab

Arsenic, Total	1.49 JJ		mg/kg	0.052	0.006	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Beryllium, Total	1.24		mg/kg	0.031	0.009	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Cadmium, Total	0.160		mg/kg	0.021	0.003	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Chromium, Total	22.6		mg/kg	0.208	0.049	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Lead, Total	17.6 HW		mg/kg	0.312	0.100	10	07/09/14 14:00	07/10/14 16:10	EPA 3050B	1,6020A	PD
Mercury, Total	0.025 HW		mg/kg	0.010	0.007	1	07/09/14 14:00	07/10/14 14:42	EPA 7471B	1,7471B	AK
Nickel, Total	15.4		mg/kg	0.104	0.016	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-06
Client ID: LFSD02
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 57%

Date Collected: 06/17/14 10:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.914	J ✓	mg/kg	0.047	0.006	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Beryllium, Total	0.883		mg/kg	0.028	0.008	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Cadmium, Total	0.067	J ✓	mg/kg	0.019	0.002	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Chromium, Total	18.6		mg/kg	0.186	0.044	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Lead, Total	14.3	J ✓	mg/kg	0.279	0.090	10	07/09/14 14:00	07/10/14 16:11	EPA 3050B	1,6020A	PD
Mercury, Total	0.017	J ✓	mg/kg	0.010	0.007	1	07/09/14 14:00	07/10/14 14:45	EPA 7471B	1,7471B	AK
Nickel, Total	9.36		mg/kg	0.093	0.014	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-10
Client ID: LFSD03
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 60%

Date Collected: 06/17/14 10:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.31	J ✓	mg/kg	0.046	0.006	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Beryllium, Total	1.10		mg/kg	0.028	0.008	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Cadmium, Total	0.087		mg/kg	0.018	0.002	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Chromium, Total	20.6		mg/kg	0.183	0.043	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Lead, Total	17.1	J ✓	mg/kg	0.275	0.089	10	07/09/14 14:00	07/10/14 16:12	EPA 3050B	1,6020A	PD
Mercury, Total	0.018	J ✓	mg/kg	0.010	0.007	1	07/09/14 14:00	07/10/14 14:48	EPA 7471B	1,7471B	AK
Nickel, Total	11.7		mg/kg	0.092	0.014	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-13
Client ID: YFSD01
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 65%

Date Collected: 06/17/14 14:45
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.58	J ✓	mg/kg	0.039	0.005	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Beryllium, Total	1.34		mg/kg	0.023	0.007	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Cadmium, Total	0.057	J ✓	mg/kg	0.016	0.002	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Chromium, Total	11.5		mg/kg	0.156	0.037	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Lead, Total	15.9	J ✓	mg/kg	0.233	0.075	10	07/09/14 14:00	07/10/14 16:16	EPA 3050B	1,6020A	PD
Mercury, Total	0.012	J ✓	mg/kg	0.009	0.006	1	07/09/14 14:00	07/10/14 14:56	EPA 7471B	1,7471B	AK
Nickel, Total	5.31		mg/kg	0.078	0.012	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-14
Client ID: YFSD02
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 43%

Date Collected: 06/17/14 15:05
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.86	J ✓	mg/kg	0.059	0.007	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Beryllium, Total	1.13		mg/kg	0.035	0.010	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Cadmium, Total	0.163		mg/kg	0.024	0.003	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Chromium, Total	17.2		mg/kg	0.236	0.055	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Lead, Total	29.1		mg/kg	0.354	0.114	10	07/09/14 14:00	07/10/14 16:17	EPA 3050B	1,6020A	PD
Mercury, Total	0.042	J-6	mg/kg	0.013	0.009	1	07/09/14 14:00	07/10/14 14:58	EPA 7471B	1,7471B	AK
Nickel, Total	11.2		mg/kg	0.118	0.018	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-17
Client ID: CPSD01
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 73%

Date Collected: 06/18/14 11:15
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.34	J ✓	mg/kg	0.037	0.005	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Beryllium, Total	1.61		mg/kg	0.022	0.006	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Cadmium, Total	0.104		mg/kg	0.015	0.002	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Chromium, Total	17.0		mg/kg	0.149	0.035	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Lead, Total	17.0		mg/kg	0.224	0.072	10	07/09/14 14:00	07/10/14 16:19	EPA 3050B	1,6020A	PD
Mercury, Total	0.023	S ✓	mg/kg	0.008	0.005	1	07/09/14 14:00	07/10/14 15:01	EPA 7471B	1,7471B	AK
Nickel, Total	10.0		mg/kg	0.075	0.011	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-18
Client ID: CPSD02
Sample Location: DICKERSON, MD
Matrix: Sediment
Percent Solids: 66%

Date Collected: 06/18/14 11:45
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.39	J ✓	mg/kg	0.046	0.006	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Beryllium, Total	0.686		mg/kg	0.028	0.008	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Cadmium, Total	0.034	J W	mg/kg	0.018	0.002	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Chromium, Total	18.8		mg/kg	0.184	0.043	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Lead, Total	16.4	J W	mg/kg	0.276	0.089	10	07/09/14 14:00	07/10/14 16:25	EPA 3050B	1,6020A	PD
Mercury, Total	0.053	J W	mg/kg	0.008	0.006	1	07/09/14 14:00	07/10/14 15:17	EPA 7471B	1,7471B	AK
Nickel, Total	6.86		mg/kg	0.092	0.014	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-05
Client ID: LFSD01
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 10:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.12		%	0.050	0.050	1	-	07/09/14 11:37	13,-	YX
Total Organic Carbon (Rep2)	2.05		%	0.050	0.050	1	-	07/09/14 11:37	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	53.1		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-06
Client ID: LFSD02
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 10:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.874		%	0.050	0.050	1	-	07/09/14 11:42	13,-	YX
Total Organic Carbon (Rep2)	0.946		%	0.050	0.050	1	-	07/09/14 11:42	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	56.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-10
Client ID: LFSD03
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 10:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.900	JJ	%	0.050	0.050	1	-	07/09/14 09:32	13,-	YX
Total Organic Carbon (Rep2)	1.01	↓	%	0.050	0.050	1	-	07/09/14 09:32	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	59.6		%	0.100	0.100	1	-	07/07/14 10:00	30.2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-13
Client ID: YFSD01
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 14:45
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.11	JW	%	0.050	0.050	1	-	07/09/14 09:43	13,-	YX
Total Organic Carbon (Rep2)	1.15	↓	%	0.050	0.050	1	-	07/09/14 09:43	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	64.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-14
Client ID: YFSD02
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 15:05
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.91	J-✓	%	0.050	0.050	1	-	07/09/14 09:21	13,-	YX
Total Organic Carbon (Rep2)	3.34	↓	%	0.050	0.050	1	-	07/09/14 09:21	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	43.4		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-17
Client ID: CPSD01
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/18/14 11:15
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.787	J-✓	%	0.050	0.050	1	-	07/09/14 09:53	13,-	YX
Total Organic Carbon (Rep2)	0.800	↓	%	0.050	0.050	1	-	07/09/14 09:53	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	72.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-18
Client ID: CPSD02
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/18/14 11:45
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.437	J-✓	%	0.050	0.050	1	-	07/09/14 10:04	13,-	YX
Total Organic Carbon (Rep2)	0.443	↓	%	0.050	0.050	1	-	07/09/14 10:04	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	65.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-07
Client ID: JFM01
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:35
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst	
Total Metals - Mansfield Lab												
Arsenic, Total	0.00383	J +	mg/l	u	0.00500	0.00085	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Beryllium, Total	ND		mg/l		0.00500	0.00086	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Cadmium, Total	0.00027	J	mg/l		0.00500	0.00015	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Chromium, Total	0.178		mg/l		0.0100	0.00298	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Lead, Total	0.00079	J	mg/l	u	0.0100	0.00065	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Mercury, Total	ND	uJ	mg/l		0.00040	0.00014	2	07/07/14 09:00	07/08/14 16:40	EPA 7470A	1,7470A	AK
Nickel, Total	0.01669		mg/l		0.00500	0.00152	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-08
Client ID: JFM02
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00596	J+ ✓	mg/l	0.00500	0.00085	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Beryllium, Total	ND		mg/l	0.00500	0.00086	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Cadmium, Total	ND		mg/l	0.00500	0.00015	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Chromium, Total	0.185		mg/l	0.0100	0.00298	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Lead, Total	ND		mg/l	0.0100	0.00065	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Mercury, Total	ND	uS ✓	mg/l	0.00040	0.00014	2	07/07/14 09:00	07/08/14 16:49	EPA 7470A	1,7470A	AK
Nickel, Total	0.01678		mg/l	0.00500	0.00152	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-09
Client ID: JFM03
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00402	J+	mg/l	0.00500	0.00085	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Beryllium, Total	ND		mg/l	0.00500	0.00086	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Cadmium, Total	ND		mg/l	0.00500	0.00015	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Chromium, Total	0.183		mg/l	0.0100	0.00298	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Lead, Total	ND		mg/l	0.0100	0.00065	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Mercury, Total	ND	uS	mg/l	0.00040	0.00014	2	07/07/14 09:00	07/08/14 16:21	EPA 7470A	1,7470A	AK
Nickel, Total	0.01648		mg/l	0.00500	0.00152	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-19
Client ID: JFM01
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:35
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.25		%	0.100	NA	1	-	07/01/14 14:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-20
Client ID: JFM02
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.37		%	0.100	NA	1	-	07/01/14 14:00	111,-	AK



Memorandum

To: Karen Vetrano
From: Paula DiMattei
CC: Elizabeth Denly
Date: December 11, 2014
Subject: Dioxin Data Validation Review: Montgomery County RRF/Dickerson, MD:
Laboratory Work Orders: 6254, 6260 and 6324

SUMMARY

Limited validation was performed on the data for seven surface water samples, seven sediment samples, three milk samples, six hay samples, 10 whole body fish tissue samples and 10 fillet fish samples collected at the Montgomery County site in Dickerson, Maryland. The samples were collected on June 17-19, 2014. Samples were submitted to Cape Fear Analytical (CFA) for analysis. The samples were analyzed for polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) using EPA Method 1613B. CFA reported the results under laboratory work orders 6254, 6260 and 6324.

The sample results were assessed using the "USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review," September 2011.

In general, the data appear valid as reported and may be used for decision-making purposes. The following issues were noted which have a minor impact on the data usability:

- Select results in some samples were qualified as nondetects (U) at the reported sample concentrations due to laboratory method blank contamination.
- Select results in some samples were qualified as estimated (J) due to laboratory method blank contamination.
- The results for 1,2,3,4,6,7,8-HpCDD, OCDD, total HpCDDs, total TCDFs, and total PeCDFs in samples LFSD02 and LFSD03 were qualified as estimated due to field duplicate variability.
- Several congeners in the select samples were reported by the laboratory as Estimated Maximum Possible Concentrations (EMPCs) since all identification criteria were not met. These results were qualified as estimated (J) during data validation.
- Select results were reported which were below the lowest calibration standard; these results were qualified as estimated (J).

SAMPLES

Samples included in this review are listed below:

6254

EB01

Surface water:	LFSW01	LFSW02	LFSW03 ¹
Sediment:	LFSD01	LFSD02	LFSD03 ²

Milk: JFM01 JFM02 JFM03³
¹Field duplicate of LFSW02 ²Field duplicate of LFSD02 ³Field duplicate of JFM01

6260

Surface water: YFSW01 YFSW02 CPSW01 CPSW02
Sediment: YFSD01 YFSD02 CPSD01 CPSD02 JFH02 MFH01
Hay: LFH01 LFH02 LFH03⁴ JFH01

⁴Field duplicate of LFH01

6324

Blue Gill Whole Body:
LFBG01 LFBG02 YFBG01 YFBG02 CPBG01 CPBG02
Large Mouth Bass Whole Body:
LFLMB01 LFLMB02 CPLMB01 CPLMB02
Blue Gill Fillet:
LFBG01-F LFBG02-F YFBG01-F/YFBG02-F CPBG01-F CPBG02-F
Large Mouth Bass Fillet:
LFLMB01-F LFLMB02-F CPLMB01-F CPLMB02-F

REVIEW ELEMENTS

Sample data were reviewed for the following parameters:

- Agreement of analyses conducted with chain-of-custody requests
- Data completeness
- Holding times and sample preservation
- Initial and continuing calibrations
- Blanks
- Labeled compound recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) results
- Laboratory control sample (LCS)/Laboratory control sample duplicate (LCSD) results
- Field duplicate results
- Laboratory duplicate results
- Quantitation limits and sample results

DISCUSSION

Agreement of Analyses Conducted with Chain-of-Custody Requests

Sample reports were checked to verify that the results corresponded to analytical requests as designated on the chain-of-custody (COC). The following discrepancies were noted for laboratory work order 6260:

- The laboratory noted that there was a discrepancy between the sample collection times noted on the sample labels and those noted on the COC for samples YFSD01 and YFSD02. The collection times on the COC were used for sample login purposes.

- The laboratory noted that there was a discrepancy between the sample collection times noted on the sample labels and those noted on the COC for samples CPSW01, CPSW02, CPSD01 and CPSD02. The collection times on the COC were used for sample login purposes.
- The laboratory noted that clarification of the sample identification for samples YFSW01 and YFSW02 was needed. TRC confirmed the sample identification information for these samples.

Data Completeness

The data packages were found to be complete as received from the laboratory.

Holding Times and Sample Preservation

All samples were prepared and analyzed within the method-specified holding times. The cooler temperatures were within the acceptance criteria upon sample receipt.

Initial and Continuing Calibrations

All initial and continuing calibration standards met the ion abundance ratio criteria specified in the method.

The percent relative standard deviations of all target congeners were within the acceptance criteria for the initial calibrations. The percent differences of all target congeners were within the acceptance criteria for the continuing calibrations.

Blanks

The following tables list the concentrations of target congeners detected in the laboratory method blanks and the resulting validation actions.

Work Orders 6254 and 6260			
Compound	Blank Concentration	Blank ID: Associated Samples	Validation Action
1,2,3,7,8-PeCDD	1.84 J pg/L	MB (Batch 26220): EBO1 LFSW01 LFSW02 LFSW03 YFSW01 YFSW02 CPSW01 CPSW02	Qualification was not required since 1,2,3,7,8-PeCDD, 1,2,3,6,7,8-HxCDD, and 1,2,3,7,8,9-HxCDD were not detected in the associated samples.
1,2,3,6,7,8-HxCDD	3.90 J pg/L		
1,2,3,7,8,9-HxCDD	3.64 J pg/L		
1,2,3,4,6,7,8-HpCDD	3.78 J pg/L		The positive results for 1,2,3,4,6,7,8-HpCDD in samples LFSW02, YFSW02 and CPSW02 were qualified as nondetects (U) at the sample concentration. The positive results for 1,2,3,4,6,7,8-HpCDD in samples LFSW01, LFSW03 and YFSW01 were qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,4,6,7,8-HpCDD was not detected.

Work Orders 6254 and 6260			
Compound	Blank Concentration	Blank ID: Associated Samples	Validation Action
OCDD	12.5 J pg/L		<p>The positive result for OCDD in sample EBO1 was qualified as nondetect (U) at the sample concentration.</p> <p>The positive results for OCDD in samples LFSW01, LFSW02, LFSW03, YFSW02, CPSW01 and CPSW02 were qualified as estimated (J).</p> <p>Qualification was not required for sample YFSW01 since OCDD was present at a concentration greater than 10x the blank concentration.</p>
1,2,3,7,8-PeCDF	2.02 J pg/L		<p>Qualification was not required since 1,2,3,7,8-PeCDF was not detected in the associated samples.</p>
2,3,4,7,8-PeCDF	2.34 J pg/L		<p>The positive result for 2,3,4,7,8-PeCDF in sample YFSW01 was qualified as nondetect (U) at the sample concentration.</p> <p>Qualification was not required for the remaining samples since 2,3,4,7,8-PeCDF was not detected.</p>
1,2,3,4,7,8-HxCDF	2.90 J pg/L		<p>Qualification was not required since 1,2,3,4,7,8-HxCDF was not detected in the associated samples.</p>
1,2,3,6,7,8-HxCDF	2.50 J pg/L		<p>The positive result for 1,2,3,6,7,8-HxCDF in sample YFSW01 was qualified as nondetect (U) at the sample concentration.</p> <p>Qualification was not required for the remaining samples since 1,2,3,6,7,8-HxCDF was not detected.</p>
2,3,4,6,7,8-HxCDF	3.78 J pg/L		<p>Qualification was not required since 2,3,4,6,7,8-HxCDF was not detected in the associated samples.</p>
1,2,3,7,8,9-HxCDF	4.16 J pg/L		<p>The positive result for 1,2,3,7,8,9-HxCDF in sample YFSW01 was qualified as nondetect (U) at the sample concentration.</p> <p>Qualification was not required for the remaining samples since 1,2,3,7,8,9-HxCDF was not detected.</p>
1,2,3,4,6,7,8-HpCDF	3.10 J pg/L		<p>The positive result for 1,2,3,4,6,7,8-HpCDF in sample YFSW01 was qualified as nondetect (U) at the sample concentration.</p> <p>Qualification was not required for the remaining samples since 1,2,3,4,6,7,8-HpCDF was not detected.</p>
1,2,3,4,7,8,9-HpCDF	5.80 J pg/L		<p>Qualification was not required since 1,2,3,4,7,8,9-HpCDF was not detected in the associated samples.</p>
OCDF	8.86 J pg/L		<p>The positive result for OCDF in sample YFSW01 was qualified as nondetect (U) at the sample concentration.</p> <p>Qualification was not required for the remaining samples since OCDF was not detected.</p>

Work Orders 6254 and 6260			
Compound	Blank Concentration	Blank ID: Associated Samples	Validation Action
1,2,3,7,8-PeCDD	0.198 J pg/g	MB (Batch 26253): LFSDo1 LFSDo2 LFSDo3 YFSDo1 YFSDo2 CPSDo1 CPSDo2 LFHo1 LFHo2 LFHo3 JFHo1 JFHo2 MFHo1	The positive results for 1,2,3,7,8-PeCDD in samples YFSDo2 and CPSDo1 were qualified as nondetects (U) at the sample concentration. The positive result for 1,2,3,7,8-PeCDD in sample LFSDo3 was qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,7,8-PeCDD was not detected.
1,2,3,4,7,8-HxCDD	0.198 J pg/g		The positive result for 1,2,3,4,7,8-HxCDD in samples LFSDo2, LFSDo3, YFSDo1 and YFSDo2 were qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,4,7,8-HxCDD was not detected.
1,2,3,6,7,8-HxCDD	0.208 J pg/g		The positive results for 1,2,3,6,7,8-HxCDD in samples LFSDo2, LFSDo3, CPSDo2, YFSDo1, YFSDo2, CPSDo1 and CPSDo2 were qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,6,7,8-HxCDD was not detected.
1,2,3,7,8,9-HxCDD	0.210 J pg/g		The positive results for 1,2,3,7,8,9-HxCDD in samples LFSDo2, YFSDo1, YFSDo2, CPSDo1 and CPSDo2 were qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,7,8,9-HxCDD was not detected.
1,2,3,4,6,7,8-HpCDD	0.380 J pg/g		The positive results for 1,2,3,4,6,7,8-HpCDD in samples LFHo1, LFHo2, LFHo3, JFHo1, JFHo2 and MFHo1 were qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,4,6,7,8-HpCDD was present at a concentration >5x the blank concentration.
OCDD	2.09 J pg/g		The positive results for OCDD in samples LFHo1, LFHo2, LFHo3, JFHo1, JFHo2 and MFHo1 were qualified as estimated (J). Qualification was not required for the remaining samples since OCDD was present at a concentration greater than 10x the blank concentration.
1,2,3,7,8-PeCDF	0.242 J pg/g		The positive results for 1,2,3,7,8-PeCDF in samples LFSDo2, YFSDo1, CPSDo2 and LFHo1 were qualified as nondetects (U) at the sample concentration. The positive result for 1,2,3,7,8-PeCDF in sample LFSDo3 was qualified as estimated (J). Qualification was not required for the remaining samples since 1,2,3,7,8-PeCDF was not detected.

Work Orders 6254 and 6260			
Compound	Blank Concentration	Blank ID: Associated Samples	Validation Action
2,3,4,7,8-PeCDF	0.176 J pg/g		<p>The positive results for 2,3,4,7,8-PeCDF in samples YFSD01, CPSD02 and LFH02 were qualified as nondetects (U) at the sample concentration.</p> <p>The positive result for 2,3,4,7,8-PeCDF in sample LFSD03 was qualified as estimated (J).</p> <p>Qualification was not required for the remaining samples since 2,3,4,7,8-PeCDF was not detected.</p>
1,2,3,4,7,8-HxCDF	0.188 J pg/g		<p>The positive result for 1,2,3,4,7,8- HxCDF in sample CPSD02 was qualified as nondetect (U) at the sample concentration.</p> <p>The positive results for 1,2,3,4,7,8-HxCDF in samples LFSD03 and YFSD02 were qualified as estimated (J).</p> <p>Qualification was not required for the remaining samples since 1,2,3,4,7,8-HxCDF was not detected.</p>
1,2,3,6,7,8-HxCDF	0.176 J pg/g		<p>The positive result for 1,2,3,6,7,8- HxCDF in sample CPSD02 was qualified as nondetect (U) at the sample concentration.</p> <p>The positive results for 1,2,3,6,7,8-HxCDF in samples LFSD03, YFSD01 and YFSD02 were qualified as estimated (J).</p> <p>Qualification was not required for the remaining samples since 1,2,3,6,7,8-HxCDF was not detected.</p>
2,3,4,6,7,8-HxCDF	0.180 J pg/g		<p>The positive results for 2,3,4,6,7,8-HxCDF in samples LFSD03, CPSD02 and YFSD02 were qualified as estimated (J).</p> <p>Qualification was not required for the remaining samples since 2,3,4,6,7,8-HxCDF was not detected.</p>
1,2,3,7,8,9-HxCDF	0.322 J pg/g		<p>The positive result for 1,2,3,7,8,9- HxCDF in sample MFH01 was qualified as nondetect (U) at the sample concentration.</p> <p>Qualification was not required for the remaining samples since 1,2,3,7,8,9-HxCDF was not detected.</p>
1,2,3,4,6,7,8-HpCDF	0.220 J pg/g		<p>The positive results for 1,2,3,4,6,7,8- HpCDF in samples LFH01, LFH02, LFH03, JFH01, and MFH01 were qualified as nondetects (U) at the sample concentration.</p> <p>The positive results for 1,2,3,4,6,7,8-HpCDF in samples LFSD01, LFSD02, YFSD01, CPSD01, CPSD02 and JFH02 were qualified as estimated (J).</p> <p>Qualification was not required for the remaining samples since 1,2,3,4,6,7,8-HpCDF was present at a concentration >5x the blank concentration.</p>
1,2,3,4,7,8,9-HpCDF	0.194 J pg/g		<p>Qualification was not required since 1,2,3,4,7,8,9-HpCDF was not detected.</p>

Work Orders 6254 and 6260			
Compound	Blank Concentration	Blank ID: Associated Samples	Validation Action
OCDF	0.396 J pg/g		The positive results for OCDF in samples LFSD01, LFSD02, LFSD03, YFSD01, YFSD02, CPSD01 and CPSD02 were qualified as estimated (J). Qualification was not required for the remaining samples since OCDF was not detected.
OCDD	497 pg/L	MB (Batch 26305): JFM02 JFM03	The positive results for OCDD in samples JFM02 and JFM03 were qualified as nondetects (U) at the sample concentration.
OCDD	72.8 J pg/L	MB (Batch 26417): JFM01	The positive result for OCDD in sample JFM01 was qualified as estimated (J).

Work Order 6324			
Compound	Blank Concentration (pg/g)	Blank ID: Associated Samples	Validation Action
OCDD	0.924 J	MB (Batch 26411): LFBG01 LFBG02 LFBG02 DUP LFLMB01 LFLMB02 YFBG01 YFBG02 CPBG01 CPBG02	The positive result for OCDD in samples LFBG02-F, LFBG02-F DUP, YFBG01-F/YFBG02-F, CPBG01-F, CPBG02-F and CPLMB01-F were qualified as nondetects (U) at the sample concentration. The positive results for OCDD in samples LFBG01, LFBG02, LFBG02 DUP, LFLMB01, YFBG01, CPBG01, CPBG02, CPLMB01, CPLMB02, CPLMB02 DUP, LFLMB02, LFBG01-F and LFLMB01-F were qualified as estimated (J). Qualification was not required for sample YFBG02 since OCDD was present at a concentration greater than 10x the blank concentration.
2,3,7,8-TCDF	0.186 J	CPLMB01 CPLMB02 CPLMB02 DUP LFBG01-F LFBG02-F LFBG02-F DUP LFLMB01-F YFBG01-F/YFBG02-F	The positive results for 2,3,7,8-TCDF in samples LFBG01, LFBG02, LFBG02 DUP, LFLMB01, YFBG01, YFBG02, CPBG01, CPBG02, CPLMB01, CPLMB02, LFLMB02, LFBG02-F, LFBG02-F DUP, LFLMB01-F, YFBG01-F/YFBG02-F, CPBG01-F, CPBG02-F and CPLMB01-F were qualified as estimated (J). Qualification was not required for samples CPLMB02 DUP and LFBG01-F since 2,3,7,8-TCDF was not detected.
1,2,3,7,8-PeCDF	0.108 J	CPBG01-F	Qualification was not required for the associated samples since 1,2,3,7,8-PeCDF and 2,3,4,7,8-PeCDF were not detected in the associated samples.
2,3,4,7,8-PeCDF	0.082 J	CPBG02-F CPLMB01-F	

Work Order 6324			
Compound	Blank Concentration (pg/g)	Blank ID: Associated Samples	Validation Action
OCDD	0.832 J	MB (Batch 26438): CPLMBo2-F CPLMBo2-F DUP LFLMBo2-F	The positive result for OCDD in sample CPLMBo2-F was qualified as nondetect (U) at the sample concentration. The positive result for OCDD in sample LFLMBo2-F was qualified as estimated (J). Qualification was not required for sample CPLMBo2-F DUP since OCDD was not present.

Qualification of the data was performed as follows:

- Sample results > the estimated detection limit (EDL) were qualified as nondetect (U) at the sample concentration if the result was < the blank concentration.
- Sample results > the EDL and < 10x the blank concentration for OCDD and OCDF and <5x the blank concentration for all other congeners were qualified as estimated (J).
- Sample results > the EDL and > 10x the blank concentration for OCDD and OCDF and >5x the blank concentration for all other congeners were accepted without qualification.

It should be noted that sample total homologue results were not assessed with regards to blank contamination. The total homologues are determined by summing the 2378-isomers and non-2378-isomers at each level of chlorination. As is typical, the individual peaks included in the total homologues are not identified by their specific compound name. Consequently, the total homologues in the method blanks could be comprised of different individual components than the associated samples and thus are not evaluated with respect to blank contamination.

Labeled Compound Recoveries

The labeled compound recoveries were within the acceptance criteria for all sample analyses.

MS/MSD Results

MS/MSD analyses were not performed on samples in this data set. No data validation actions were required on this basis.

LCS/LCSD Results

An LCS and LCSD were prepared with each extraction batch. All criteria were met.

Field Duplicate Results

Samples LFH01/LFH03, LFSW02/LFSW03, LFSD02/LFSD03 and JFM01/JFM03 were submitted as the field duplicate pairs with this sample data set. The following tables summarize the relative percent differences (RPDs) of the detected congeners and total homologs in the field duplicate pairs. The results for several RPDs were not calculable (NC) since the affected congener or total homolog was not detected in one of the two samples; qualification of the data was not required on this basis. The RPD criteria were exceeded

for the following congeners and total homologs detected in the field duplicate pair LFSDo2/LFSDo3: 1,2,3,4,6,7,8-HpCDD, OCDD, total HpCDDs, total TCDFs, and total PeCDFs. The positive results for these congeners and total homologs in samples LFSDo2 and LFSDo3 were qualified as estimated (J).

Compound	QL (pg/L)	LFSWo2 (pg/L)	LFSWo3 (pg/L)	RPD
1234678-HpCDD	50.6	2.86 U	4.26 J	NC
OCDD	101	56.4 J	95.6 J	51.6
Total HpCDDs	50.6	6.24 J	10.3 J	49.1
Criteria: When both results are $\geq 5x$ the quantitation limit (QL), RPDs must be $<30\%$. When both results are $< 5x$ the QL, RPDs must be $<60\%$.				

Compound	QL (pg/g)	LFSDo2 (pg/g)	LFSDo3 (pg/g)	RPD
12378-PeCDD	4.99	0.339 U	0.424	NC
123478-HxCDD	4.99	0.611	0.889	37.1
123678-HxCDD	4.99	0.894	1.57	54.9
123789-HxCDD	4.99	1.05	2.35	76.5
1234678-HpCDD	4.99	32.7	60.3	59.4
OCDD	9.980	1750	3130	56.6
2378-TCDF	0.998	0.401	0.418	4.2
12378-PeCDF	4.99	0.188 U	0.256	NC
23478-PeCDF	4.99	0.137 U	0.272	NC
123478-HxCDF	4.99	0.238 U	0.250	NC
123678-HxCDF	4.99	0.208 U	0.274	NC
234678-HxCDF	4.99	0.23 U	0.317	NC
1234678-HpCDF	4.99	1.00	2.21	75.4
OCDF	9.98	1.70	3.00	55.3
Total PeCDDs	4.99	1.76	3.41 J	63.8
Total HxCDDs	4.99	15.3	26.6	53.9
Total HpCDDs	4.99	92.7	182	65.0
Total TCDFs	0.998	0.803 J	2.96	115
Total PeCDFs	4.99	1.16 J	3.50 J	100
Total HxCDFs	4.99	1.26 J	3.36 J	91
Total HpCDFs	4.99	1.69 J	3.66	73.6
Criteria: When both results are $\geq 5x$ the QL, RPDs must be $<50\%$. When both results are $< 5x$ the QL, RPDs must be $<100\%$.				

Compound	QL (pg/L)	JFMo1 (pg/L)	JFMo3 (pg/L)	RPD
1234678-HpCDD	500	23.6 U	37.8 J	NC
OCDD	1000	118 J	123 U	NC
12378-PeCDF	500	7.6 J	23.8 U	NC
Total HpCDDs	500	23.6 U	37.8	NC
Total PeCDFs	500	7.6 J	21 U	NC
Criteria: When both results are $\geq 5x$ the QL, RPDs must be $<30\%$. When both results are $< 5x$ the QL, RPDs must be $<60\%$.				

Compound	QL (pg/g)	LFHo1 (pg/g)	LFHo3 (pg/g)	RPD
1234678-HpCDD	4.73	0.420 J	0.495 J	16.4
OCDD	9.47	5.94 J	4.36 J	30.7
2378-TCDF	0.947	0.127 J	0.108 J	16.2
Total HxCDDs	4.73	0.477 J	0.206 J	79.4
Total HpCDDs	4.73	0.96 J	1.14 J	17.1
Total TCDFs	0.95	0.127 J	0.108 J	16.2
Total PeCDFs	4.73	0.0795 J	0.103 J	25.8
Total HpCDFs	4.73	0.305 J	0.398 J	26.5

Criteria: When both results are $\geq 5x$ the QL, RPDs must be $< 50\%$.
 When both results are $< 5x$ the QL, RPDs must be $< 100\%$.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on samples LFBG02, CPLMBo2, LFBG02-F and CPLMBo2-F. The following tables summarize the RPDs of the detected congeners and total homologs in the laboratory duplicates. The results for several RPDs were not calculable (NC) since the affected congener or total homolog was not detected in one of the two analyses; qualification of the data was not required on this basis. The calculated RPDs were met for all laboratory duplicate analyses.

Compound	QL (pg/g)	LFBG02 (pg/g)	LFBG02 DUP (pg/g)	RPD
1234678-HpCDD	4.75	0.475 J	0.522 J	9.4
OCDD	9.50	5.12 J	5.69 J	10.5
2378-TCDF	0.950	0.291 J	0.287 J	1.4
1234678-HpCDF	4.75	0.131 J	0.146 U	NC
Total HpCDDs	4.75	0.475 J	0.522 J	9.4
Total TCDFs	0.950	0.291 J	0.287 J	1
Total HpCDFs	4.75	0.131 J	0.146 U	NC

Compound	QL (pg/g)	CPLMBo2 (pg/g)	CPLMBo2 DUP (pg/g)	RPD
2378-TCDD	0.986	0.394 J	0.495 J	22.7
1234678-HpCDD	4.93	0.286 J	0.411 J	35.9
OCDD	9.86	1.58 J	2.88 J	58.3
2378-TCDF	0.986	0.416 J	0.16 U	NC
Total TCDDs	0.986	0.394 J	0.495 J	22.7
Total HpCDDs	4.93	0.286 J	0.411 J	35.9
Total TCDFs	0.986	0.416 J	0.902 J	73.7

Compound	QL (pg/g)	LFBG02-F (pg/g)	LFBG02-F DUP (pg/g)	RPD
2378-TCDF	0.987	0.298 J	0.244 J	19.9
Total TCDFs	0.987	0.298 J	0.394 J	27.7

Compound	QL (pg/g)	CPLMBo2-F (pg/g)	CPLMBo2-F DUP (pg/g)	RPD
2378-TCDF	0.953	0.214 J	0.235 J	9.4

Compound	QL (pg/g)	CPLMBo2-F (pg/g)	CPLMBo2-F DUP (pg/g)	RPD
Total TCDFs	0.953	0.214 J	0.421	65.2

Quantitation Limits and Sample Results

Nondetect results were reported to the EDL as stipulated in the method.

Select results were reported which were below the lowest calibration standard level and QL. These results were qualified as estimated (J) by the laboratory.

2378-TCDF confirmation analysis was not performed since the affected sample results were detected at concentrations below the QL and thus are qualified as estimated by the laboratory. Further qualification of the data was not required.

Several congeners in the select samples were reported by the laboratory as EMPCs since all identification criteria were not met. These results were qualified as estimated (J) during data validation.

No dilutions were performed on samples in this data set.

Qualified Form Is

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6254
Lab Sample ID: 6254002
Client Sample: 1613B Water
Client ID: LFSW01
Batch ID: 26223
Run Date: 06/24/2014 23:33
Data File: A23JUN14A_4-12
Prep Batch: 26220
Prep Date: 20-JUN-14

Client: TRCC001
Date Collected: 06/17/2014 09:45
Date Received: 06/18/2014 10:50

Project: TRCC00314
Matrix: WATER

Prep Basis: As Received

Method: EPA Method 1613B
Analyst: JTF

Instrument: HRP750
Dilution: 1

Prep Method: SW846 3520C
Prep Aliquot: 978.9 mL

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.913		pg/L	0.913	10.2
40321-76-4	1,2,3,7,8-PeCDD	U	.887		pg/L	0.887	51.1
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.29		pg/L	1.29	51.1
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.24		pg/L	1.24	51.1
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.34		pg/L	1.34	51.1
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	4.15		pg/L	2.00	51.1
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	92.4		pg/L	11.8	102
51207-31-9	2,3,7,8-TCDF	U	.815		pg/L	0.815	10.2
57117-41-6	1,2,3,7,8-PeCDF	U	.744		pg/L	0.744	51.1
57117-31-4	2,3,4,7,8-PeCDF	U	.725		pg/L	0.725	51.1
70648-26-9	1,2,3,4,7,8-HxCDF	U	.548		pg/L	0.548	51.1
57117-44-9	1,2,3,6,7,8-HxCDF	U	.543		pg/L	0.543	51.1
60851-34-5	2,3,4,6,7,8-HxCDF	U	.58		pg/L	0.580	51.1
72918-21-9	1,2,3,7,8,9-HxCDF	U	.881		pg/L	0.881	51.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.635		pg/L	0.635	51.1
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.93		pg/L	0.930	51.1
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.19		pg/L	2.19	102
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.913		pg/L	0.913	10.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.887		pg/L	0.887	51.1
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.24		pg/L	1.24	51.1
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	10.2		pg/L	2.00	51.1
30402-14-3	Total Tetrachlorodibenzofuran	U	.815		pg/L	0.815	10.2
30402-15-4	Total Pentachlorodibenzofuran	U	.556		pg/L	0.556	51.1
55684-94-1	Total Hexachlorodibenzofuran	U	.543		pg/L	0.543	51.1
38998-75-3	Total Heptachlorodibenzofuran	U	.635		pg/L	0.635	51.1
3333-30-0	TEQ WHO2005 ND=0		0.0692	0.0692	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.46	1.46	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1670	2040	pg/L	81.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		1860	2040	pg/L	91.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1510	2040	pg/L	74.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1620	2040	pg/L	79.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1710	2040	pg/L	83.6	(23%-140%)
13C-OCDD		3240	4090	pg/L	79.4	(17%-157%)
13C-2,3,7,8-TCDF		1760	2040	pg/L	86.0	(24%-169%)
13C-1,2,3,7,8-PeCDF		1930	2040	pg/L	94.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		1890	2040	pg/L	92.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1570	2040	pg/L	77.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1620	2040	pg/L	79.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1600	2040	pg/L	78.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1480	2040	pg/L	72.6	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254
Lab Sample ID: 6254003
Client Sample: 1613B Water
Client ID: LFSW02
Batch ID: 26223
Run Date: 06/25/2014 00:21
Data File: A23JUN14A_4-13
Prep Batch: 26220
Prep Date: 20-JUN-14

Client: TRCC001
Date Collected: 06/17/2014 10:20
Date Received: 06/18/2014 10:50
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3520C
Prep Aliquot: 987.2 mL

Project: TRCC00314
Matrix: WATER
Prep Basis: As Received
Instrument: HRP750
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.774		pg/L	0.774	10.1
40321-76-4	1,2,3,7,8-PeCDD	U	.713		pg/L	0.713	50.6
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.13		pg/L	1.13	50.6
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.11		pg/L	1.11	50.6
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.19		pg/L	1.19	50.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK U ✓	2.86	2.86	pg/L	2.07	50.6
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	56.4		pg/L	6.44	101
51207-31-9	2,3,7,8-TCDF	U	.81		pg/L	0.810	10.1
57117-41-6	1,2,3,7,8-PeCDF	U	.61		pg/L	0.610	50.6
57117-31-4	2,3,4,7,8-PeCDF	U	.598		pg/L	0.598	50.6
70648-26-9	1,2,3,4,7,8-HxCDF	U	.569		pg/L	0.569	50.6
57117-44-9	1,2,3,6,7,8-HxCDF	U	.551		pg/L	0.551	50.6
60851-34-5	2,3,4,6,7,8-HxCDF	U	.563		pg/L	0.563	50.6
72918-21-9	1,2,3,7,8,9-HxCDF	U	.81		pg/L	0.810	50.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.401		pg/L	0.401	50.6
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.598		pg/L	0.598	50.6
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	1.8		pg/L	1.80	101
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	774		pg/L	0.774	10.1
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	713		pg/L	0.713	50.6
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.11		pg/L	1.11	50.6
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	3.38	6.24	pg/L	2.07	50.6
30402-14-3	Total Tetrachlorodibenzofuran	U	.81		pg/L	0.810	10.1
30402-15-4	Total Pentachlorodibenzofuran	U	513		pg/L	0.513	50.6
55684-94-1	Total Hexachlorodibenzofuran	U	.551		pg/L	0.551	50.6
38998-75-3	Total Heptachlorodibenzofuran	U	.401		pg/L	0.401	50.6
3333-30-0	TEQ WHO2005 ND=0		0.0169	0.0455	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.21	1.23	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1640	2030	pg/L	80.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		1720	2030	pg/L	84.9	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1580	2030	pg/L	77.9	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1560	2030	pg/L	77.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1780	2030	pg/L	87.7	(23%-140%)
13C-OCDD		3420	4050	pg/L	84.4	(17%-157%)
13C-2,3,7,8-TCDF		1810	2030	pg/L	89.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		1830	2030	pg/L	90.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		1750	2030	pg/L	86.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1520	2030	pg/L	75.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1590	2030	pg/L	78.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1610	2030	pg/L	79.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1570	2030	pg/L	77.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254
Lab Sample ID: 6254004
Client Sample: 1613B Water
Client ID: LFSW03
Batch ID: 26223
Run Date: 06/24/2014 22:45
Data File: A23JUN14A_4-11
Prep Batch: 26220
Prep Date: 20-JUN-14

Client: TRCC001
Date Collected: 06/17/2014 10:20
Date Received: 06/18/2014 10:50
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3520C
Prep Aliquot: 982.2 mL

Project: TRCC00314
Matrix: WATER
Prep Basis: As Received
Instrument: HRP750
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.1		pg/L	1.10	10.2
40321-76-4	1,2,3,7,8-PeCDD	U	.916		pg/L	0.916	50.9
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.5		pg/L	1.50	50.9
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.46		pg/L	1.46	50.9
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.57		pg/L	1.57	50.9
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	4.26		pg/L	3.01	50.9
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	95.6		pg/L	5.93	102
51207-31-9	2,3,7,8-TCDF	U	1.12		pg/L	1.12	10.2
57117-41-6	1,2,3,7,8-PeCDF	U	.926		pg/L	0.926	50.9
57117-31-4	2,3,4,7,8-PeCDF	U	.874		pg/L	0.874	50.9
70648-26-9	1,2,3,4,7,8-HxCDF	U	.593		pg/L	0.593	50.9
57117-44-9	1,2,3,6,7,8-HxCDF	U	.586		pg/L	0.586	50.9
60851-34-5	2,3,4,6,7,8-HxCDF	U	.593		pg/L	0.593	50.9
72918-21-9	1,2,3,7,8,9-HxCDF	U	.882		pg/L	0.882	50.9
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.627		pg/L	0.627	50.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.03		pg/L	1.03	50.9
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.44		pg/L	2.44	102
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.1		pg/L	1.10	10.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.916		pg/L	0.916	50.9
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.46		pg/L	1.46	50.9
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	10.3		pg/L	3.01	50.9
30402-14-3	Total Tetrachlorodibenzofuran	U	1.12		pg/L	1.12	10.2
30402-15-4	Total Pentachlorodibenzofuran	U	.751		pg/L	0.751	50.9
55684-94-1	Total Hexachlorodibenzofuran	U	.586		pg/L	0.586	50.9
38998-75-3	Total Heptachlorodibenzofuran	U	.627		pg/L	0.627	50.9
3333-30-0	TEQ WHO2005 ND=0		0.0712	0.0712	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.65	1.65	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1470	2040	pg/L	72.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		1650	2040	pg/L	80.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1560	2040	pg/L	76.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1550	2040	pg/L	76.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1740	2040	pg/L	85.4	(23%-140%)
13C-OCDD		3150	4070	pg/L	77.4	(17%-157%)
13C-2,3,7,8-TCDF		1620	2040	pg/L	79.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		1740	2040	pg/L	85.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		1770	2040	pg/L	87.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1510	2040	pg/L	74.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1590	2040	pg/L	78.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1610	2040	pg/L	79.0	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1490	2040	pg/L	73.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260001
 Client Sample: 1613B Water
 Client ID: YFSW01
 Batch ID: 26223
 Run Date: 06/24/2014 19:32
 Data File: A23JUN14A_4-7
 Prep Batch: 26220
 Prep Date: 20-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 14:40
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3520C
 Prep Aliquot: 985.2 mL

Project: TRCC00314
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP750
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.03		pg/L	1.03	10.2
40321-76-4	1,2,3,7,8-PeCDD	U	1.21		pg/L	1.21	50.8
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.93		pg/L	1.93	50.8
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.97		pg/L	1.97	50.8
19408-74-3	1,2,3,7,8,9-HxCDD	U	2.07		pg/L	2.07	50.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	12.5		pg/L	2.50	50.8
3268-87-9	1,2,3,4,6,7,8,9-OCDD		173		pg/L	7.75	102
51207-31-9	2,3,7,8-TCDF	U	1.14		pg/L	1.14	10.2
57117-41-6	1,2,3,7,8-PeCDF	U	.897		pg/L	0.897	50.8
57117-31-4	2,3,4,7,8-PeCDF	JK u ✓		1.20	pg/L	0.899	50.8
70648-26-9	1,2,3,4,7,8-HxCDF	U	1.34		pg/L	1.34	50.8
57117-44-9	1,2,3,6,7,8-HxCDF	JK u ✓		1.30	pg/L	1.25	50.8
60851-34-5	2,3,4,6,7,8-HxCDF	U	1.34		pg/L	1.34	50.8
72918-21-9	1,2,3,7,8,9-HxCDF	J u ✓	1.99		pg/L	1.91	50.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK u ✓		2.68	pg/L	1.21	50.8
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.94		pg/L	1.94	50.8
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J u ✓	7.39		pg/L	3.82	102
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.03		pg/L	1.03	10.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	1.21		pg/L	1.21	50.8
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.93		pg/L	1.93	50.8
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	26.3		pg/L	2.50	50.8
30402-14-3	Total Tetrachlorodibenzofuran	U	1.14		pg/L	1.14	10.2
30402-15-4	Total Pentachlorodibenzofuran	U	.641	1.20	pg/L	0.641	50.8
55684-94-1	Total Hexachlorodibenzofuran	J	1.99	3.29	pg/L	1.25	50.8
38998-75-3	Total Heptachlorodibenzofuran	J	2.13	4.81	pg/L	1.21	50.8
3333-30-0	TEQ WHO2005 ND=0		0.378	0.894	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		2.21	2.53	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1480	2030	pg/L	73.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		1650	2030	pg/L	81.5	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1470	2030	pg/L	72.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1610	2030	pg/L	79.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1710	2030	pg/L	84.4	(23%-140%)
13C-OCDD		3250	4060	pg/L	80.0	(17%-157%)
13C-2,3,7,8-TCDF		1680	2030	pg/L	82.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		1790	2030	pg/L	88.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		1750	2030	pg/L	86.1	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1490	2030	pg/L	73.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1520	2030	pg/L	75.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1590	2030	pg/L	78.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1510	2030	pg/L	74.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260002
 Client Sample: 1613B Water
 Client ID: YFSW02
 Batch ID: 26223
 Run Date: 06/24/2014 20:20
 Data File: A23JUN14A_4-8
 Prep Batch: 26220
 Prep Date: 20-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 15:00
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3520C
 Prep Aliquot: 991.9 mL

Project: TRCC00314
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP750
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.05		pg/L	1.05	10.1
40321-76-4	1,2,3,7,8-PeCDD	U	.962		pg/L	0.962	50.4
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.3		pg/L	1.30	50.4
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.34		pg/L	1.34	50.4
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.4		pg/L	1.40	50.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK U ✓	3.61	3.61	pg/L	2.08	50.4
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	46.8		pg/L	5.30	101
51207-31-9	2,3,7,8-TCDF	U	1.03		pg/L	1.03	10.1
57117-41-6	1,2,3,7,8-PeCDF	U	.879		pg/L	0.879	50.4
57117-31-4	2,3,4,7,8-PeCDF	U	.841		pg/L	0.841	50.4
70648-26-9	1,2,3,4,7,8-HxCDF	U	.657		pg/L	0.657	50.4
57117-44-9	1,2,3,6,7,8-HxCDF	U	.625		pg/L	0.625	50.4
60851-34-5	2,3,4,6,7,8-HxCDF	U	.633		pg/L	0.633	50.4
72918-21-9	1,2,3,7,8,9-HxCDF	U	.917		pg/L	0.917	50.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.803		pg/L	0.803	50.4
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.24		pg/L	1.24	50.4
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.62		pg/L	2.62	101
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.05		pg/L	1.05	10.1
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.962		pg/L	0.962	50.4
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.3		pg/L	1.30	50.4
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	2.08	6.59	pg/L	2.08	50.4
30402-14-3	Total Tetrachlorodibenzofuran	U	1.03		pg/L	1.03	10.1
30402-15-4	Total Pentachlorodibenzofuran	U	.728		pg/L	0.728	50.4
55684-94-1	Total Hexachlorodibenzofuran	U	.625		pg/L	0.625	50.4
38998-75-3	Total Heptachlorodibenzofuran	U	.803		pg/L	0.803	50.4
3333-30-0	TEQ WHO2005 ND=0		0.014	0.0501	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.57	1.60	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1330	2020	pg/L	66.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		1610	2020	pg/L	79.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1420	2020	pg/L	70.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1570	2020	pg/L	78.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1770	2020	pg/L	87.9	(23%-140%)
13C-OCDD		3290	4030	pg/L	81.6	(17%-157%)
13C-2,3,7,8-TCDF		1470	2020	pg/L	72.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		1690	2020	pg/L	84.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		1670	2020	pg/L	82.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1370	2020	pg/L	68.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1520	2020	pg/L	75.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1500	2020	pg/L	74.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1450	2020	pg/L	72.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260003
 Client Sample: 1613B Water
 Client ID: CPSW01
 Batch ID: 26223
 Run Date: 06/24/2014 21:08
 Data File: A23JUN14A_4-9
 Prep Batch: 26220
 Prep Date: 20-JUN-14

Client: TRCC001
 Date Collected: 06/18/2014 11:00
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3520C
 Prep Aliquot: 935.6 mL

Project: TRCC00314
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP750
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.64		pg/L	1.64	10.7
40321-76-4	1,2,3,7,8-PeCDD	U	1.49		pg/L	1.49	53.4
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.53		pg/L	1.53	53.4
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.49		pg/L	1.49	53.4
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.6		pg/L	1.60	53.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	1.75		pg/L	1.75	53.4
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	18.6		pg/L	4.70	107
51207-31-9	2,3,7,8-TCDF	U	1.31		pg/L	1.31	10.7
57117-41-6	1,2,3,7,8-PeCDF	U	.836		pg/L	0.836	53.4
57117-31-4	2,3,4,7,8-PeCDF	U	.84		pg/L	0.840	53.4
70648-26-9	1,2,3,4,7,8-HxCDF	U	.789		pg/L	0.789	53.4
57117-44-9	1,2,3,6,7,8-HxCDF	U	.74		pg/L	0.740	53.4
60851-34-5	2,3,4,6,7,8-HxCDF	U	.821		pg/L	0.821	53.4
72918-21-9	1,2,3,7,8,9-HxCDF	U	1.24		pg/L	1.24	53.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.669		pg/L	0.669	53.4
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.11		pg/L	1.11	53.4
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	3.23		pg/L	3.23	107
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.64		pg/L	1.64	10.7
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	1.49		pg/L	1.49	53.4
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.49		pg/L	1.49	53.4
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	2.20		pg/L	1.75	53.4
30402-14-3	Total Tetrachlorodibenzofuran	U	1.31		pg/L	1.31	10.7
30402-15-4	Total Pentachlorodibenzofuran	U	.797		pg/L	0.797	53.4
55684-94-1	Total Hexachlorodibenzofuran	U	.74		pg/L	0.740	53.4
38998-75-3	Total Heptachlorodibenzofuran	U	.669		pg/L	0.669	53.4
3333-30-0	TEQ WHO2005 ND=0		0.00557	0.00557	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		2.20	2.20	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1300	2140	pg/L	60.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		1640	2140	pg/L	76.6	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1390	2140	pg/L	64.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1620	2140	pg/L	75.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1700	2140	pg/L	79.7	(23%-140%)
13C-OCDD		3260	4280	pg/L	76.2	(17%-157%)
13C-2,3,7,8-TCDF		1490	2140	pg/L	69.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		1660	2140	pg/L	77.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		1650	2140	pg/L	77.1	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1410	2140	pg/L	65.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1540	2140	pg/L	72.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1510	2140	pg/L	70.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1450	2140	pg/L	67.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260004
 Client Sample: 1613B Water
 Client ID: CPSW02
 Batch ID: 26223
 Run Date: 06/24/2014 21:56
 Data File: A23JUN14A_4-10
 Prep Batch: 26220
 Prep Date: 20-JUN-14

Client: TRCC001
 Date Collected: 06/18/2014 11:30
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3520C
 Prep Aliquot: 948.6 mL

Project: TRCC00314
 Matrix: WATER
 Prep Basis: As Received
 Instrument: HRP750
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.26		pg/L	1.26	10.5
40321-76-4	1,2,3,7,8-PeCDD	U	.915		pg/L	0.915	52.7
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.5		pg/L	1.50	52.7
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.5		pg/L	1.50	52.7
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.59		pg/L	1.59	52.7
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK U ✓		2.17	pg/L	1.81	52.7
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	31.5		pg/L	4.53	105
51207-31-9	2,3,7,8-TCDF	U	1.3		pg/L	1.30	10.5
57117-41-6	1,2,3,7,8-PeCDF	U	.826		pg/L	0.826	52.7
57117-31-4	2,3,4,7,8-PeCDF	U	.816		pg/L	0.816	52.7
70648-26-9	1,2,3,4,7,8-HxCDF	U	.687		pg/L	0.687	52.7
57117-44-9	1,2,3,6,7,8-HxCDF	U	.687		pg/L	0.687	52.7
60851-34-5	2,3,4,6,7,8-HxCDF	U	.719		pg/L	0.719	52.7
72918-21-9	1,2,3,7,8,9-HxCDF	U	.98		pg/L	0.980	52.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.869		pg/L	0.869	52.7
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.43		pg/L	1.43	52.7
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.93		pg/L	2.93	105
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.26		pg/L	1.26	10.5
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.915		pg/L	0.915	52.7
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.5		pg/L	1.50	52.7
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	1.81	5.33	pg/L	1.81	52.7
30402-14-3	Total Tetrachlorodibenzofuran	U	1.3		pg/L	1.30	10.5
30402-15-4	Total Pentachlorodibenzofuran	U	.816		pg/L	0.816	52.7
55684-94-1	Total Hexachlorodibenzofuran	U	.687		pg/L	0.687	52.7
38998-75-3	Total Heptachlorodibenzofuran	U	.869		pg/L	0.869	52.7
3333-30-0	TEQ WHO2005 ND=0		0.00944	0.0312	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.70	1.71	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1490	2110	pg/L	70.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		1860	2110	pg/L	88.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1550	2110	pg/L	73.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1690	2110	pg/L	80.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1780	2110	pg/L	84.3	(23%-140%)
13C-OCDD		3260	4220	pg/L	77.2	(17%-157%)
13C-2,3,7,8-TCDF		1790	2110	pg/L	84.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		1920	2110	pg/L	91.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		1920	2110	pg/L	91.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1540	2110	pg/L	72.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1700	2110	pg/L	80.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1640	2110	pg/L	77.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1590	2110	pg/L	75.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254001	Date Collected: 06/17/2014 09:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	Prep Basis: As Received
Client ID: EB01	Method: EPA Method 1613B	Instrument: HRP750
Batch ID: 26223	Analyst: JTF	Dilution: 1
Run Date: 06/24/2014 12:57	Prep Method: SW846 3520C	
Data File: A23JUN14A_3-11	Prep Aliquot: 904.4 mL	
Prep Batch: 26220		
Prep Date: 20-JUN-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.818		pg/L	0.818	11.1
40321-76-4	1,2,3,7,8-PeCDD	U	.889		pg/L	0.889	55.3
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.14		pg/L	1.14	55.3
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.17		pg/L	1.17	55.3
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.23		pg/L	1.23	55.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	1.41		pg/L	1.41	55.3
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK U ✓	1.41	9.84	pg/L	4.36	111
51207-31-9	2,3,7,8-TCDF	U	1.01		pg/L	1.01	11.1
57117-41-6	1,2,3,7,8-PeCDF	U	.809		pg/L	0.809	55.3
57117-31-4	2,3,4,7,8-PeCDF	U	.803		pg/L	0.803	55.3
70648-26-9	1,2,3,4,7,8-HxCDF	U	.579		pg/L	0.579	55.3
57117-44-9	1,2,3,6,7,8-HxCDF	U	.573		pg/L	0.573	55.3
60851-34-5	2,3,4,6,7,8-HxCDF	U	.568		pg/L	0.568	55.3
72918-21-9	1,2,3,7,8,9-HxCDF	U	.871		pg/L	0.871	55.3
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.845		pg/L	0.845	55.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.42		pg/L	1.42	55.3
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.45		pg/L	2.45	111
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.818		pg/L	0.818	11.1
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.889		pg/L	0.889	55.3
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.14		pg/L	1.14	55.3
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	1.41		pg/L	1.41	55.3
30402-14-3	Total Tetrachlorodibenzofuran	J	1.28		pg/L	1.01	11.1
30402-15-4	Total Pentachlorodibenzofuran	U	.803		pg/L	0.803	55.3
55684-94-1	Total Hexachlorodibenzofuran	U	.568		pg/L	0.568	55.3
38998-75-3	Total Heptachlorodibenzofuran	U	.845		pg/L	0.845	55.3
3333-30-0	TEQ WHO2005 ND=0		0.00	0.00295	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.36	1.36	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1780	2210	pg/L	80.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		1990	2210	pg/L	90.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1810	2210	pg/L	81.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1750	2210	pg/L	79.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1840	2210	pg/L	83.0	(23%-140%)
13C-OCDD		3490	4420	pg/L	79.0	(17%-157%)
13C-2,3,7,8-TCDF		1950	2210	pg/L	88.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		2080	2210	pg/L	94.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		2050	2210	pg/L	92.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1740	2210	pg/L	78.7	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1790	2210	pg/L	81.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1840	2210	pg/L	83.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1720	2210	pg/L	77.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254005	Date Collected: 06/17/2014 10:00	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 47.3
Client ID: LFS001		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/11/2014 03:22	Analyst: JTF	Instrument: HRP763
Data File: b09jul14a_5-6		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 19.41 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.371		pg/g	0.371	0.977
40321-76-4	1,2,3,7,8-PeCDD	U	.342		pg/g	0.342	4.89
39227-28-6	1,2,3,4,7,8-HxCDD	U	.688		pg/g	0.688	4.89
57653-85-7	1,2,3,6,7,8-HxCDD	U	.651		pg/g	0.651	4.89
19408-74-3	1,2,3,7,8,9-HxCDD	U	.706		pg/g	0.706	4.89
35822-46-9	1,2,3,4,6,7,8-HpCDD		12.2		pg/g	1.09	4.89
3268-87-9	1,2,3,4,6,7,8,9-OCDD		835		pg/g	4.53	9.77
51207-31-9	2,3,7,8-TCDF	U	.315		pg/g	0.315	0.977
57117-41-6	1,2,3,7,8-PeCDF	U	.252		pg/g	0.252	4.89
57117-31-4	2,3,4,7,8-PeCDF	U	.211		pg/g	0.211	4.89
70648-26-9	1,2,3,4,7,8-HxCDF	U	.233		pg/g	0.233	4.89
57117-44-9	1,2,3,6,7,8-HxCDF	U	.197		pg/g	0.197	4.89
60851-34-5	2,3,4,6,7,8-HxCDF	U	.225		pg/g	0.225	4.89
72918-21-9	1,2,3,7,8,9-HxCDF	U	.356		pg/g	0.356	4.89
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.485		pg/g	0.246	4.89
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.414		pg/g	0.414	4.89
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	1.22		pg/g	0.893	9.77
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.371		pg/g	0.371	0.977
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.788		pg/g	0.342	4.89
34465-46-8	Total Hexachlorodibenzo-p-dioxin		5.51		pg/g	0.651	4.89
37871-00-4	Total Heptachlorodibenzo-p-dioxin		41.4		pg/g	1.09	4.89
30402-14-3	Total Tetrachlorodibenzofuran	U	.315	0.397	pg/g	0.315	0.977
30402-15-4	Total Pentachlorodibenzofuran	U	.184	0.311	pg/g	0.184	4.89
55684-94-1	Total Hexachlorodibenzofuran	U	.197	0.389	pg/g	0.197	4.89
38998-75-3	Total Heptachlorodibenzofuran	J	0.979		pg/g	0.246	4.89
3333-30-0	TEQ WHO2005 ND=0		0.378	0.378	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.941	0.941	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		161	195	pg/g	82.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		176	195	pg/g	90.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		129	195	pg/g	66.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		150	195	pg/g	76.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		170	195	pg/g	86.9	(23%-140%)
13C-OCDD		296	391	pg/g	75.7	(17%-157%)
13C-2,3,7,8-TCDF		191	195	pg/g	97.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		184	195	pg/g	93.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		207	195	pg/g	106	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		145	195	pg/g	74.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		192	195	pg/g	98.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	195	pg/g	90.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		166	195	pg/g	85.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254
 Lab Sample ID: 6254006
 Client Sample: 1613B Soil
 Client ID: LFSD02
 Batch ID: 26255
 Run Date: 07/07/2014 21:21
 Data File: b07jul14a-9
 Prep Batch: 26253
 Prep Date: 24-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 10:45
 Date Received: 06/18/2014 10:50
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 16.44 g

Project: TRCC00314
 Matrix: SOLID
 %Moisture: 39.1
 Prep Basis: Dry Weight
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.377		pg/g	0.377	0.998
40321-76-4	1,2,3,7,8-PeCDD	U	.339		pg/g	0.339	4.99
39227-28-6	1,2,3,4,7,8-HxCDD	JK J ✓	0.611	0.611	pg/g	0.425	4.99
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.894		pg/g	0.449	4.99
19408-74-3	1,2,3,7,8,9-HxCDD	J	1.05		pg/g	0.465	4.99
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	32.7		pg/g	0.888	4.99
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1750		pg/g	2.04	9.98
51207-31-9	2,3,7,8-TCDF	J	0.401		pg/g	0.297	0.998
57117-41-6	1,2,3,7,8-PeCDF	J U ✓	0.188		pg/g	0.157	4.99
57117-31-4	2,3,4,7,8-PeCDF	U	.137		pg/g	0.137	4.99
70648-26-9	1,2,3,4,7,8-HxCDF	U	.238		pg/g	0.238	4.99
57117-44-9	1,2,3,6,7,8-HxCDF	U	.208		pg/g	0.208	4.99
60851-34-5	2,3,4,6,7,8-HxCDF	U	.23		pg/g	0.230	4.99
72918-21-9	1,2,3,7,8,9-HxCDF	U	.317		pg/g	0.317	4.99
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	1.00		pg/g	0.301	4.99
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.455		pg/g	0.455	4.99
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK J ✓	1.70	1.70	pg/g	0.595	9.98
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.377		pg/g	0.377	0.998
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.339	1.76	pg/g	0.339	4.99
34465-46-8	Total Hexachlorodibenzo-p-dioxin		14.7	15.3	pg/g	0.425	4.99
37871-00-4	Total Heptachlorodibenzo-p-dioxin		92.7		pg/g	0.888	4.99
30402-14-3	Total Tetrachlorodibenzofuran	J	0.401	0.803	pg/g	0.297	0.998
30402-15-4	Total Pentachlorodibenzofuran	J	0.188	1.16	pg/g	0.137	4.99
55684-94-1	Total Hexachlorodibenzofuran	J	0.309	1.26	pg/g	0.208	4.99
38998-75-3	Total Heptachlorodibenzofuran	J	1.69		pg/g	0.301	4.99
3333-30-0	TEQ WHO2005 ND=0		1.10	1.16	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		1.55	1.59	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		159	200	pg/g	79.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		169	200	pg/g	84.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	200	pg/g	83.0	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	200	pg/g	75.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		206	200	pg/g	103	(23%-140%)
13C-OCDD		418	399	pg/g	105	(17%-157%)
13C-2,3,7,8-TCDF		185	200	pg/g	92.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		173	200	pg/g	86.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		193	200	pg/g	96.7	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		182	200	pg/g	91.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		184	200	pg/g	92.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		184	200	pg/g	92.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		196	200	pg/g	98.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254
 Lab Sample ID: 6254007
 Client Sample: 1613B Soil
 Client ID: LFSD03
 Batch ID: 26255
 Run Date: 07/07/2014 20:33
 Data File: b07jul14a-8
 Prep Batch: 26253
 Prep Date: 24-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 10:45
 Date Received: 06/18/2014 10:50
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 20.4 g

Project: TRCC00314
 Matrix: SOLID
 %Moisture: 50.3
 Prep Basis: Dry Weight
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.286		pg/g	0.286	0.986
40321-76-4	1,2,3,7,8-PeCDD	J	0.424		pg/g	0.278	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	JK ✓	0.889	0.889	pg/g	0.365	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	J	1.57		pg/g	0.355	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	J	2.35		pg/g	0.381	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	60.3		pg/g	1.14	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	3130		pg/g	2.52	9.86
51207-31-9	2,3,7,8-TCDF	J	0.418		pg/g	0.331	0.986
57117-41-6	1,2,3,7,8-PeCDF	JK ✓	0.256	0.256	pg/g	0.229	4.93
57117-31-4	2,3,4,7,8-PeCDF	JK ✓	0.272	0.272	pg/g	0.187	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.250		pg/g	0.221	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	JK ✓	0.274	0.274	pg/g	0.203	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.317		pg/g	0.225	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.312		pg/g	0.312	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.21		pg/g	0.219	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.347		pg/g	0.347	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	3.00		pg/g	0.481	9.86
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.286		pg/g	0.286	0.986
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	2.04	3.41	pg/g	0.278	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin		17.2	26.6	pg/g	0.355	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin		182		pg/g	1.14	4.93
30402-14-3	Total Tetrachlorodibenzofuran		1.70	2.96	pg/g	0.331	0.986
30402-15-4	Total Pentachlorodibenzofuran	J	1.45	3.50	pg/g	0.106	4.93
55684-94-1	Total Hexachlorodibenzofuran	J	2.81	3.36	pg/g	0.203	4.93
38998-75-3	Total Heptachlorodibenzofuran	J	3.66		pg/g	0.219	4.93
3333-30-0	TEQ WHO2005 ND=0		2.48	2.69	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		2.70	2.85	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		165	197	pg/g	83.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		184	197	pg/g	93.5	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		159	197	pg/g	80.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		155	197	pg/g	78.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		186	197	pg/g	94.4	(23%-140%)
13C-OCDD		433	394	pg/g	110	(17%-157%)
13C-2,3,7,8-TCDF		193	197	pg/g	98.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		183	197	pg/g	92.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		206	197	pg/g	105	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		167	197	pg/g	84.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	197	pg/g	89.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	197	pg/g	89.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		182	197	pg/g	92.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260005
 Client Sample: 1613B Soil
 Client ID: YFSD01
 Batch ID: 26255
 Run Date: 06/28/2014 08:02
 Data File: b27jun14a_2-8
 Prep Batch: 26253
 Prep Date: 24-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 14:45
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 19.25 g

Project: TRCC00314
 Matrix: SOLID
 %Moisture: 47.5
 Prep Basis: Dry Weight
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.168		pg/g	0.168	0.990
40321-76-4	1,2,3,7,8-PeCDD	U	.166		pg/g	0.166	4.95
39227-28-6	1,2,3,4,7,8-HxCDD	JK J ✓		0.335	pg/g	0.275	4.95
57653-85-7	1,2,3,6,7,8-HxCDD	JK J ✓		0.519	pg/g	0.261	4.95
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.897		pg/g	0.285	4.95
35822-46-9	1,2,3,4,6,7,8-HpCDD		18.7		pg/g	0.402	4.95
3268-87-9	1,2,3,4,6,7,8,9-OCDD		541		pg/g	0.844	9.90
51207-31-9	2,3,7,8-TCDF	J	0.232		pg/g	0.160	0.990
57117-41-6	1,2,3,7,8-PeCDF	J U ✓	0.105		pg/g	0.0893	4.95
57117-31-4	2,3,4,7,8-PeCDF	JK U ✓		0.133	pg/g	0.0846	4.95
70648-26-9	1,2,3,4,7,8-HxCDF	U	.125		pg/g	0.125	4.95
57117-44-9	1,2,3,6,7,8-HxCDF	JK J ✓		0.230	pg/g	0.118	4.95
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.232		pg/g	0.125	4.95
72918-21-9	1,2,3,7,8,9-HxCDF	U	.184		pg/g	0.184	4.95
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.06		pg/g	0.132	4.95
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.226		pg/g	0.226	4.95
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	5.72		pg/g	0.384	9.90
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.168		pg/g	0.168	0.990
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.723	1.04	pg/g	0.166	4.95
34465-46-8	Total Hexachlorodibenzo-p-dioxin		7.57	8.42	pg/g	0.261	4.95
37871-00-4	Total Heptachlorodibenzo-p-dioxin		47.7		pg/g	0.402	4.95
30402-14-3	Total Tetrachlorodibenzofuran	J	0.402		pg/g	0.160	0.990
30402-15-4	Total Pentachlorodibenzofuran	J	0.864	1.19	pg/g	0.0487	4.95
55684-94-1	Total Hexachlorodibenzofuran	J	1.40	2.61	pg/g	0.118	4.95
38998-75-3	Total Heptachlorodibenzofuran		5.78		pg/g	0.132	4.95
3333-30-0	TEQ WHO2005 ND=0		0.511	0.659	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.740	0.843	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		155	198	pg/g	78.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		160	198	pg/g	80.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		168	198	pg/g	84.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		157	198	pg/g	79.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		180	198	pg/g	90.8	(23%-140%)
13C-OCDD		336	396	pg/g	84.7	(17%-157%)
13C-2,3,7,8-TCDF		173	198	pg/g	87.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		166	198	pg/g	83.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		176	198	pg/g	89.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		172	198	pg/g	87.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		164	198	pg/g	82.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		169	198	pg/g	85.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	198	pg/g	84.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260006
 Client Sample: 1613B Soil
 Client ID: YFSD02
 Batch ID: 26255
 Run Date: 06/28/2014 08:50
 Data File: b27jun14a_2-9
 Prep Batch: 26253
 Prep Date: 24-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 15:05
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 21.6 g

Project: TRCC00314
 Matrix: SOLID
 %Moisture: 51.4
 Prep Basis: Dry Weight
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.16		pg/g	0.160	0.952
40321-76-4	1,2,3,7,8-PeCDD	JK ✓		0.187	pg/g	0.134	4.76
39227-28-6	1,2,3,4,7,8-HxCDD	JK ✓		0.322	pg/g	0.196	4.76
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.724		pg/g	0.204	4.76
19408-74-3	1,2,3,7,8,9-HxCDD	J	1.37		pg/g	0.213	4.76
35822-46-9	1,2,3,4,6,7,8-HpCDD		24.0		pg/g	0.419	4.76
3268-87-9	1,2,3,4,6,7,8,9-OCDD		610		pg/g	0.988	9.52
51207-31-9	2,3,7,8-TCDF	J	0.213		pg/g	0.176	0.952
57117-41-6	1,2,3,7,8-PeCDF	U	.138		pg/g	0.138	4.76
57117-31-4	2,3,4,7,8-PeCDF	U	.128		pg/g	0.128	4.76
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.189		pg/g	0.167	4.76
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.261		pg/g	0.159	4.76
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.272		pg/g	0.166	4.76
72918-21-9	1,2,3,7,8,9-HxCDF	U	.253		pg/g	0.253	4.76
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.76		pg/g	0.123	4.76
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.204		pg/g	0.204	4.76
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	7.47		pg/g	0.642	9.52
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.301		pg/g	0.160	0.952
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	1.42	2.00	pg/g	0.134	4.76
34465-46-8	Total Hexachlorodibenzo-p-dioxin		11.0	11.4	pg/g	0.196	4.76
37871-00-4	Total Heptachlorodibenzo-p-dioxin		62.2		pg/g	0.419	4.76
30402-14-3	Total Tetrachlorodibenzofuran	J	0.638	0.863	pg/g	0.176	0.952
30402-15-4	Total Pentachlorodibenzofuran	J	1.28		pg/g	0.0598	4.76
55684-94-1	Total Hexachlorodibenzofuran	J	3.87		pg/g	0.159	4.76
38998-75-3	Total Heptachlorodibenzofuran		7.75		pg/g	0.123	4.76
3333-30-0	TEQ WHO2005 ND=0		0.756	0.975	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.948	1.09	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		159	190	pg/g	83.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		158	190	pg/g	83.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		171	190	pg/g	89.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		153	190	pg/g	80.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		173	190	pg/g	90.7	(23%-140%)
13C-OCDD		313	381	pg/g	82.2	(17%-157%)
13C-2,3,7,8-TCDF		175	190	pg/g	92.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		160	190	pg/g	84.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		175	190	pg/g	92.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		169	190	pg/g	89.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		165	190	pg/g	86.7	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		169	190	pg/g	88.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		156	190	pg/g	82.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
Lab Sample ID: 6260007
Client Sample: 1613B Soil
Client ID: CPSD01
Batch ID: 26255
Run Date: 06/28/2014 09:37
Data File: b27jun14a_2-10
Prep Batch: 26253
Prep Date: 24-JUN-14

Client: TRCC001
Date Collected: 06/18/2014 11:15
Date Received: 06/19/2014 10:05
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3540C
Prep Aliquot: 15.89 g

Project: TRCC00314
Matrix: SOLID
%Moisture: 32.1
Prep Basis: Dry Weight
Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.134		pg/g	0.134	0.926
40321-76-4	1,2,3,7,8-PeCDD	JK U ✓		0.119	pg/g	0.113	4.63
39227-28-6	1,2,3,4,7,8-HxCDD	U	.164		pg/g	0.164	4.63
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.319		pg/g	0.169	4.63
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.309		pg/g	0.176	4.63
35822-46-9	1,2,3,4,6,7,8-HpCDD		11.8		pg/g	0.367	4.63
3268-87-9	1,2,3,4,6,7,8,9-OCDD		767		pg/g	0.799	9.26
51207-31-9	2,3,7,8-TCDF	J	0.148		pg/g	0.118	0.926
57117-41-6	1,2,3,7,8-PeCDF	U	.0926		pg/g	0.0926	4.63
57117-31-4	2,3,4,7,8-PeCDF	U	.0849		pg/g	0.0849	4.63
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0852		pg/g	0.0852	4.63
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0856		pg/g	0.0856	4.63
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0889		pg/g	0.0889	4.63
72918-21-9	1,2,3,7,8,9-HxCDF	U	.127		pg/g	0.127	4.63
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.330		pg/g	0.141	4.63
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.243		pg/g	0.243	4.63
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK J ✓		0.447	pg/g	0.341	9.26
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.204		pg/g	0.134	0.926
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.454	0.823	pg/g	0.113	4.63
34465-46-8	Total Hexachlorodibenzo-p-dioxin		5.87		pg/g	0.164	4.63
37871-00-4	Total Heptachlorodibenzo-p-dioxin		32.8		pg/g	0.367	4.63
30402-14-3	Total Tetrachlorodibenzofuran	J	0.313		pg/g	0.118	0.926
30402-15-4	Total Pentachlorodibenzofuran	J	0.371		pg/g	0.0409	4.63
55684-94-1	Total Hexachlorodibenzofuran	U	.0852	0.372	pg/g	0.0852	4.63
38998-75-3	Total Heptachlorodibenzofuran	J	0.330		pg/g	0.141	4.63
3333-30-0	TEQ WHO2005 ND=0		0.429	0.548	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.596	0.658	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		148	185	pg/g	80.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		152	185	pg/g	81.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		170	185	pg/g	91.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	185	pg/g	81.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		173	185	pg/g	93.4	(23%-140%)
13C-OCDD		322	371	pg/g	86.8	(17%-157%)
13C-2,3,7,8-TCDF		160	185	pg/g	86.6	(24%-169%)
13C-1,2,3,7,8-PeCDF		156	185	pg/g	84.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		168	185	pg/g	90.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		171	185	pg/g	92.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		164	185	pg/g	88.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		168	185	pg/g	90.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	185	pg/g	89.9	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
Lab Sample ID: 6260008
Client Sample: 1613B Soil
Client ID: CPSD02
Batch ID: 26255
Run Date: 06/27/2014 22:21
Data File: b27jun14a-11
Prep Batch: 26253
Prep Date: 24-JUN-14

Client: TRCC001
Date Collected: 06/18/2014 11:45
Date Received: 06/19/2014 10:05
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3540C
Prep Aliquot: 14.89 g

Project: TRCC00314
Matrix: SOLID
%Moisture: 30.4
Prep Basis: Dry Weight
Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.222		pg/g	0.222	0.965
40321-76-4	1,2,3,7,8-PeCDD	U	.336		pg/g	0.336	4.82
39227-28-6	1,2,3,4,7,8-HxCDD	U	.425		pg/g	0.425	4.82
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.486		pg/g	0.411	4.82
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.780		pg/g	0.442	4.82
35822-46-9	1,2,3,4,6,7,8-HpCDD		30.9		pg/g	0.602	4.82
3268-87-9	1,2,3,4,6,7,8,9-OCDD		2260		pg/g	1.32	9.65
51207-31-9	2,3,7,8-TCDF	U	.128		pg/g	0.128	0.965
57117-41-6	1,2,3,7,8-PeCDF	J U	0.108		pg/g	0.0766	4.82
57117-31-4	2,3,4,7,8-PeCDF	JK U		0.135	pg/g	0.0693	4.82
70648-26-9	1,2,3,4,7,8-HxCDF	J U	0.114		pg/g	0.104	4.82
57117-44-9	1,2,3,6,7,8-HxCDF	JK U		0.104	pg/g	0.103	4.82
60851-34-5	2,3,4,6,7,8-HxCDF	U	.112		pg/g	0.112	4.82
72918-21-9	1,2,3,7,8,9-HxCDF	U	.158		pg/g	0.158	4.82
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK J		0.351	pg/g	0.118	4.82
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.205		pg/g	0.205	4.82
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	0.454		pg/g	0.344	9.65
41903-57-5	Total Tetrachlorodibenzo-p-dioxin		18.2	18.6	pg/g	0.222	0.965
36088-22-9	Total Pentachlorodibenzo-p-dioxin		95.4		pg/g	0.336	4.82
34465-46-8	Total Hexachlorodibenzo-p-dioxin		700		pg/g	0.411	4.82
37871-00-4	Total Heptachlorodibenzo-p-dioxin		238		pg/g	0.602	4.82
30402-14-3	Total Tetrachlorodibenzofuran	U	.128		pg/g	0.128	0.965
30402-15-4	Total Pentachlorodibenzofuran	J	0.220	0.481	pg/g	0.0384	4.82
55684-94-1	Total Hexachlorodibenzofuran	J	0.623	0.728	pg/g	0.103	4.82
38998-75-3	Total Heptachlorodibenzofuran	U	.118	0.351	pg/g	0.118	4.82
3333-30-0	TEQ WHO2005 ND=0		1.13	1.18	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		1.47	1.50	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		162	193	pg/g	83.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		169	193	pg/g	87.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		174	193	pg/g	90.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		167	193	pg/g	86.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		183	193	pg/g	94.8	(23%-140%)
13C-OCDD		374	386	pg/g	96.9	(17%-157%)
13C-2,3,7,8-TCDF		176	193	pg/g	91.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		173	193	pg/g	89.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		187	193	pg/g	96.7	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		189	193	pg/g	98.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	193	pg/g	91.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	193	pg/g	93.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	193	pg/g	92.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260009
 Client Sample: 1613B Solid
 Client ID: LFH01
 Batch ID: 26255
 Run Date: 06/27/2014 23:09
 Data File: b27jun14a-12
 Prep Batch: 26253
 Prep Date: 24-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 08:05
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.56 g

Project: TRCC00314
 Matrix: SOLID
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.136		pg/g	0.136	0.947
40321-76-4	1,2,3,7,8-PeCDD	U	.082		pg/g	0.082	4.73
39227-28-6	1,2,3,4,7,8-HxCDD	U	.132		pg/g	0.132	4.73
57653-85-7	1,2,3,6,7,8-HxCDD	U	.135		pg/g	0.135	4.73
19408-74-3	1,2,3,7,8,9-HxCDD	U	.142		pg/g	0.142	4.73
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.420		pg/g	0.254	4.73
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.94		pg/g	0.464	9.47
51207-31-9	2,3,7,8-TCDF	J	0.127		pg/g	0.0983	0.947
57117-41-6	1,2,3,7,8-PeCDF	J u	0.0795		pg/g	0.053	4.73
57117-31-4	2,3,4,7,8-PeCDF	U	.0489		pg/g	0.0489	4.73
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0811		pg/g	0.0811	4.73
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0777		pg/g	0.0777	4.73
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0869		pg/g	0.0869	4.73
72918-21-9	1,2,3,7,8,9-HxCDF	U	.12		pg/g	0.120	4.73
67562-39-4	1,2,3,4,6,7,8-HpCDF	J u	0.155		pg/g	0.0847	4.73
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.142		pg/g	0.142	4.73
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.341		pg/g	0.341	9.47
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.136		pg/g	0.136	0.947
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.082		pg/g	0.082	4.73
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.477		pg/g	0.132	4.73
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.960		pg/g	0.254	4.73
30402-14-3	Total Tetrachlorodibenzofuran	J	0.127		pg/g	0.0983	0.947
30402-15-4	Total Pentachlorodibenzofuran	J	0.0795		pg/g	0.0377	4.73
55684-94-1	Total Hexachlorodibenzofuran	U	.0777		pg/g	0.0777	4.73
38998-75-3	Total Heptachlorodibenzofuran	J	0.305		pg/g	0.0847	4.73
3333-30-0	TEQ WHO2005 ND=0		0.0226	0.0226	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.178	0.178	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		143	189	pg/g	75.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		153	189	pg/g	80.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		155	189	pg/g	81.9	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	189	pg/g	79.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		163	189	pg/g	86.0	(23%-140%)
13C-OCDD		286	379	pg/g	75.6	(17%-157%)
13C-2,3,7,8-TCDF		157	189	pg/g	83.0	(24%-169%)
13C-1,2,3,7,8-PeCDF		156	189	pg/g	82.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	189	pg/g	90.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		161	189	pg/g	85.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		151	189	pg/g	79.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		157	189	pg/g	83.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		157	189	pg/g	82.9	(29%-147%)

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number: 6260
Lab Sample ID: 6260010
Client Sample: 1613B Solid
Client ID: LFH02
Batch ID: 26255
Run Date: 06/27/2014 23:57
Data File: b27jun14a-13
Prep Batch: 26253
Prep Date: 24-JUN-14

Client: TRCC001
Date Collected: 06/17/2014 08:25
Date Received: 06/19/2014 10:05
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3540C
Prep Aliquot: 10.95 g

Project: TRCC00314
Matrix: SOLID
Prep Basis: As Received
Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.144		pg/g	0.144	0.913
40321-76-4	1,2,3,7,8-PeCDD	U	.0995		pg/g	0.0995	4.57
39227-28-6	1,2,3,4,7,8-HxCDD	U	.133		pg/g	0.133	4.57
57653-85-7	1,2,3,6,7,8-HxCDD	U	.137		pg/g	0.137	4.57
19408-74-3	1,2,3,7,8,9-HxCDD	U	.143		pg/g	0.143	4.57
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.771		pg/g	0.245	4.57
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J ✓	10.5		pg/g	0.610	9.13
51207-31-9	2,3,7,8-TCDF	J	0.170		pg/g	0.126	0.913
57117-41-6	1,2,3,7,8-PeCDF	U	.074		pg/g	0.074	4.57
57117-31-4	2,3,4,7,8-PeCDF	J ✓	0.0676		pg/g	0.0663	4.57
70648-26-9	1,2,3,4,7,8-HxCDF	U	.111		pg/g	0.111	4.57
57117-44-9	1,2,3,6,7,8-HxCDF	U	.109		pg/g	0.109	4.57
60851-34-5	2,3,4,6,7,8-HxCDF	U	.117		pg/g	0.117	4.57
72918-21-9	1,2,3,7,8,9-HxCDF	U	.178		pg/g	0.178	4.57
67562-39-4	1,2,3,4,6,7,8-HpCDF	J ✓		0.148	pg/g	0.106	4.57
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.181		pg/g	0.181	4.57
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.422		pg/g	0.422	9.13
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.144		pg/g	0.144	0.913
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0995		pg/g	0.0995	4.57
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.426		pg/g	0.133	4.57
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.94		pg/g	0.245	4.57
30402-14-3	Total Tetrachlorodibenzofuran	J	0.170	0.305	pg/g	0.126	0.913
30402-15-4	Total Pentachlorodibenzofuran	J	0.0676		pg/g	0.0506	4.57
55684-94-1	Total Hexachlorodibenzofuran	U	.109		pg/g	0.109	4.57
38998-75-3	Total Heptachlorodibenzofuran	J	0.254	0.402	pg/g	0.106	4.57
3333-30-0	TEQ WHO2005 ND=0		0.0481	0.0496	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.219	0.220	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		147	183	pg/g	80.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		155	183	pg/g	85.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		164	183	pg/g	89.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		153	183	pg/g	84.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		162	183	pg/g	88.4	(23%-140%)
13C-OCDD		288	365	pg/g	78.8	(17%-157%)
13C-2,3,7,8-TCDF		160	183	pg/g	87.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		154	183	pg/g	84.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		165	183	pg/g	90.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	183	pg/g	88.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		163	183	pg/g	89.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		162	183	pg/g	88.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		151	183	pg/g	82.6	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260011	Date Collected: 06/17/2014 08:05	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	Prep Basis: As Received
Client ID: LFH03	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26255	Analyst: JTF	Dilution: 1
Run Date: 06/28/2014 00:45	Prep Method: SW846 3540C	
Data File: b27jun14a-14	Prep Aliquot: 11.27 g	
Prep Batch: 26253		
Prep Date: 24-JUN-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.118		pg/g	0.118	0.887
40321-76-4	1,2,3,7,8-PeCDD	U	.0953		pg/g	0.0953	4.44
39227-28-6	1,2,3,4,7,8-HxCDD	U	.122		pg/g	0.122	4.44
57653-85-7	1,2,3,6,7,8-HxCDD	U	.123		pg/g	0.123	4.44
19408-74-3	1,2,3,7,8,9-HxCDD	U	.13		pg/g	0.130	4.44
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.495		pg/g	0.256	4.44
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	4.36		pg/g	0.531	8.87
51207-31-9	2,3,7,8-TCDF	JK J ✓		0.108	pg/g	0.0932	0.887
57117-41-6	1,2,3,7,8-PeCDF	U	.0681		pg/g	0.0681	4.44
57117-31-4	2,3,4,7,8-PeCDF	U	.0644		pg/g	0.0644	4.44
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0838		pg/g	0.0838	4.44
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0831		pg/g	0.0831	4.44
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0898		pg/g	0.0898	4.44
72918-21-9	1,2,3,7,8,9-HxCDF	U	.138		pg/g	0.138	4.44
67562-39-4	1,2,3,4,6,7,8-HpCDF	J w ✓	0.170		pg/g	0.120	4.44
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.209		pg/g	0.209	4.44
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.369		pg/g	0.369	8.87
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.118		pg/g	0.118	0.887
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0953		pg/g	0.0953	4.44
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.206		pg/g	0.122	4.44
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.14		pg/g	0.256	4.44
30402-14-3	Total Tetrachlorodibenzofuran	U	.0932	0.108	pg/g	0.0932	0.887
30402-15-4	Total Pentachlorodibenzofuran	U	.0465		pg/g	0.0465	4.44
55684-94-1	Total Hexachlorodibenzofuran	J	0.103		pg/g	0.0831	4.44
38998-75-3	Total Heptachlorodibenzofuran	J	0.398		pg/g	0.120	4.44
3333-30-0	TEQ WHO2005 ND=0		0.00796	0.0188	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.169	0.176	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		138	177	pg/g	77.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		130	177	pg/g	73.3	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		159	177	pg/g	89.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		145	177	pg/g	82.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		151	177	pg/g	84.9	(23%-140%)
13C-OCDD		261	355	pg/g	73.5	(17%-157%)
13C-2,3,7,8-TCDF		157	177	pg/g	88.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		130	177	pg/g	73.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		140	177	pg/g	79.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	177	pg/g	91.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		158	177	pg/g	88.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		160	177	pg/g	90.0	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		144	177	pg/g	81.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
 Lab Sample ID: 6260012
 Client Sample: 1613B Solid
 Client ID: JFH01
 Batch ID: 26255
 Run Date: 06/28/2014 10:25
 Data File: b27jun14a_2-11
 Prep Batch: 26253
 Prep Date: 24-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 13:20
 Date Received: 06/19/2014 10:05
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 9.98 g

Project: TRCC00314
 Matrix: SOLID
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.163		pg/g	0.163	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	.121		pg/g	0.121	5.01
39227-28-6	1,2,3,4,7,8-HxCDD	U	.131		pg/g	0.131	5.01
57653-85-7	1,2,3,6,7,8-HxCDD	U	.128		pg/g	0.128	5.01
19408-74-3	1,2,3,7,8,9-HxCDD	U	.138		pg/g	0.138	5.01
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.689		pg/g	0.220	5.01
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.84		pg/g	0.812	10.0
51207-31-9	2,3,7,8-TCDF	U	.128		pg/g	0.128	1.00
57117-41-6	1,2,3,7,8-PeCDF	U	.0864		pg/g	0.0864	5.01
57117-31-4	2,3,4,7,8-PeCDF	U	.0778		pg/g	0.0778	5.01
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0918		pg/g	0.0918	5.01
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0886		pg/g	0.0886	5.01
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0964		pg/g	0.0964	5.01
72918-21-9	1,2,3,7,8,9-HxCDF	U	.147		pg/g	0.147	5.01
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.162	pg/g	0.120	5.01
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.216		pg/g	0.216	5.01
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.395		pg/g	0.395	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.163		pg/g	0.163	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.121		pg/g	0.121	5.01
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.285	0.625	pg/g	0.128	5.01
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.52		pg/g	0.220	5.01
30402-14-3	Total Tetrachlorodibenzofuran	U	.128		pg/g	0.128	1.00
30402-15-4	Total Pentachlorodibenzofuran	U	.0515		pg/g	0.0515	5.01
55684-94-1	Total Hexachlorodibenzofuran	J	0.140		pg/g	0.0886	5.01
38998-75-3	Total Heptachlorodibenzofuran	U	.12	0.162	pg/g	0.120	5.01
3333-30-0	TEQ WHO2005 ND=0		0.00865	0.0103	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.213	0.214	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	200	pg/g	84.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		171	200	pg/g	85.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		179	200	pg/g	89.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		172	200	pg/g	85.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		186	200	pg/g	93.0	(23%-140%)
13C-OCDD		327	401	pg/g	81.5	(17%-157%)
13C-2,3,7,8-TCDF		178	200	pg/g	88.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		171	200	pg/g	85.5	(24%-185%)
13C-2,3,4,7,8-PeCDF		183	200	pg/g	91.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		191	200	pg/g	95.1	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		178	200	pg/g	88.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		185	200	pg/g	92.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		171	200	pg/g	85.3	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260
Lab Sample ID: 6260013
Client Sample: 1613B Solid
Client ID: JFH02
Batch ID: 26255
Run Date: 06/28/2014 11:13
Data File: b27jun14a_2-12
Prep Batch: 26253
Prep Date: 24-JUN-14

Client: TRCC001
Date Collected: 06/17/2014 13:25
Date Received: 06/19/2014 10:05
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3540C
Prep Aliquot: 10.15 g

Project: TRCC00314
Matrix: SOLID
Prep Basis: As Received
Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.13		pg/g	0.130	0.985
40321-76-4	1,2,3,7,8-PeCDD	U	.119		pg/g	0.119	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	U	.148		pg/g	0.148	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	U	.15		pg/g	0.150	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	U	.159		pg/g	0.159	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.717		pg/g	0.223	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.93		pg/g	0.510	9.85
51207-31-9	2,3,7,8-TCDF	U	.102		pg/g	0.102	0.985
57117-41-6	1,2,3,7,8-PeCDF	U	.0682		pg/g	0.0682	4.93
57117-31-4	2,3,4,7,8-PeCDF	U	.0638		pg/g	0.0638	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0875		pg/g	0.0875	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0843		pg/g	0.0843	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0928		pg/g	0.0928	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.138		pg/g	0.138	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.290		pg/g	0.100	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.18		pg/g	0.180	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.351		pg/g	0.351	9.85
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.13		pg/g	0.130	0.985
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.119		pg/g	0.119	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.564		pg/g	0.148	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.58		pg/g	0.223	4.93
30402-14-3	Total Tetrachlorodibenzofuran	U	.102		pg/g	0.102	0.985
30402-15-4	Total Pentachlorodibenzofuran	J	0.106		pg/g	0.0467	4.93
55684-94-1	Total Hexachlorodibenzofuran	J	0.140		pg/g	0.0843	4.93
38998-75-3	Total Heptachlorodibenzofuran	J	0.290	0.493	pg/g	0.100	4.93
3333-30-0	TEQ WHO2005 ND=0		0.0118	0.0118	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.196	0.196	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		171	197	pg/g	86.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		158	197	pg/g	80.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		191	197	pg/g	96.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		171	197	pg/g	86.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		189	197	pg/g	95.8	(23%-140%)
13C-OCDD		326	394	pg/g	82.7	(17%-157%)
13C-2,3,7,8-TCDF		182	197	pg/g	92.2	(24%-169%)
13C-1,2,3,7,8-PeCDF		159	197	pg/g	80.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		167	197	pg/g	85.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		197	197	pg/g	100	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		185	197	pg/g	93.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		190	197	pg/g	96.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		173	197	pg/g	87.8	(29%-147%)

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number: 6260
Lab Sample ID: 6260014
Client Sample: 1613B Solid
Client ID: MFH01
Batch ID: 26255
Run Date: 06/28/2014 12:01
Data File: b27jun14a_2-13
Prep Batch: 26253
Prep Date: 24-JUN-14

Client: TRCC001
Date Collected: 06/18/2014 08:00
Date Received: 06/19/2014 10:05

Project: TRCC00314
Matrix: SOLID

Prep Basis: As Received

Method: EPA Method 1613B
Analyst: JTF

Instrument: HRP763
Dilution: 1

Prep Method: SW846 3540C
Prep Aliquot: 10.74 g

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.125		pg/g	0.125	0.931
40321-76-4	1,2,3,7,8-PeCDD	U	.0926		pg/g	0.0926	4.66
39227-28-6	1,2,3,4,7,8-HxCDD	U	.121		pg/g	0.121	4.66
57653-85-7	1,2,3,6,7,8-HxCDD	U	.126		pg/g	0.126	4.66
19408-74-3	1,2,3,7,8,9-HxCDD	U	.131		pg/g	0.131	4.66
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.777		pg/g	0.139	4.66
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	9.16		pg/g	0.223	9.31
51207-31-9	2,3,7,8-TCDF	U	.108		pg/g	0.108	0.931
57117-41-6	1,2,3,7,8-PeCDF	U	.0622		pg/g	0.0622	4.66
57117-31-4	2,3,4,7,8-PeCDF	U	.0585		pg/g	0.0585	4.66
70648-26-9	1,2,3,4,7,8-HxCDF	U	.067		pg/g	0.067	4.66
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0642		pg/g	0.0642	4.66
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0685		pg/g	0.0685	4.66
72918-21-9	1,2,3,7,8,9-HxCDF	JK U	0.156	0.121	pg/g	0.0987	4.66
67562-39-4	1,2,3,4,6,7,8-HpCDF	J U	0.156		pg/g	0.0704	4.66
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.118		pg/g	0.118	4.66
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.21		pg/g	0.210	9.31
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.125		pg/g	0.125	0.931
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.192		pg/g	0.0926	4.66
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	1.07		pg/g	0.121	4.66
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	2.02		pg/g	0.139	4.66
30402-14-3	Total Tetrachlorodibenzofuran	U	.108		pg/g	0.108	0.931
30402-15-4	Total Pentachlorodibenzofuran	J	0.138	0.261	pg/g	0.0413	4.66
55684-94-1	Total Hexachlorodibenzofuran	J	0.136	0.257	pg/g	0.0642	4.66
38998-75-3	Total Heptachlorodibenzofuran	J	0.268		pg/g	0.0704	4.66
3333-30-0	TEQ WHO2005 ND=0		0.0121	0.0242	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.170	0.177	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		156	186	pg/g	84.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		159	186	pg/g	85.3	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		175	186	pg/g	94.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		156	186	pg/g	83.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		187	186	pg/g	100	(23%-140%)
13C-OCDD		347	372	pg/g	93.3	(17%-157%)
13C-2,3,7,8-TCDF		173	186	pg/g	92.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		161	186	pg/g	86.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		170	186	pg/g	91.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		181	186	pg/g	97.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		173	186	pg/g	92.7	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		175	186	pg/g	93.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		171	186	pg/g	91.7	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254008	Date Collected: 06/17/2014 13:35	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM01		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 23:46	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-13		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	19.7		pg/L	19.7	100
40321-76-4	1,2,3,7,8-PeCDD	U	9.92		pg/L	9.92	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	13.2		pg/L	13.2	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	12.7		pg/L	12.7	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	13.7		pg/L	13.7	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	23.6		pg/L	23.6	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	118		pg/L	44.2	1000
51207-31-9	2,3,7,8-TCDF	U	12.6		pg/L	12.6	100
57117-41-6	1,2,3,7,8-PeCDF	J	7.60		pg/L	7.08	500
57117-31-4	2,3,4,7,8-PeCDF	U	6.04		pg/L	6.04	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	8.52		pg/L	8.52	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	7.66		pg/L	7.66	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	8.66		pg/L	8.66	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	12.8		pg/L	12.8	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	9.28		pg/L	9.28	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	16.3		pg/L	16.3	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	53.2		pg/L	53.2	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	19.7		pg/L	19.7	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	9.92		pg/L	9.92	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	12.7		pg/L	12.7	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	23.6		pg/L	23.6	500
30402-14-3	Total Tetrachlorodibenzofuran	U	12.6		pg/L	12.6	100
30402-15-4	Total Pentachlorodibenzofuran	J	7.60		pg/L	6.04	500
55684-94-1	Total Hexachlorodibenzofuran	U	7.66		pg/L	7.66	500
38998-75-3	Total Heptachlorodibenzofuran	U	9.28		pg/L	9.28	500
3333-30-0	TEQ WHO2005 ND=0		0.263	0.263	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		20.7	20.7	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		16800	20000	pg/L	84.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		19300	20000	pg/L	96.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		16800	20000	pg/L	84.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		17000	20000	pg/L	85.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		19300	20000	pg/L	96.5	(23%-140%)
13C-OCDD		35800	40000	pg/L	89.4	(17%-157%)
13C-2,3,7,8-TCDF		18100	20000	pg/L	90.6	(24%-169%)
13C-1,2,3,7,8-PeCDF		17800	20000	pg/L	89.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		20900	20000	pg/L	104	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		16400	20000	pg/L	81.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		17400	20000	pg/L	87.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		17200	20000	pg/L	86.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		16900	20000	pg/L	84.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254
Lab Sample ID: 6254009
Client Sample: 1613B Liquid
Client ID: JFM02
Batch ID: 26307
Run Date: 07/07/2014 18:58
Data File: b07jul14a-6
Prep Batch: 26305
Prep Date: 30-JUN-14

Client: TRCC001
Date Collected: 06/17/2014 13:40
Date Received: 06/18/2014 10:50
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3520C
Prep Aliquot: 100 mL

Project: TRCC00314
Matrix: MILK
Prep Basis: As Received
Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	71.2		pg/L	71.2	100
40321-76-4	1,2,3,7,8-PeCDD	U	38.8		pg/L	38.8	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	53.4		pg/L	53.4	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	51.8		pg/L	51.8	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	55.6		pg/L	55.6	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	58.2		pg/L	58.2	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	U	156		pg/L	82.8	1000
51207-31-9	2,3,7,8-TCDF	U	54.4		pg/L	54.4	100
57117-41-6	1,2,3,7,8-PeCDF	U	34.4		pg/L	34.4	500
57117-31-4	2,3,4,7,8-PeCDF	U	30		pg/L	30.0	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	34		pg/L	34.0	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	32.4		pg/L	32.4	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	35.2		pg/L	35.2	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	50.4		pg/L	50.4	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	32.8		pg/L	32.8	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	49.2		pg/L	49.2	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	114		pg/L	114	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	71.2		pg/L	71.2	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	38.8		pg/L	38.8	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	51.8		pg/L	51.8	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	58.2		pg/L	58.2	500
30402-14-3	Total Tetrachlorodibenzofuran	U	54.4		pg/L	54.4	100
30402-15-4	Total Pentachlorodibenzofuran	U	29		pg/L	29.0	500
55684-94-1	Total Hexachlorodibenzofuran	U	32.4		pg/L	32.4	500
38998-75-3	Total Heptachlorodibenzofuran	U	32.8		pg/L	32.8	500
3333-30-0	TEQ WHO2005 ND=0		0.0468	0.0468	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		79.1	79.1	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		7960	20000	pg/L	39.8	(25%-164%)
13C-1,2,3,7,8-PeCDD		8880	20000	pg/L	44.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		7840	20000	pg/L	39.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		8400	20000	pg/L	42.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		10400	20000	pg/L	52.2	(23%-140%)
13C-OCDD		20900	40000	pg/L	52.3	(17%-157%)
13C-2,3,7,8-TCDF		9090	20000	pg/L	45.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		8790	20000	pg/L	43.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		10100	20000	pg/L	50.4	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		9110	20000	pg/L	45.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		9780	20000	pg/L	48.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		9480	20000	pg/L	47.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		9530	20000	pg/L	47.7	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254
 Lab Sample ID: 6254010
 Client Sample: 1613B Liquid
 Client ID: JFM03
 Batch ID: 26307
 Run Date: 07/07/2014 19:46
 Data File: b07jul14a-7
 Prep Batch: 26305
 Prep Date: 30-JUN-14

Client: TRCC001
 Date Collected: 06/17/2014 13:45
 Date Received: 06/18/2014 10:50
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3520C
 Prep Aliquot: 100 mL

Project: TRCC00314
 Matrix: MILK
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	46.8		pg/L	46.8	100
40321-76-4	1,2,3,7,8-PeCDD	U	25.2		pg/L	25.2	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	35.4		pg/L	35.4	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	34.4		pg/L	34.4	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	37		pg/L	37.0	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	JKJ ✓	123	37.8	pg/L	34.4	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JW ✓	123		pg/L	65.2	1000
51207-31-9	2,3,7,8-TCDF	U	35.2		pg/L	35.2	100
57117-41-6	1,2,3,7,8-PeCDF	U	23.8		pg/L	23.8	500
57117-31-4	2,3,4,7,8-PeCDF	U	21.4		pg/L	21.4	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	19.3		pg/L	19.3	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	18.3		pg/L	18.3	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	22.2		pg/L	22.2	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	26.6		pg/L	26.6	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	18.8		pg/L	18.8	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	29.8		pg/L	29.8	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	69.2		pg/L	69.2	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	46.8		pg/L	46.8	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	25.2		pg/L	25.2	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	34.4		pg/L	34.4	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	34.4	37.8	pg/L	34.4	500
30402-14-3	Total Tetrachlorodibenzofuran	U	35.2		pg/L	35.2	100
30402-15-4	Total Pentachlorodibenzofuran	U	21		pg/L	21.0	500
55684-94-1	Total Hexachlorodibenzofuran	U	18.3		pg/L	18.3	500
38998-75-3	Total Heptachlorodibenzofuran	U	18.8		pg/L	18.8	500
3333-30-0	TEQ WHO2005 ND=0		0.037	0.415	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		51.5	51.7	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		8480	20000	pg/L	42.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		9170	20000	pg/L	45.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		9220	20000	pg/L	46.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		9010	20000	pg/L	45.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		12100	20000	pg/L	60.5	(23%-140%)
13C-OCDD		22300	40000	pg/L	55.8	(17%-157%)
13C-2,3,7,8-TCDF		9490	20000	pg/L	47.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		9640	20000	pg/L	48.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		10600	20000	pg/L	52.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		10200	20000	pg/L	50.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		10800	20000	pg/L	54.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		10100	20000	pg/L	50.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		10400	20000	pg/L	52.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324001	Date Collected: 06/17/2014 11:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: LFBG01	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 04:40	Prep Method: SW846 3540C	
Data File: b18jul14a_2-4	Prep Aliquot: 10.53 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.17		pg/g	0.170	0.950
40321-76-4	1,2,3,7,8-PeCDD	U	0826		pg/g	0.0826	4.75
39227-28-6	1,2,3,4,7,8-HxCDD	U	.134		pg/g	0.134	4.75
57653-85-7	1,2,3,6,7,8-HxCDD	U	.126		pg/g	0.126	4.75
19408-74-3	1,2,3,7,8,9-HxCDD	U	.138		pg/g	0.138	4.75
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.270		pg/g	0.220	4.75
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	4.57		pg/g	0.545	9.50
51207-31-9	2,3,7,8-TCDF	J	0.313		pg/g	0.155	0.950
57117-41-6	1,2,3,7,8-PeCDF	U	.08		pg/g	0.080	4.75
57117-31-4	2,3,4,7,8-PeCDF	U	.0735		pg/g	0.0735	4.75
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0944		pg/g	0.0944	4.75
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0864		pg/g	0.0864	4.75
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0976		pg/g	0.0976	4.75
72918-21-9	1,2,3,7,8,9-HxCDF	U	.142		pg/g	0.142	4.75
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0988		pg/g	0.0988	4.75
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.161		pg/g	0.161	4.75
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.367		pg/g	0.367	9.50
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.17		pg/g	0.170	0.950
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0826		pg/g	0.0826	4.75
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.126		pg/g	0.126	4.75
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.270	0.570	pg/g	0.220	4.75
30402-14-3	Total Tetrachlorodibenzofuran	J	0.513		pg/g	0.155	0.950
30402-15-4	Total Pentachlorodibenzofuran	U	.0539		pg/g	0.0539	4.75
55684-94-1	Total Hexachlorodibenzofuran	U	.0864		pg/g	0.0864	4.75
38998-75-3	Total Heptachlorodibenzofuran	U	.0988		pg/g	0.0988	4.75
3333-30-0	TEQ WHO2005 ND=0		0.0354	0.0354	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.216	0.216	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		181	190	pg/g	95.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		208	190	pg/g	109	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	190	pg/g	87.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	190	pg/g	93.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		195	190	pg/g	103	(23%-140%)
13C-OCDD		360	380	pg/g	94.8	(17%-157%)
13C-2,3,7,8-TCDF		195	190	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		197	190	pg/g	104	(24%-185%)
13C-2,3,4,7,8-PeCDF		214	190	pg/g	113	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		173	190	pg/g	91.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		180	190	pg/g	94.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		182	190	pg/g	95.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		179	190	pg/g	94.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324002
 Client Sample: 1613B Tissue
 Client ID: LFBG02
 Batch ID: 26413
 Run Date: 07/19/2014 05:28
 Data File: b18jul14a_2-5
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/17/2014 12:00
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.53 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.213		pg/g	0.213	0.950
40321-76-4	1,2,3,7,8-PeCDD	U	.118		pg/g	0.118	4.75
39227-28-6	1,2,3,4,7,8-HxCDD	U	.131		pg/g	0.131	4.75
57653-85-7	1,2,3,6,7,8-HxCDD	U	.134		pg/g	0.134	4.75
19408-74-3	1,2,3,7,8,9-HxCDD	U	.141		pg/g	0.141	4.75
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.475		pg/g	0.291	4.75
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.12		pg/g	0.577	9.50
51207-31-9	2,3,7,8-TCDF	J	0.291		pg/g	0.174	0.950
57117-41-6	1,2,3,7,8-PeCDF	U	.0999		pg/g	0.0999	4.75
57117-31-4	2,3,4,7,8-PeCDF	U	.0887		pg/g	0.0887	4.75
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0965		pg/g	0.0965	4.75
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0942		pg/g	0.0942	4.75
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0972		pg/g	0.0972	4.75
72918-21-9	1,2,3,7,8,9-HxCDF	U	.153		pg/g	0.153	4.75
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.131		pg/g	0.109	4.75
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.182		pg/g	0.182	4.75
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.475		pg/g	0.475	9.50
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.213		pg/g	0.213	0.950
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.118		pg/g	0.118	4.75
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.131		pg/g	0.131	4.75
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.475		pg/g	0.291	4.75
30402-14-3	Total Tetrachlorodibenzofuran	J	0.291		pg/g	0.174	0.950
30402-15-4	Total Pentachlorodibenzofuran	U	.0659		pg/g	0.0659	4.75
55684-94-1	Total Hexachlorodibenzofuran	U	.0942		pg/g	0.0942	4.75
38998-75-3	Total Heptachlorodibenzofuran	J	0.131		pg/g	0.109	4.75
3333-30-0	TEQ WHO2005 ND=0		0.0367	0.0367	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.260	0.260	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		185	190	pg/g	97.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		211	190	pg/g	111	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		180	190	pg/g	94.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		174	190	pg/g	91.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		205	190	pg/g	108	(23%-140%)
13C-OCDD		382	380	pg/g	101	(17%-157%)
13C-2,3,7,8-TCDF		193	190	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		206	190	pg/g	108	(24%-185%)
13C-2,3,4,7,8-PeCDF		219	190	pg/g	115	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		177	190	pg/g	93.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		188	190	pg/g	98.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		189	190	pg/g	99.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		181	190	pg/g	95.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
Lab Sample ID: 6324003
Client Sample: 1613B Tissue
Client ID: LFBG02 Dup
Batch ID: 26413
Run Date: 07/19/2014 06:16
Data File: b18jul14a_2-6
Prep Batch: 26411
Prep Date: 17-JUL-14

Client: TRCC001
Date Collected: 06/17/2014 12:00
Date Received: 07/10/2014 09:15
Method: EPA Method 1613B
Analyst: JTF
Prep Method: SW846 3540C
Prep Aliquot: 10.38 g

Project: TRCC00314
Matrix: TISSUE
Prep Basis: As Received
Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.316		pg/g	0.316	0.963
40321-76-4	1,2,3,7,8-PeCDD	U	.148		pg/g	0.148	4.82
39227-28-6	1,2,3,4,7,8-HxCDD	U	.198		pg/g	0.198	4.82
57653-85-7	1,2,3,6,7,8-HxCDD	U	.197		pg/g	0.197	4.82
19408-74-3	1,2,3,7,8,9-HxCDD	U	.208		pg/g	0.208	4.82
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.522		pg/g	0.449	4.82
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.69		pg/g	0.865	9.63
51207-31-9	2,3,7,8-TCDF	J	0.287		pg/g	0.225	0.963
57117-41-6	1,2,3,7,8-PeCDF	U	.13		pg/g	0.130	4.82
57117-31-4	2,3,4,7,8-PeCDF	U	.118		pg/g	0.118	4.82
70648-26-9	1,2,3,4,7,8-HxCDF	U	.121		pg/g	0.121	4.82
57117-44-9	1,2,3,6,7,8-HxCDF	U	.117		pg/g	0.117	4.82
60851-34-5	2,3,4,6,7,8-HxCDF	U	.128		pg/g	0.128	4.82
72918-21-9	1,2,3,7,8,9-HxCDF	U	.2		pg/g	0.200	4.82
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.146		pg/g	0.146	4.82
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.231		pg/g	0.231	4.82
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.711		pg/g	0.711	9.63
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.316		pg/g	0.316	0.963
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.148		pg/g	0.148	4.82
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.197		pg/g	0.197	4.82
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.522		pg/g	0.449	4.82
30402-14-3	Total Tetrachlorodibenzofuran	J	0.287		pg/g	0.225	0.963
30402-15-4	Total Pentachlorodibenzofuran	U	.118		pg/g	0.118	4.82
55684-94-1	Total Hexachlorodibenzofuran	U	.117		pg/g	0.117	4.82
38998-75-3	Total Heptachlorodibenzofuran	U	.146		pg/g	0.146	4.82
3333-30-0	TEQ WHO2005 ND=0		0.0356	0.0356	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.348	0.348	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		176	193	pg/g	91.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		202	193	pg/g	105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		172	193	pg/g	89.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	193	pg/g	91.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		203	193	pg/g	106	(23%-140%)
13C-OCDD		379	385	pg/g	98.4	(17%-157%)
13C-2,3,7,8-TCDF		191	193	pg/g	99.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		198	193	pg/g	103	(24%-185%)
13C-2,3,4,7,8-PeCDF		217	193	pg/g	113	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		182	193	pg/g	94.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		185	193	pg/g	95.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		187	193	pg/g	97.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	193	pg/g	92.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324004	Date Collected: 06/17/2014 08:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: LFLMB01	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 07:04	Prep Method: SW846 3540C	
Data File: b18jul14a_2-7	Prep Aliquot: 10.15 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.203		pg/g	0.203	0.985
40321-76-4	1,2,3,7,8-PeCDD	U	.128		pg/g	0.128	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	U	.151		pg/g	0.151	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	U	.149		pg/g	0.149	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	U	.159		pg/g	0.159	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.349		pg/g	0.292	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.58		pg/g	0.573	9.85
51207-31-9	2,3,7,8-TCDF	J	0.384		pg/g	0.205	0.985
57117-41-6	1,2,3,7,8-PeCDF	U	.0971		pg/g	0.0971	4.93
57117-31-4	2,3,4,7,8-PeCDF	U	.09		pg/g	0.090	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	U	.106		pg/g	0.106	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	U	.102		pg/g	0.102	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	U	.11		pg/g	0.110	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.16		pg/g	0.160	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.117		pg/g	0.117	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.191		pg/g	0.191	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	487		pg/g	0.487	9.85
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	203		pg/g	0.203	0.985
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	128		pg/g	0.128	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.149		pg/g	0.149	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.349		pg/g	0.292	4.93
30402-14-3	Total Tetrachlorodibenzofuran	J	0.384		pg/g	0.205	0.985
30402-15-4	Total Pentachlorodibenzofuran	U	0804		pg/g	0.0804	4.93
55684-94-1	Total Hexachlorodibenzofuran	U	.102		pg/g	0.102	4.93
38998-75-3	Total Heptachlorodibenzofuran	U	.117		pg/g	0.117	4.93
3333-30-0	TEQ WHO2005 ND=0		0.0424	0.0424	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.271	0.271	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	197	pg/g	87.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		203	197	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		171	197	pg/g	86.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		175	197	pg/g	88.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		209	197	pg/g	106	(23%-140%)
13C-OCDD		385	394	pg/g	97.7	(17%-157%)
13C-2,3,7,8-TCDF		195	197	pg/g	99.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		204	197	pg/g	103	(24%-185%)
13C-2,3,4,7,8-PeCDF		216	197	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		175	197	pg/g	89.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	197	pg/g	89.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		181	197	pg/g	91.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	197	pg/g	90.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324012	Date Collected: 06/19/2014 09:30	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: LFLMB02	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 14:21	Prep Method: SW846 3540C	
Data File: b18jul14a_3-2	Prep Aliquot: 10.51 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.289		pg/g	0.289	0.951
40321-76-4	1,2,3,7,8-PeCDD	U	.171		pg/g	0.171	4.76
39227-28-6	1,2,3,4,7,8-HxCDD	U	.285		pg/g	0.285	4.76
57653-85-7	1,2,3,6,7,8-HxCDD	U	.263		pg/g	0.263	4.76
19408-74-3	1,2,3,7,8,9-HxCDD	U	.287		pg/g	0.287	4.76
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.668		pg/g	0.419	4.76
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	3.06		pg/g	1.08	9.51
51207-31-9	2,3,7,8-TCDF	J	0.266		pg/g	0.249	0.951
57117-41-6	1,2,3,7,8-PeCDF	U	.148		pg/g	0.148	4.76
57117-31-4	2,3,4,7,8-PeCDF	U	.135		pg/g	.0135	4.76
70648-26-9	1,2,3,4,7,8-HxCDF	U	.172		pg/g	0.172	4.76
57117-44-9	1,2,3,6,7,8-HxCDF	U	.163		pg/g	0.163	4.76
60851-34-5	2,3,4,6,7,8-HxCDF	U	.192		pg/g	0.192	4.76
72918-21-9	1,2,3,7,8,9-HxCDF	U	.301		pg/g	0.301	4.76
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.215		pg/g	0.215	4.76
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.373		pg/g	0.373	4.76
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.906		pg/g	0.906	9.51
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.289		pg/g	0.289	0.951
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.171		pg/g	0.171	4.76
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.263		pg/g	0.263	4.76
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.668		pg/g	0.419	4.76
30402-14-3	Total Tetrachlorodibenzofuran	J	0.266		pg/g	0.249	0.951
30402-15-4	Total Pentachlorodibenzofuran	U	.123		pg/g	0.123	4.76
55684-94-1	Total Hexachlorodibenzofuran	U	.163		pg/g	0.163	4.76
38998-75-3	Total Heptachlorodibenzofuran	U	.215		pg/g	0.215	4.76
3333-30-0	TEQ WHO2005 ND=0		0.0342	0.0342	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.373	0.373	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		161	190	pg/g	84.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		184	190	pg/g	96.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		141	190	pg/g	74.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		174	190	pg/g	91.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		179	190	pg/g	94.1	(23%-140%)
13C-OCDD		288	381	pg/g	75.7	(17%-157%)
13C-2,3,7,8-TCDF		179	190	pg/g	94.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		181	190	pg/g	95.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		194	190	pg/g	102	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		158	190	pg/g	82.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		181	190	pg/g	95.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		172	190	pg/g	90.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		158	190	pg/g	82.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324005
 Client Sample: 1613B Tissue
 Client ID: YFBG01
 Batch ID: 26413
 Run Date: 07/19/2014 07:51
 Data File: b18jul14a_2-8
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/17/2014 13:40
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.48 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.176		pg/g	0.176	0.954
40321-76-4	1,2,3,7,8-PeCDD	U	.106		pg/g	0.106	4.77
39227-28-6	1,2,3,4,7,8-HxCDD	U	.127		pg/g	0.127	4.77
57653-85-7	1,2,3,6,7,8-HxCDD	U	.116		pg/g	0.116	4.77
19408-74-3	1,2,3,7,8,9-HxCDD	U	.128		pg/g	0.128	4.77
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.460		pg/g	0.279	4.77
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.27		pg/g	0.454	9.54
51207-31-9	2,3,7,8-TCDF	J	0.271		pg/g	0.160	0.954
57117-41-6	1,2,3,7,8-PeCDF	U	.0931		pg/g	0.0931	4.77
57117-31-4	2,3,4,7,8-PeCDF	U	.0847		pg/g	0.0847	4.77
70648-26-9	1,2,3,4,7,8-HxCDF	U	.109		pg/g	0.109	4.77
57117-44-9	1,2,3,6,7,8-HxCDF	U	.104		pg/g	0.104	4.77
60851-34-5	2,3,4,6,7,8-HxCDF	U	.116		pg/g	0.116	4.77
72918-21-9	1,2,3,7,8,9-HxCDF	U	.171		pg/g	0.171	4.77
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.235		pg/g	0.125	4.77
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.208		pg/g	0.208	4.77
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.511		pg/g	0.511	9.54
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.176		pg/g	0.176	0.954
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.106		pg/g	0.106	4.77
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.116		pg/g	0.116	4.77
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.460		pg/g	0.279	4.77
30402-14-3	Total Tetrachlorodibenzofuran	J	0.481		pg/g	0.160	0.954
30402-15-4	Total Pentachlorodibenzofuran	U	.0588		pg/g	0.0588	4.77
55684-94-1	Total Hexachlorodibenzofuran	U	.104	0.147	pg/g	0.104	4.77
38998-75-3	Total Heptachlorodibenzofuran	J	0.235		pg/g	0.125	4.77
3333-30-0	TEQ WHO2005 ND=0		0.0356	0.0356	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.236	0.236	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	191	pg/g	89.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		204	191	pg/g	107	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	191	pg/g	86.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		169	191	pg/g	88.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		197	191	pg/g	103	(23%-140%)
13C-OCDD		346	382	pg/g	90.6	(17%-157%)
13C-2,3,7,8-TCDF		194	191	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		201	191	pg/g	105	(24%-185%)
13C-2,3,4,7,8-PeCDF		212	191	pg/g	111	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		168	191	pg/g	87.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		181	191	pg/g	95.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	191	pg/g	92.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		175	191	pg/g	91.9	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324006	Date Collected: 06/17/2014 13:55	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: YFBG02	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 08:39	Prep Method: SW846 3540C	
Data File: b18jul14a_2-9	Prep Aliquot: 10.62 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.18		pg/g	0.180	0.942
40321-76-4	1,2,3,7,8-PeCDD	U	.0985		pg/g	0.0985	4.71
39227-28-6	1,2,3,4,7,8-HxCDD	U	.146		pg/g	0.146	4.71
57653-85-7	1,2,3,6,7,8-HxCDD	U	.144		pg/g	0.144	4.71
19408-74-3	1,2,3,7,8,9-HxCDD	U	.154		pg/g	0.154	4.71
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.311		pg/g	0.249	4.71
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	9.31		pg/g	0.691	9.42
51207-31-9	2,3,7,8-TCDF	J	0.292		pg/g	0.154	0.942
57117-41-6	1,2,3,7,8-PeCDF	U	.0893		pg/g	0.0893	4.71
57117-31-4	2,3,4,7,8-PeCDF	U	.084		pg/g	0.084	4.71
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0991		pg/g	0.0991	4.71
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0945		pg/g	0.0945	4.71
60851-34-5	2,3,4,6,7,8-HxCDF	U	.1		pg/g	0.100	4.71
72918-21-9	1,2,3,7,8,9-HxCDF	U	.151		pg/g	0.151	4.71
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK	.151	0.134	pg/g	0.110	4.71
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.182		pg/g	0.182	4.71
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.411		pg/g	0.411	9.42
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.18		pg/g	0.180	0.942
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0985		pg/g	0.0985	4.71
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.144		pg/g	0.144	4.71
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.311		pg/g	0.249	4.71
30402-14-3	Total Tetrachlorodibenzofuran	J	0.292		pg/g	0.154	0.942
30402-15-4	Total Pentachlorodibenzofuran	U	.0601		pg/g	0.0601	4.71
55684-94-1	Total Hexachlorodibenzofuran	U	.0945		pg/g	0.0945	4.71
38998-75-3	Total Heptachlorodibenzofuran	U	.11	0.134	pg/g	0.110	4.71
3333-30-0	TEQ WHO2005 ND=0		0.0351	0.0364	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.234	0.235	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		161	188	pg/g	85.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		182	188	pg/g	96.9	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		157	188	pg/g	83.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		156	188	pg/g	83.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		182	188	pg/g	96.9	(23%-140%)
13C-OCDD		325	377	pg/g	86.3	(17%-157%)
13C-2,3,7,8-TCDF		178	188	pg/g	94.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		184	188	pg/g	97.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		196	188	pg/g	104	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		156	188	pg/g	82.7	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		171	188	pg/g	90.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		166	188	pg/g	88.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		164	188	pg/g	87.3	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324007	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: CPBG01	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 09:27	Prep Method: SW846 3540C	
Data File: b18jul14a_2-10	Prep Aliquot: 10.26 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.166		pg/g	0.166	0.975
40321-76-4	1,2,3,7,8-PeCDD	U	.102		pg/g	0.102	4.87
39227-28-6	1,2,3,4,7,8-HxCDD	U	.12		pg/g	0.120	4.87
57653-85-7	1,2,3,6,7,8-HxCDD	U	.114		pg/g	0.114	4.87
19408-74-3	1,2,3,7,8,9-HxCDD	U	.124		pg/g	0.124	4.87
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.228		pg/g	0.228	4.87
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	2.04		pg/g	0.596	9.75
51207-31-9	2,3,7,8-TCDF	J	0.302		pg/g	0.137	0.975
57117-41-6	1,2,3,7,8-PeCDF	U	.0758		pg/g	0.0758	4.87
57117-31-4	2,3,4,7,8-PeCDF	U	.0673		pg/g	0.0673	4.87
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0895		pg/g	0.0895	4.87
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0828		pg/g	0.0828	4.87
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0926		pg/g	0.0926	4.87
72918-21-9	1,2,3,7,8,9-HxCDF	U	.142		pg/g	0.142	4.87
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.122		pg/g	0.122	4.87
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.205		pg/g	0.205	4.87
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.419		pg/g	0.419	9.75
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.166		pg/g	0.166	0.975
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.102		pg/g	0.102	4.87
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.114		pg/g	0.114	4.87
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.228		pg/g	0.228	4.87
30402-14-3	Total Tetrachlorodibenzofuran	J	0.302	0.474	pg/g	0.137	0.975
30402-15-4	Total Pentachlorodibenzofuran	U	.0563		pg/g	0.0563	4.87
55684-94-1	Total Hexachlorodibenzofuran	U	.0828		pg/g	0.0828	4.87
38998-75-3	Total Heptachlorodibenzofuran	U	.122		pg/g	0.122	4.87
3333-30-0	TEQ WHO2005 ND=0		0.0308	0.0308	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.217	0.217	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		181	195	pg/g	92.8	(25%-164%)
13C-1,2,3,7,8-PeCDD		207	195	pg/g	106	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	195	pg/g	85.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		171	195	pg/g	87.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		190	195	pg/g	97.7	(23%-140%)
13C-OCDD		346	390	pg/g	88.8	(17%-157%)
13C-2,3,7,8-TCDF		195	195	pg/g	99.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		199	195	pg/g	102	(24%-185%)
13C-2,3,4,7,8-PeCDF		213	195	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		174	195	pg/g	89.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		173	195	pg/g	88.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		178	195	pg/g	91.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		180	195	pg/g	92.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324008
 Client Sample: 1613B Tissue
 Client ID: CPBG02
 Batch ID: 26413
 Run Date: 07/19/2014 10:15
 Data File: b18jul14a_2-11
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/18/2014 00:00
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 11.26 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.17		pg/g	0.170	0.888
40321-76-4	1,2,3,7,8-PeCDD	U	.0847		pg/g	0.0847	4.44
39227-28-6	1,2,3,4,7,8-HxCDD	U	.115		pg/g	0.115	4.44
57653-85-7	1,2,3,6,7,8-HxCDD	U	.114		pg/g	0.114	4.44
19408-74-3	1,2,3,7,8,9-HxCDD	U	.121		pg/g	0.121	4.44
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.169		pg/g	0.169	4.44
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.74		pg/g	0.506	8.88
51207-31-9	2,3,7,8-TCDF	J	0.298		pg/g	0.126	0.888
57117-41-6	1,2,3,7,8-PeCDF	U	.0694		pg/g	0.0694	4.44
57117-31-4	2,3,4,7,8-PeCDF	U	.062		pg/g	0.062	4.44
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0686		pg/g	0.0686	4.44
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0611		pg/g	0.0611	4.44
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0664		pg/g	0.0664	4.44
72918-21-9	1,2,3,7,8,9-HxCDF	U	.102		pg/g	0.102	4.44
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0909		pg/g	0.0909	4.44
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.148		pg/g	0.148	4.44
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.353		pg/g	0.353	8.88
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.17		pg/g	0.170	0.888
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0847		pg/g	0.0847	4.44
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.114		pg/g	0.114	4.44
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.169		pg/g	0.169	4.44
30402-14-3	Total Tetrachlorodibenzofuran	J	0.501		pg/g	0.126	0.888
30402-15-4	Total Pentachlorodibenzofuran	U	.0533		pg/g	0.0533	4.44
55684-94-1	Total Hexachlorodibenzofuran	U	.0611		pg/g	0.0611	4.44
38998-75-3	Total Heptachlorodibenzofuran	U	.0909		pg/g	0.0909	4.44
3333-30-0	TEQ WHO2005 ND=0		0.0304	0.0304	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.203	0.203	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		160	178	pg/g	89.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		183	178	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		150	178	pg/g	84.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	178	pg/g	85.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		174	178	pg/g	98.2	(23%-140%)
13C-OCDD		324	355	pg/g	91.1	(17%-157%)
13C-2,3,7,8-TCDF		180	178	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		180	178	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		195	178	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		157	178	pg/g	88.1	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		161	178	pg/g	90.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		161	178	pg/g	90.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		159	178	pg/g	89.6	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
Lab Sample ID: 6324009
Client Sample: 1613B Tissue
Client ID: CPLMB01
Batch ID: 26413
Run Date: 07/19/2014 11:02
Data File: b18jul14a_2-12
Prep Batch: 26411
Prep Date: 17-JUL-14

Client: TRCC001
Date Collected: 06/18/2014 00:00
Date Received: 07/10/2014 09:15

Project: TRCC00314
Matrix: TISSUE

Prep Basis: As Received

Method: EPA Method 1613B
Analyst: JTF

Instrument: HRP763
Dilution: 1

Prep Method: SW846 3540C
Prep Aliquot: 10.33 g

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.244		pg/g	0.169	0.968
40321-76-4	1,2,3,7,8-PeCDD	U	.0951		pg/g	0.0951	4.84
39227-28-6	1,2,3,4,7,8-HxCDD	U	.144		pg/g	0.144	4.84
57653-85-7	1,2,3,6,7,8-HxCDD	U	.137		pg/g	0.137	4.84
19408-74-3	1,2,3,7,8,9-HxCDD	U	.148		pg/g	0.148	4.84
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.321		pg/g	0.271	4.84
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	4.58		pg/g	0.598	9.68
51207-31-9	2,3,7,8-TCDF	J	0.395		pg/g	0.172	0.968
57117-41-6	1,2,3,7,8-PeCDF	U	.0931		pg/g	0.0931	4.84
57117-31-4	2,3,4,7,8-PeCDF	U	.0842		pg/g	0.0842	4.84
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0829		pg/g	0.0829	4.84
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0807		pg/g	0.0807	4.84
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0838		pg/g	0.0838	4.84
72918-21-9	1,2,3,7,8,9-HxCDF	U	.13		pg/g	0.130	4.84
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.108		pg/g	0.103	4.84
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.165		pg/g	0.165	4.84
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.35		pg/g	0.350	9.68
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.244		pg/g	0.169	0.968
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0951		pg/g	0.0951	4.84
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.137		pg/g	0.137	4.84
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.321		pg/g	0.271	4.84
30402-14-3	Total Tetrachlorodibenzofuran	J	0.395		pg/g	0.172	0.968
30402-15-4	Total Pentachlorodibenzofuran	U	.0546		pg/g	0.0546	4.84
55684-94-1	Total Hexachlorodibenzofuran	U	.0807		pg/g	0.0807	4.84
38998-75-3	Total Heptachlorodibenzofuran	J	0.108		pg/g	0.103	4.84
3333-30-0	TEQ WHO2005 ND=0		0.289	0.289	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.392	0.392	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	194	pg/g	91.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		204	194	pg/g	105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		159	194	pg/g	82.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	194	pg/g	91.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		197	194	pg/g	102	(23%-140%)
13C-OCDD		357	387	pg/g	92.3	(17%-157%)
13C-2,3,7,8-TCDF		199	194	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		199	194	pg/g	103	(24%-185%)
13C-2,3,4,7,8-PeCDF		220	194	pg/g	114	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		170	194	pg/g	87.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		177	194	pg/g	91.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	194	pg/g	93.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		177	194	pg/g	91.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324010	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: CPLMB02	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 11:50	Prep Method: SW846 3540C	
Data File: b18jul14a_2-13	Prep Aliquot: 10.14 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.394		pg/g	0.223	0.986
40321-76-4	1,2,3,7,8-PeCDD	U	.122		pg/g	0.122	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	U	.14		pg/g	0.140	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	U	.135		pg/g	0.135	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	U	.146		pg/g	0.146	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.286		pg/g	0.252	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.58		pg/g	0.521	9.86
51207-31-9	2,3,7,8-TCDF	J	0.416		pg/g	0.171	0.986
57117-41-6	1,2,3,7,8-PeCDF	U	.104		pg/g	0.104	4.93
57117-31-4	2,3,4,7,8-PeCDF	U	.0917		pg/g	0.0917	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0998		pg/g	0.0998	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0941		pg/g	0.0941	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	U	.103		pg/g	0.103	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.159		pg/g	0.159	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0921		pg/g	0.0921	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.146		pg/g	0.146	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.46		pg/g	0.460	9.86
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.394		pg/g	0.223	0.986
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.122		pg/g	0.122	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.135		pg/g	0.135	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.286		pg/g	0.252	4.93
30402-14-3	Total Tetrachlorodibenzofuran	J	0.416		pg/g	0.171	0.986
30402-15-4	Total Pentachlorodibenzofuran	U	.0655		pg/g	0.0655	4.93
55684-94-1	Total Hexachlorodibenzofuran	U	.0941		pg/g	0.0941	4.93
38998-75-3	Total Heptachlorodibenzofuran	U	.0921		pg/g	0.0921	4.93
3333-30-0	TEQ WHO2005 ND=0		0.439	0.439	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.561	0.561	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	197	pg/g	87.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		194	197	pg/g	98.5	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	197	pg/g	84.0	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		165	197	pg/g	83.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		192	197	pg/g	97.5	(23%-140%)
13C-OCDD		347	394	pg/g	88.0	(17%-157%)
13C-2,3,7,8-TCDF		193	197	pg/g	97.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		193	197	pg/g	97.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		206	197	pg/g	105	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		163	197	pg/g	82.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		180	197	pg/g	91.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		175	197	pg/g	88.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		173	197	pg/g	87.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324011
 Client Sample: 1613B Tissue
 Client ID: CPLMB02 Dup
 Batch ID: 26413
 Run Date: 07/20/2014 04:48
 Data File: b18jul14a_4-6
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/18/2014 00:00
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.47 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.495		pg/g	0.189	0.955
40321-76-4	1,2,3,7,8-PeCDD	U	.0921		pg/g	0.0921	4.78
39227-28-6	1,2,3,4,7,8-HxCDD	U	.141		pg/g	0.141	4.78
57653-85-7	1,2,3,6,7,8-HxCDD	U	.127		pg/g	0.127	4.78
19408-74-3	1,2,3,7,8,9-HxCDD	U	.14		pg/g	0.140	4.78
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.411		pg/g	0.183	4.78
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	2.88		pg/g	0.607	9.55
51207-31-9	2,3,7,8-TCDF	U	.16		pg/g	0.160	0.955
57117-41-6	1,2,3,7,8-PeCDF	U	.0961		pg/g	0.0961	4.78
57117-31-4	2,3,4,7,8-PeCDF	U	.0831		pg/g	0.0831	4.78
70648-26-9	1,2,3,4,7,8-HxCDF	U	.086		pg/g	0.086	4.78
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0818		pg/g	0.0818	4.78
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0904		pg/g	0.0904	4.78
72918-21-9	1,2,3,7,8,9-HxCDF	U	.141		pg/g	0.141	4.78
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0968		pg/g	0.0968	4.78
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.164		pg/g	0.164	4.78
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.401		pg/g	0.401	9.55
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.495		pg/g	0.189	0.955
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0921		pg/g	0.0921	4.78
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.127		pg/g	0.127	4.78
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.411		pg/g	0.183	4.78
30402-14-3	Total Tetrachlorodibenzofuran	J	0.902		pg/g	0.160	0.955
30402-15-4	Total Pentachlorodibenzofuran	U	.0596		pg/g	0.0596	4.78
55684-94-1	Total Hexachlorodibenzofuran	U	.0818		pg/g	0.0818	4.78
38998-75-3	Total Heptachlorodibenzofuran	U	.0968		pg/g	0.0968	4.78
3333-30-0	TEQ WHO2005 ND=0		0.500	0.500	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.609	0.609	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		104	191	pg/g	54.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		124	191	pg/g	65.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		90.8	191	pg/g	47.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		110	191	pg/g	57.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		118	191	pg/g	61.8	(23%-140%)
13C-OCDD		207	382	pg/g	54.1	(17%-157%)
13C-2,3,7,8-TCDF		118	191	pg/g	61.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		118	191	pg/g	61.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		129	191	pg/g	67.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		100	191	pg/g	52.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		115	191	pg/g	60.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		109	191	pg/g	56.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		107	191	pg/g	55.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324013	Date Collected: 06/17/2014 11:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: LFBG01-F	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 15:09	Prep Method: SW846 3540C	
Data File: b18jul14a_3-3	Prep Aliquot: 11.08 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.204		pg/g	0.204	0.903
40321-76-4	1,2,3,7,8-PeCDD	U	.101		pg/g	0.101	4.51
39227-28-6	1,2,3,4,7,8-HxCDD	U	.154		pg/g	0.154	4.51
57653-85-7	1,2,3,6,7,8-HxCDD	U	.144		pg/g	0.144	4.51
19408-74-3	1,2,3,7,8,9-HxCDD	U	.157		pg/g	0.157	4.51
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.22		pg/g	0.220	4.51
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.17		pg/g	0.480	9.03
51207-31-9	2,3,7,8-TCDF	U	.174		pg/g	0.174	0.903
57117-41-6	1,2,3,7,8-PeCDF	U	.103		pg/g	0.103	4.51
57117-31-4	2,3,4,7,8-PeCDF	U	.093		pg/g	0.093	4.51
70648-26-9	1,2,3,4,7,8-HxCDF	U	.106		pg/g	0.106	4.51
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0996		pg/g	0.0996	4.51
60851-34-5	2,3,4,6,7,8-HxCDF	U	.112		pg/g	0.112	4.51
72918-21-9	1,2,3,7,8,9-HxCDF	U	.158		pg/g	0.158	4.51
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.11		pg/g	0.110	4.51
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.18		pg/g	0.180	4.51
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.453		pg/g	0.453	9.03
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.204		pg/g	0.204	0.903
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.101		pg/g	0.101	4.51
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.144		pg/g	0.144	4.51
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.22		pg/g	0.220	4.51
30402-14-3	Total Tetrachlorodibenzofuran	U	.174		pg/g	0.174	0.903
30402-15-4	Total Pentachlorodibenzofuran	U	.0704		pg/g	0.0704	4.51
55684-94-1	Total Hexachlorodibenzofuran	U	.0996		pg/g	0.0996	4.51
38998-75-3	Total Heptachlorodibenzofuran	U	.11		pg/g	0.110	4.51
3333-30-0	TEQ WHO2005 ND=0		0.000352	0.000352	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.226	0.226	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		142	181	pg/g	78.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		161	181	pg/g	89.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		130	181	pg/g	71.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		140	181	pg/g	77.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		156	181	pg/g	86.5	(23%-140%)
13C-OCDD		269	361	pg/g	74.4	(17%-157%)
13C-2,3,7,8-TCDF		161	181	pg/g	88.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		159	181	pg/g	88.3	(24%-185%)
13C-2,3,4,7,8-PeCDF		180	181	pg/g	99.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		138	181	pg/g	76.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		146	181	pg/g	81.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		143	181	pg/g	79.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		142	181	pg/g	78.8	(29%-147%)

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324014	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: LFBG02-F	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 15:56	Prep Method: SW846 3540C	
Data File: b18jul14a_3-4	Prep Aliquot: 10.13 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.167		pg/g	0.167	0.987
40321-76-4	1,2,3,7,8-PeCDD	U	.112		pg/g	0.112	4.94
39227-28-6	1,2,3,4,7,8-HxCDD	U	.134		pg/g	0.134	4.94
57653-85-7	1,2,3,6,7,8-HxCDD	U	.132		pg/g	0.132	4.94
19408-74-3	1,2,3,7,8,9-HxCDD	U	.141		pg/g	0.141	4.94
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.185		pg/g	0.185	4.94
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK U	.379	0.650	pg/g	0.379	9.87
51207-31-9	2,3,7,8-TCDF	J	0.298		pg/g	0.159	0.987
57117-41-6	1,2,3,7,8-PeCDF	U	.0855		pg/g	0.0855	4.94
57117-31-4	2,3,4,7,8-PeCDF	U	.0744		pg/g	0.0744	4.94
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0853		pg/g	0.0853	4.94
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0815		pg/g	0.0815	4.94
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0888		pg/g	0.0888	4.94
72918-21-9	1,2,3,7,8,9-HxCDF	U	.137		pg/g	0.137	4.94
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0956		pg/g	0.0956	4.94
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.164		pg/g	0.164	4.94
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.409		pg/g	0.409	9.87
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.167		pg/g	0.167	0.987
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.112		pg/g	0.112	4.94
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.132		pg/g	0.132	4.94
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.185		pg/g	0.185	4.94
30402-14-3	Total Tetrachlorodibenzofuran	J	0.298		pg/g	0.159	0.987
30402-15-4	Total Pentachlorodibenzofuran	U	.0584		pg/g	0.0584	4.94
55684-94-1	Total Hexachlorodibenzofuran	U	.0815		pg/g	0.0815	4.94
38998-75-3	Total Heptachlorodibenzofuran	U	.0956		pg/g	0.0956	4.94
3333-30-0	TEQ WHO2005 ND=0		0.0298	0.030	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.224	0.224	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	197	pg/g	87.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		197	197	pg/g	99.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		157	197	pg/g	79.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		165	197	pg/g	83.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		187	197	pg/g	94.8	(23%-140%)
13C-OCDD		345	395	pg/g	87.3	(17%-157%)
13C-2,3,7,8-TCDF		194	197	pg/g	98.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		199	197	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		212	197	pg/g	108	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		168	197	pg/g	84.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		171	197	pg/g	86.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	197	pg/g	86.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	197	pg/g	84.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324015
 Client Sample: 1613B Tissue
 Client ID: LFBG02-F Dup
 Batch ID: 26413
 Run Date: 07/19/2014 16:44
 Data File: b18jul14a_3-5
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/17/2014 12:00
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.25 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.151		pg/g	0.151	0.976
40321-76-4	1,2,3,7,8-PeCDD	U	.0759		pg/g	0.0759	4.88
39227-28-6	1,2,3,4,7,8-HxCDD	U	.108		pg/g	0.108	4.88
57653-85-7	1,2,3,6,7,8-HxCDD	U	.105		pg/g	0.105	4.88
19408-74-3	1,2,3,7,8,9-HxCDD	U	.112		pg/g	0.112	4.88
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.164		pg/g	0.164	4.88
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.628		pg/g	0.345	9.76
51207-31-9	2,3,7,8-TCDF	J	0.244		pg/g	0.123	0.976
57117-41-6	1,2,3,7,8-PeCDF	U	.0722		pg/g	0.0722	4.88
57117-31-4	2,3,4,7,8-PeCDF	U	.0628		pg/g	0.0628	4.88
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0716		pg/g	0.0716	4.88
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0665		pg/g	0.0665	4.88
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0736		pg/g	0.0736	4.88
72918-21-9	1,2,3,7,8,9-HxCDF	U	.112		pg/g	0.112	4.88
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.072		pg/g	0.072	4.88
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.125		pg/g	0.125	4.88
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.349		pg/g	0.349	9.76
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.151		pg/g	0.151	0.976
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0759		pg/g	0.0759	4.88
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.105		pg/g	0.105	4.88
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.164		pg/g	0.164	4.88
30402-14-3	Total Tetrachlorodibenzofuran	J	0.394		pg/g	0.123	0.976
30402-15-4	Total Pentachlorodibenzofuran	U	.0542		pg/g	0.0542	4.88
55684-94-1	Total Hexachlorodibenzofuran	U	.0665		pg/g	0.0665	4.88
38998-75-3	Total Heptachlorodibenzofuran	U	.072		pg/g	0.072	4.88
3333-30-0	TEQ WHO2005 ND=0		0.0246	0.0246	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.183	0.183	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		175	195	pg/g	89.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		205	195	pg/g	105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		153	195	pg/g	78.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	195	pg/g	90.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		191	195	pg/g	98.1	(23%-140%)
13C-OCDD		337	390	pg/g	86.3	(17%-157%)
13C-2,3,7,8-TCDF		198	195	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		202	195	pg/g	104	(24%-185%)
13C-2,3,4,7,8-PeCDF		219	195	pg/g	112	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		165	195	pg/g	84.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		184	195	pg/g	94.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	195	pg/g	92.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	195	pg/g	91.0	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324016	Date Collected: 06/17/2014 08:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 17:32	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.45 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.186		pg/g	0.186	0.957
40321-76-4	1,2,3,7,8-PeCDD	U	.0921		pg/g	0.0921	4.78
39227-28-6	1,2,3,4,7,8-HxCDD	U	.11		pg/g	0.110	4.78
57653-85-7	1,2,3,6,7,8-HxCDD	U	.107		pg/g	0.107	4.78
19408-74-3	1,2,3,7,8,9-HxCDD	U	.115		pg/g	0.115	4.78
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.274		pg/g	0.230	4.78
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.957		pg/g	0.318	9.57
51207-31-9	2,3,7,8-TCDF	J	0.310		pg/g	0.152	0.957
57117-41-6	1,2,3,7,8-PeCDF	U	.0838		pg/g	0.0838	4.78
57117-31-4	2,3,4,7,8-PeCDF	U	.0683		pg/g	0.0683	4.78
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0725		pg/g	0.0725	4.78
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0739		pg/g	0.0739	4.78
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0769		pg/g	0.0769	4.78
72918-21-9	1,2,3,7,8,9-HxCDF	U	.12		pg/g	0.120	4.78
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.102		pg/g	0.102	4.78
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.169		pg/g	0.169	4.78
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.354		pg/g	0.354	9.57
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.186		pg/g	0.186	0.957
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0921		pg/g	0.0921	4.78
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.107		pg/g	0.107	4.78
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.274	0.547	pg/g	0.230	4.78
30402-14-3	Total Tetrachlorodibenzofuran	J	0.501		pg/g	0.152	0.957
30402-15-4	Total Pentachlorodibenzofuran	U	.0567		pg/g	0.0567	4.78
55684-94-1	Total Hexachlorodibenzofuran	U	.0725		pg/g	0.0725	4.78
38998-75-3	Total Heptachlorodibenzofuran	U	.102		pg/g	0.102	4.78
3333-30-0	TEQ WHO2005 ND=0		0.034	0.034	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.220	0.220	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		167	191	pg/g	87.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		197	191	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		156	191	pg/g	81.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		162	191	pg/g	84.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		182	191	pg/g	95.2	(23%-140%)
13C-OCDD		323	383	pg/g	84.3	(17%-157%)
13C-2,3,7,8-TCDF		192	191	pg/g	100	(24%-169%)
13C-1,2,3,7,8-PeCDF		193	191	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		218	191	pg/g	114	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		154	191	pg/g	80.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	191	pg/g	92.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	191	pg/g	89.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		163	191	pg/g	85.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324017
 Client Sample: 1613B Tissue
 Client ID: YFBG01-F / YFBG02-F
 Batch ID: 26413
 Run Date: 07/19/2014 18:20
 Data File: b18jul14a_3-7
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/17/2014 13:40
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.64 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.164		pg/g	0.164	0.940
40321-76-4	1,2,3,7,8-PeCDD	U	.091		pg/g	0.091	4.70
39227-28-6	1,2,3,4,7,8-HxCDD	U	.122		pg/g	0.122	4.70
57653-85-7	1,2,3,6,7,8-HxCDD	U	.12		pg/g	0.120	4.70
19408-74-3	1,2,3,7,8,9-HxCDD	U	.128		pg/g	0.128	4.70
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.164		pg/g	0.164	4.70
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.476		pg/g	0.461	9.40
51207-31-9	2,3,7,8-TCDF	J	0.222		pg/g	0.134	0.940
57117-41-6	1,2,3,7,8-PeCDF	U	.0769		pg/g	0.0769	4.70
57117-31-4	2,3,4,7,8-PeCDF	U	.0675		pg/g	0.0675	4.70
70648-26-9	1,2,3,4,7,8-HxCDF	U	.081		pg/g	0.081	4.70
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0771		pg/g	0.0771	4.70
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0836		pg/g	0.0836	4.70
72918-21-9	1,2,3,7,8,9-HxCDF	U	.138		pg/g	0.138	4.70
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0808		pg/g	0.0808	4.70
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.135		pg/g	0.135	4.70
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.329		pg/g	0.329	9.40
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.164		pg/g	0.164	0.940
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.091		pg/g	0.091	4.70
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.12		pg/g	0.120	4.70
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.164		pg/g	0.164	4.70
30402-14-3	Total Tetrachlorodibenzofuran	J	0.415		pg/g	0.134	0.940
30402-15-4	Total Pentachlorodibenzofuran	U	.0547		pg/g	0.0547	4.70
55684-94-1	Total Hexachlorodibenzofuran	U	.0771		pg/g	0.0771	4.70
38998-75-3	Total Heptachlorodibenzofuran	U	.0808		pg/g	0.0808	4.70
3333-30-0	TEQ WHO2005 ND=0		0.0223	0.0223	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.200	0.200	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	188	pg/g	89.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		204	188	pg/g	108	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		162	188	pg/g	86.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		163	188	pg/g	86.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		193	188	pg/g	102	(23%-140%)
13C-OCDD		346	376	pg/g	92.0	(17%-157%)
13C-2,3,7,8-TCDF		193	188	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		203	188	pg/g	108	(24%-185%)
13C-2,3,4,7,8-PeCDF		218	188	pg/g	116	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	188	pg/g	86.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		185	188	pg/g	98.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		174	188	pg/g	92.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		169	188	pg/g	90.0	(29%-147%)

Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324018	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: CPBG01-F	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 19:07	Prep Method: SW846 3540C	
Data File: b18jul14a_3-8	Prep Aliquot: 10.1 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.176		pg/g	0.176	0.990
40321-76-4	1,2,3,7,8-PeCDD	U	.095		pg/g	0.095	4.95
39227-28-6	1,2,3,4,7,8-HxCDD	U	.128		pg/g	0.128	4.95
57653-85-7	1,2,3,6,7,8-HxCDD	U	.115		pg/g	0.115	4.95
19408-74-3	1,2,3,7,8,9-HxCDD	U	.128		pg/g	0.128	4.95
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.197		pg/g	0.197	4.95
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.648		pg/g	0.370	9.90
51207-31-9	2,3,7,8-TCDF	J	0.240		pg/g	0.151	0.990
57117-41-6	1,2,3,7,8-PeCDF	U	.0739		pg/g	0.0739	4.95
57117-31-4	2,3,4,7,8-PeCDF	U	.0651		pg/g	0.0651	4.95
70648-26-9	1,2,3,4,7,8-HxCDF	U	.076		pg/g	0.076	4.95
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0739		pg/g	0.0739	4.95
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0804		pg/g	0.0804	4.95
72918-21-9	1,2,3,7,8,9-HxCDF	U	.126		pg/g	0.126	4.95
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0931		pg/g	0.0931	4.95
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.16		pg/g	0.160	4.95
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.38		pg/g	0.380	9.90
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.176		pg/g	0.176	0.990
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.095		pg/g	0.095	4.95
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.115		pg/g	0.115	4.95
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.197		pg/g	0.197	4.95
30402-14-3	Total Tetrachlorodibenzofuran	J	0.436		pg/g	0.151	0.990
30402-15-4	Total Pentachlorodibenzofuran	U	.0568		pg/g	0.0568	4.95
55684-94-1	Total Hexachlorodibenzofuran	U	.0739		pg/g	0.0739	4.95
38998-75-3	Total Heptachlorodibenzofuran	U	.0931		pg/g	0.0931	4.95
3333-30-0	TEQ WHO2005 ND=0		0.0242	0.0242	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.209	0.209	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	198	pg/g	89.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		217	198	pg/g	110	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		160	198	pg/g	80.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	198	pg/g	85.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		198	198	pg/g	100	(23%-140%)
13C-OCDD		360	396	pg/g	90.8	(17%-157%)
13C-2,3,7,8-TCDF		201	198	pg/g	101	(24%-169%)
13C-1,2,3,7,8-PeCDF		209	198	pg/g	105	(24%-185%)
13C-2,3,4,7,8-PeCDF		229	198	pg/g	116	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		166	198	pg/g	84.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		187	198	pg/g	94.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		178	198	pg/g	90.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		177	198	pg/g	89.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324019
 Client Sample: 1613B Tissue
 Client ID: CPBG02-F
 Batch ID: 26413
 Run Date: 07/19/2014 19:55
 Data File: b18jul14a_3-9
 Prep Batch: 26411
 Prep Date: 17-JUL-14

Client: TRCC001
 Date Collected: 06/17/2014 00:00
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.29 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.186		pg/g	0.186	0.972
40321-76-4	1,2,3,7,8-PeCDD	U	.103		pg/g	0.103	4.86
39227-28-6	1,2,3,4,7,8-HxCDD	U	.134		pg/g	0.134	4.86
57653-85-7	1,2,3,6,7,8-HxCDD	U	.119		pg/g	0.119	4.86
19408-74-3	1,2,3,7,8,9-HxCDD	U	.133		pg/g	0.133	4.86
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.225		pg/g	0.225	4.86
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK U ✓	0.507	0.507	pg/g	0.362	9.72
51207-31-9	2,3,7,8-TCDF	J	0.288		pg/g	0.140	0.972
57117-41-6	1,2,3,7,8-PeCDF	U	.0733		pg/g	0.0733	4.86
57117-31-4	2,3,4,7,8-PeCDF	U	.0641		pg/g	0.0641	4.86
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0741		pg/g	0.0741	4.86
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0702		pg/g	0.0702	4.86
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0781		pg/g	0.0781	4.86
72918-21-9	1,2,3,7,8,9-HxCDF	U	.125		pg/g	0.125	4.86
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0927		pg/g	0.0927	4.86
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.154		pg/g	0.154	4.86
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.418		pg/g	0.418	9.72
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.186		pg/g	0.186	0.972
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.103		pg/g	0.103	4.86
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.119		pg/g	0.119	4.86
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.225		pg/g	0.225	4.86
30402-14-3	Total Tetrachlorodibenzofuran	J	0.503		pg/g	0.140	0.972
30402-15-4	Total Pentachlorodibenzofuran	U	.0641		pg/g	0.0641	4.86
55684-94-1	Total Hexachlorodibenzofuran	U	.0702		pg/g	0.0702	4.86
38998-75-3	Total Heptachlorodibenzofuran	U	.0927		pg/g	0.0927	4.86
3333-30-0	TEQ WHO2005 ND=0		0.0288	0.0289	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.223	0.223	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		167	194	pg/g	85.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		197	194	pg/g	102	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		155	194	pg/g	79.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		167	194	pg/g	85.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		185	194	pg/g	95.4	(23%-140%)
13C-OCDD		327	389	pg/g	84.1	(17%-157%)
13C-2,3,7,8-TCDF		191	194	pg/g	98.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		195	194	pg/g	100	(24%-185%)
13C-2,3,4,7,8-PeCDF		211	194	pg/g	109	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		169	194	pg/g	87.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		173	194	pg/g	89.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	194	pg/g	87.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		171	194	pg/g	87.9	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324020	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: CPLMB01-F	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26413	Analyst: JTF	Dilution: 1
Run Date: 07/19/2014 20:43	Prep Method: SW846 3540C	
Data File: b18jul14a_3-10	Prep Aliquot: 10.26 g	
Prep Batch: 26411		
Prep Date: 17-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.168		pg/g	0.168	0.975
40321-76-4	1,2,3,7,8-PeCDD	U	.0947		pg/g	0.0947	4.87
39227-28-6	1,2,3,4,7,8-HxCDD	U	.115		pg/g	0.115	4.87
57653-85-7	1,2,3,6,7,8-HxCDD	U	.111		pg/g	0.111	4.87
19408-74-3	1,2,3,7,8,9-HxCDD	U	.119		pg/g	0.119	4.87
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.174		pg/g	0.174	4.87
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK	.248	0.480	pg/g	0.363	9.75
51207-31-9	2,3,7,8-TCDF	J	.0789		pg/g	0.140	0.975
57117-41-6	1,2,3,7,8-PeCDF	U	.0686		pg/g	0.0789	4.87
57117-31-4	2,3,4,7,8-PeCDF	U	.0704		pg/g	0.0686	4.87
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0663		pg/g	0.0704	4.87
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0723		pg/g	0.0663	4.87
60851-34-5	2,3,4,6,7,8-HxCDF	U	.11		pg/g	0.0723	4.87
72918-21-9	1,2,3,7,8,9-HxCDF	U	.0844		pg/g	0.110	4.87
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.141		pg/g	0.0844	4.87
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.376		pg/g	0.141	4.87
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.168		pg/g	0.376	9.75
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.0947		pg/g	0.168	0.975
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.111		pg/g	0.0947	4.87
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.174		pg/g	0.111	4.87
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.435		pg/g	0.174	4.87
30402-14-3	Total Tetrachlorodibenzofuran	J	.0517		pg/g	0.140	0.975
30402-15-4	Total Pentachlorodibenzofuran	U	.0663		pg/g	0.0517	4.87
55684-94-1	Total Hexachlorodibenzofuran	U	.0844		pg/g	0.0663	4.87
38998-75-3	Total Heptachlorodibenzofuran	U	.0248	0.0249	pg/g	0.0844	4.87
3333-30-0	TEQ WHO2005 ND=0		0.203	0.203	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5				pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		168	195	pg/g	86.2	(25%-164%)
13C-1,2,3,7,8-PeCDD		203	195	pg/g	104	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		150	195	pg/g	77.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		174	195	pg/g	89.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		195	195	pg/g	100	(23%-140%)
13C-OCDD		328	390	pg/g	84.0	(17%-157%)
13C-2,3,7,8-TCDF		198	195	pg/g	101	(24%-169%)
13C-1,2,3,7,8-PeCDF		198	195	pg/g	102	(24%-185%)
13C-2,3,4,7,8-PeCDF		215	195	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		165	195	pg/g	84.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		186	195	pg/g	95.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		179	195	pg/g	91.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		172	195	pg/g	88.3	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324021	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: CPLMB02-F	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26440	Analyst: JTF	Dilution: 1
Run Date: 07/23/2014 09:17	Prep Method: SW846 3540C	
Data File: b22jul14a_3-4	Prep Aliquot: 10.49 g	
Prep Batch: 26438		
Prep Date: 18-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.233		pg/g	0.233	0.953
40321-76-4	1,2,3,7,8-PeCDD	U	.153		pg/g	0.153	4.77
39227-28-6	1,2,3,4,7,8-HxCDD	U	.215		pg/g	0.215	4.77
57653-85-7	1,2,3,6,7,8-HxCDD	U	.208		pg/g	0.208	4.77
19408-74-3	1,2,3,7,8,9-HxCDD	U	.225		pg/g	0.225	4.77
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.261		pg/g	0.261	4.77
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	.826		pg/g	0.690	9.53
51207-31-9	2,3,7,8-TCDF	J	0.214		pg/g	0.190	0.953
57117-41-6	1,2,3,7,8-PeCDF	U	.0995		pg/g	0.0995	4.77
57117-31-4	2,3,4,7,8-PeCDF	U	.0902		pg/g	0.0902	4.77
70648-26-9	1,2,3,4,7,8-HxCDF	U	.118		pg/g	0.118	4.77
57117-44-9	1,2,3,6,7,8-HxCDF	U	.115		pg/g	0.115	4.77
60851-34-5	2,3,4,6,7,8-HxCDF	U	.122		pg/g	0.122	4.77
72918-21-9	1,2,3,7,8,9-HxCDF	U	.186		pg/g	0.186	4.77
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.194		pg/g	0.194	4.77
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.322		pg/g	0.322	4.77
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.601		pg/g	0.601	9.53
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.233		pg/g	0.233	0.953
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.153		pg/g	0.153	4.77
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.208		pg/g	0.208	4.77
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.261		pg/g	0.261	4.77
30402-14-3	Total Tetrachlorodibenzofuran	J	0.214		pg/g	0.190	0.953
30402-15-4	Total Pentachlorodibenzofuran	U	.0902		pg/g	0.0902	4.77
55684-94-1	Total Hexachlorodibenzofuran	U	.115		pg/g	0.115	4.77
38998-75-3	Total Heptachlorodibenzofuran	U	.194		pg/g	0.194	4.77
3333-30-0	TEQ WHO2005 ND=0		0.0216	0.0216	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.293	0.293	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	191	pg/g	88.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		166	191	pg/g	87.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		158	191	pg/g	83.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	191	pg/g	89.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		184	191	pg/g	96.5	(23%-140%)
13C-OCDD		307	381	pg/g	80.6	(17%-157%)
13C-2,3,7,8-TCDF		179	191	pg/g	93.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		161	191	pg/g	84.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	191	pg/g	89.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		164	191	pg/g	86.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		174	191	pg/g	91.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		169	191	pg/g	88.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	191	pg/g	87.6	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324
 Lab Sample ID: 6324022
 Client Sample: 1613B Tissue
 Client ID: CPLMB02-F Dup
 Batch ID: 26440
 Run Date: 07/23/2014 10:04
 Data File: b22jul14a_3-5
 Prep Batch: 26438
 Prep Date: 18-JUL-14

Client: TRCC001
 Date Collected: 06/17/2014 00:00
 Date Received: 07/10/2014 09:15
 Method: EPA Method 1613B
 Analyst: JTF
 Prep Method: SW846 3540C
 Prep Aliquot: 10.4 g

Project: TRCC00314
 Matrix: TISSUE
 Prep Basis: As Received
 Instrument: HRP763
 Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.235		pg/g	0.235	0.962
40321-76-4	1,2,3,7,8-PeCDD	U	.124		pg/g	0.124	4.81
39227-28-6	1,2,3,4,7,8-HxCDD	U	.179		pg/g	0.179	4.81
57653-85-7	1,2,3,6,7,8-HxCDD	U	.174		pg/g	0.174	4.81
19408-74-3	1,2,3,7,8,9-HxCDD	U	.187		pg/g	0.187	4.81
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.283		pg/g	0.283	4.81
3268-87-9	1,2,3,4,6,7,8,9-OCDD	U	.644		pg/g	0.644	9.62
51207-31-9	2,3,7,8-TCDF	J	0.235		pg/g	0.173	0.962
57117-41-6	1,2,3,7,8-PeCDF	U	.0846		pg/g	0.0846	4.81
57117-31-4	2,3,4,7,8-PeCDF	U	.075		pg/g	0.075	4.81
70648-26-9	1,2,3,4,7,8-HxCDF	U	.116		pg/g	0.116	4.81
57117-44-9	1,2,3,6,7,8-HxCDF	U	.11		pg/g	0.110	4.81
60851-34-5	2,3,4,6,7,8-HxCDF	U	.119		pg/g	0.119	4.81
72918-21-9	1,2,3,7,8,9-HxCDF	U	.184		pg/g	0.184	4.81
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.16		pg/g	0.160	4.81
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.265		pg/g	0.265	4.81
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.625		pg/g	0.625	9.62
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.235		pg/g	0.235	0.962
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.124		pg/g	0.124	4.81
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.174		pg/g	0.174	4.81
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.283		pg/g	0.283	4.81
30402-14-3	Total Tetrachlorodibenzofuran	J	0.235	0.421	pg/g	0.173	0.962
30402-15-4	Total Pentachlorodibenzofuran	U	.0656		pg/g	0.0656	4.81
55684-94-1	Total Hexachlorodibenzofuran	U	.11		pg/g	0.110	4.81
38998-75-3	Total Heptachlorodibenzofuran	U	.16		pg/g	0.160	4.81
3333-30-0	TEQ WHO2005 ND=0		0.0235	0.0235	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.272	0.272	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	192	pg/g	88.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		170	192	pg/g	88.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		160	192	pg/g	83.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		166	192	pg/g	86.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		177	192	pg/g	91.8	(23%-140%)
13C-OCDD		284	385	pg/g	73.9	(17%-157%)
13C-2,3,7,8-TCDF		178	192	pg/g	92.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		161	192	pg/g	84.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		172	192	pg/g	89.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		165	192	pg/g	85.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		172	192	pg/g	89.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		168	192	pg/g	87.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		160	192	pg/g	83.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324023	Date Collected: 06/17/2014 09:30	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	Prep Basis: As Received
Client ID: LFLMB02-F	Method: EPA Method 1613B	Instrument: HRP763
Batch ID: 26440	Analyst: JTF	Dilution: 1
Run Date: 07/23/2014 10:52	Prep Method: SW846 3540C	
Data File: b22jul14a_3-6	Prep Aliquot: 10.05 g	
Prep Batch: 26438		
Prep Date: 18-JUL-14		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.275		pg/g	0.275	0.995
40321-76-4	1,2,3,7,8-PeCDD	U	.166		pg/g	0.166	4.98
39227-28-6	1,2,3,4,7,8-HxCDD	U	.227		pg/g	0.227	4.98
57653-85-7	1,2,3,6,7,8-HxCDD	U	.219		pg/g	0.219	4.98
19408-74-3	1,2,3,7,8,9-HxCDD	U	.235		pg/g	0.235	4.98
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.376		pg/g	0.376	4.98
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK ✓	.241	0.852	pg/g	0.754	9.95
51207-31-9	2,3,7,8-TCDF	U	.144		pg/g	0.241	0.995
57117-41-6	1,2,3,7,8-PeCDF	U	.123		pg/g	0.144	4.98
57117-31-4	2,3,4,7,8-PeCDF	U	.172		pg/g	0.123	4.98
70648-26-9	1,2,3,4,7,8-HxCDF	U	.154		pg/g	0.172	4.98
57117-44-9	1,2,3,6,7,8-HxCDF	U	.174		pg/g	0.154	4.98
60851-34-5	2,3,4,6,7,8-HxCDF	U	.263		pg/g	0.174	4.98
72918-21-9	1,2,3,7,8,9-HxCDF	U	.261		pg/g	0.263	4.98
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.472		pg/g	0.261	4.98
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.961		pg/g	0.472	4.98
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.275		pg/g	0.961	9.95
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.166		pg/g	0.275	0.995
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.219		pg/g	0.166	4.98
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.376		pg/g	0.219	4.98
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.241		pg/g	0.376	4.98
30402-14-3	Total Tetrachlorodibenzofuran	U	.123		pg/g	0.241	0.995
30402-15-4	Total Pentachlorodibenzofuran	U	.154		pg/g	0.123	4.98
55684-94-1	Total Hexachlorodibenzofuran	U	.261		pg/g	0.154	4.98
38998-75-3	Total Heptachlorodibenzofuran	U	0.00	0.000256	pg/g	0.261	4.98
3333-30-0	TEQ WHO2005 ND=0		0.331	0.331	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5				pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	199	pg/g	85.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		167	199	pg/g	83.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		153	199	pg/g	76.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	199	pg/g	85.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		178	199	pg/g	89.2	(23%-140%)
13C-OCDD		284	398	pg/g	71.2	(17%-157%)
13C-2,3,7,8-TCDF		183	199	pg/g	91.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		160	199	pg/g	80.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		175	199	pg/g	88.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		160	199	pg/g	80.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		177	199	pg/g	89.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	199	pg/g	86.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		159	199	pg/g	79.9	(29%-147%)

APPENDIX D

LABORATORY ANALYTICAL REPORTS



ANALYTICAL REPORT

Lab Number:	L1413507
Client:	TRC Environmental Consultants Wannalancit Mills 650 Suffolk Street Lowell, MA 01854
ATTN:	Liz Denly
Phone:	(978) 656-3577
Project Name:	MONTGOMERY COUNTY RRF
Project Number:	MONTGOMERY COUNTY
Report Date:	07/11/14

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNTY

Report Date: 07/11/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1413507-01	EB01	WATER	DICKERSON, MD	06/17/14 09:00	06/18/14
L1413507-02	LFSW01	WATER	DICKERSON, MD	06/17/14 09:45	06/18/14
L1413507-03	LFSW02	WATER	DICKERSON, MD	06/17/14 10:20	06/18/14
L1413507-04	LFSW03	WATER	DICKERSON, MD	06/17/14 10:20	06/18/14
L1413507-05	LFSD01	SEDIMENT	DICKERSON, MD	06/17/14 10:00	06/18/14
L1413507-06	LFSD02	SEDIMENT	DICKERSON, MD	06/17/14 10:45	06/18/14
L1413507-07	JFM01	LIQUID	DICKERSON, MD	06/17/14 13:35	06/18/14
L1413507-08	JFM02	LIQUID	DICKERSON, MD	06/17/14 13:40	06/18/14
L1413507-09	JFM03	LIQUID	DICKERSON, MD	06/17/14 13:45	06/18/14
L1413507-10	LFSD03	SEDIMENT	DICKERSON, MD	06/17/14 10:45	06/18/14
L1413507-11	YFSW01	WATER	DICKERSON, MD	06/17/14 14:40	06/19/14
L1413507-12	YFSW02	WATER	DICKERSON, MD	06/17/14 15:00	06/19/14
L1413507-13	YFSD01	SEDIMENT	DICKERSON, MD	06/17/14 14:45	06/19/14
L1413507-14	YFSD02	SEDIMENT	DICKERSON, MD	06/17/14 15:05	06/19/14
L1413507-15	CPSW01	WATER	DICKERSON, MD	06/18/14 11:00	06/19/14
L1413507-16	CPSW02	WATER	DICKERSON, MD	06/18/14 11:30	06/19/14
L1413507-17	CPSD01	SEDIMENT	DICKERSON, MD	06/18/14 11:15	06/19/14
L1413507-18	CPSD02	SEDIMENT	DICKERSON, MD	06/18/14 11:45	06/19/14
L1413507-19	JFM01	LIQUID	DICKERSON, MD	06/17/14 13:35	06/18/14
L1413507-20	JFM02	LIQUID	DICKERSON, MD	06/17/14 13:40	06/18/14

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Case Narrative (continued)

Metals

Samples L1413507-07, -08, and -09 have elevated detection limits due to the dilution required by matrix interferences encountered during analysis.

The WG703170-4/-5 MS/MSD recoveries, performed on L1413507-07, are outside the acceptance criteria for Arsenic, Total (137%/137%); however, the associated LCS recoveries were within criteria. No further action was taken.

The WG704286-3 Laboratory Duplicate RPD, performed on L1413507-10, is outside the acceptance criteria for Arsenic, Total (23%). The elevated RPD has been attributed to the non-homogeneous nature of the sample utilized for the laboratory duplicate.


Mercury

The WG703173-4/-5 MS/MSD recoveries, performed on L1413507-07, are outside the acceptance criteria for Mercury, Total (53%/51%); however, the associated LCS recovery was within criteria. No further action was taken.

The WG704291-4 MS recovery, performed on L1413507-17, is outside the acceptance criteria for Mercury, Total (75%); however, the associated LCS and MSD recoveries were within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Elizabeth Porta

Title: Technical Director/Representative

Date: 07/11/14

METALS

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-01
 Client ID: EB01
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 09:00
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00102		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00009	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00005	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Chromium, Total	0.00251		mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Lead, Total	0.00227		mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:40	EPA 7470A	1,7470A	AK
Nickel, Total	0.00195		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	0.358	J	mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 13:03	EPA 3020A	1,6020A	BS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-02
 Client ID: LFSW01
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 09:45
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00171		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00011	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00003	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Chromium, Total	0.00070	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Lead, Total	0.00078	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:43	EPA 7470A	1,7470A	AK
Nickel, Total	0.00301		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	61.3		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:49	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00150		mg/l	0.00050	0.00008	1		07/09/14 10:01	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:01	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:01	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:01	NA	1,6020A	PD
Lead, Dissolved	0.00037	J	mg/l	0.00100	0.00006	1		07/09/14 10:01	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:34	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00233		mg/l	0.00050	0.00015	1		07/09/14 10:01	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-03
 Client ID: LFSW02
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 10:20
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00129		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00001	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Chromium, Total	0.00063	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Lead, Total	0.00065	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:45	EPA 7470A	1,7470A	AK
Nickel, Total	0.00266		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	50.7		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:53	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00103		mg/l	0.00050	0.00008	1		07/09/14 10:02	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:02	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:02	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:02	NA	1,6020A	PD
Lead, Dissolved	0.00038	J	mg/l	0.00100	0.00006	1		07/09/14 10:02	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:37	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00236		mg/l	0.00050	0.00015	1		07/09/14 10:02	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-04
 Client ID: LFSW03
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 10:20
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00126		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00010	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Chromium, Total	0.00063	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Lead, Total	0.00061	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:48	EPA 7470A	1,7470A	AK
Nickel, Total	0.00268		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	51.2		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:54	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00090		mg/l	0.00050	0.00008	1		07/09/14 10:07	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:07	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:07	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:07	NA	1,6020A	PD
Lead, Dissolved	0.00037	J	mg/l	0.00100	0.00006	1		07/09/14 10:07	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:39	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00238		mg/l	0.00050	0.00015	1		07/09/14 10:07	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNTY

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-05

Date Collected: 06/17/14 10:00

Client ID: LFSD01

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Sediment

Percent Solids: 53%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.49		mg/kg	0.052	0.006	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Beryllium, Total	1.24		mg/kg	0.031	0.009	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Cadmium, Total	0.160		mg/kg	0.021	0.003	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Chromium, Total	22.6		mg/kg	0.208	0.049	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD
Lead, Total	17.6		mg/kg	0.312	0.100	10	07/09/14 14:00	07/10/14 16:10	EPA 3050B	1,6020A	PD
Mercury, Total	0.025		mg/kg	0.010	0.007	1	07/09/14 14:00	07/10/14 14:42	EPA 7471B	1,7471B	AK
Nickel, Total	15.4		mg/kg	0.104	0.016	2	07/09/14 14:00	07/10/14 15:06	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNT

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-06

Date Collected: 06/17/14 10:45

Client ID: LFSD02

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Sediment

Percent Solids: 57%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.914		mg/kg	0.047	0.006	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Beryllium, Total	0.883		mg/kg	0.028	0.008	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Cadmium, Total	0.067		mg/kg	0.019	0.002	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Chromium, Total	18.6		mg/kg	0.186	0.044	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD
Lead, Total	14.3		mg/kg	0.279	0.090	10	07/09/14 14:00	07/10/14 16:11	EPA 3050B	1,6020A	PD
Mercury, Total	0.017		mg/kg	0.010	0.007	1	07/09/14 14:00	07/10/14 14:45	EPA 7471B	1,7471B	AK
Nickel, Total	9.36		mg/kg	0.093	0.014	2	07/09/14 14:00	07/10/14 15:07	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNTY

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-07

Date Collected: 06/17/14 13:35

Client ID: JFM01

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Liquid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00383	J	mg/l	0.00500	0.00085	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Beryllium, Total	ND		mg/l	0.00500	0.00086	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Cadmium, Total	0.00027	J	mg/l	0.00500	0.00015	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Chromium, Total	0.178		mg/l	0.0100	0.00298	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Lead, Total	0.00079	J	mg/l	0.0100	0.00065	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD
Mercury, Total	ND		mg/l	0.00040	0.00014	2	07/07/14 09:00	07/08/14 16:40	EPA 7470A	1,7470A	AK
Nickel, Total	0.01669		mg/l	0.00500	0.00152	10	07/07/14 09:00	07/10/14 17:45	EPA 3020A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNTY

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-08

Date Collected: 06/17/14 13:40

Client ID: JFM02

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Liquid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00596		mg/l	0.00500	0.00085	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Beryllium, Total	ND		mg/l	0.00500	0.00086	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Cadmium, Total	ND		mg/l	0.00500	0.00015	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Chromium, Total	0.185		mg/l	0.0100	0.00298	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Lead, Total	ND		mg/l	0.0100	0.00065	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD
Mercury, Total	ND		mg/l	0.00040	0.00014	2	07/07/14 09:00	07/08/14 16:49	EPA 7470A	1,7470A	AK
Nickel, Total	0.01678		mg/l	0.00500	0.00152	10	07/07/14 09:00	07/10/14 17:40	EPA 3020A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNT

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-09

Date Collected: 06/17/14 13:45

Client ID: JFM03

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Liquid

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00402	J	mg/l	0.00500	0.00085	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Beryllium, Total	ND		mg/l	0.00500	0.00086	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Cadmium, Total	ND		mg/l	0.00500	0.00015	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Chromium, Total	0.183		mg/l	0.0100	0.00298	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Lead, Total	ND		mg/l	0.0100	0.00065	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD
Mercury, Total	ND		mg/l	0.00040	0.00014	2	07/07/14 09:00	07/08/14 16:21	EPA 7470A	1,7470A	AK
Nickel, Total	0.01648		mg/l	0.00500	0.00152	10	07/07/14 09:00	07/10/14 17:41	EPA 3020A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-10
 Client ID: LFSD03
 Sample Location: DICKERSON, MD
 Matrix: Sediment
 Percent Solids: 60%

Date Collected: 06/17/14 10:45
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.31		mg/kg	0.046	0.006	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Beryllium, Total	1.10		mg/kg	0.028	0.008	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Cadmium, Total	0.087		mg/kg	0.018	0.002	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Chromium, Total	20.6		mg/kg	0.183	0.043	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD
Lead, Total	17.1		mg/kg	0.275	0.089	10	07/09/14 14:00	07/10/14 16:12	EPA 3050B	1,6020A	PD
Mercury, Total	0.018		mg/kg	0.010	0.007	1	07/09/14 14:00	07/10/14 14:48	EPA 7471B	1,7471B	AK
Nickel, Total	11.7		mg/kg	0.092	0.014	2	07/09/14 14:00	07/10/14 15:11	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-11
 Client ID: YFSW01
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 14:40
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00125		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00023	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00002	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Chromium, Total	0.00222		mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Lead, Total	0.00336		mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:56	EPA 7470A	1,7470A	AK
Nickel, Total	0.00251		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	72.5		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:59	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00058		mg/l	0.00050	0.00008	1		07/09/14 10:08	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:08	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:08	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:08	NA	1,6020A	PD
Lead, Dissolved	0.00027	J	mg/l	0.00100	0.00006	1		07/09/14 10:08	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:47	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00085		mg/l	0.00050	0.00015	1		07/09/14 10:08	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-12
 Client ID: YFSW02
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/17/14 15:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00075		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Chromium, Total	0.00047	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Lead, Total	0.00060	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:59	EPA 7470A	1,7470A	AK
Nickel, Total	0.00112		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	73.2		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 12:00	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00046	J	mg/l	0.00050	0.00008	1		07/09/14 10:10	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:10	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:10	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:10	NA	1,6020A	PD
Lead, Dissolved	0.00017	J	mg/l	0.00100	0.00006	1		07/09/14 10:10	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:50	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00084		mg/l	0.00050	0.00015	1		07/09/14 10:10	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNT

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-13

Date Collected: 06/17/14 14:45

Client ID: YFSD01

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Sediment

Percent Solids: 65%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.58		mg/kg	0.039	0.005	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Beryllium, Total	1.34		mg/kg	0.023	0.007	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Cadmium, Total	0.057		mg/kg	0.016	0.002	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Chromium, Total	11.5		mg/kg	0.156	0.037	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD
Lead, Total	15.9		mg/kg	0.233	0.075	10	07/09/14 14:00	07/10/14 16:16	EPA 3050B	1,6020A	PD
Mercury, Total	0.012		mg/kg	0.009	0.006	1	07/09/14 14:00	07/10/14 14:56	EPA 7471B	1,7471B	AK
Nickel, Total	5.31		mg/kg	0.078	0.012	2	07/09/14 14:00	07/10/14 15:15	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNT

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-14
 Client ID: YFSD02
 Sample Location: DICKERSON, MD
 Matrix: Sediment
 Percent Solids: 43%

Date Collected: 06/17/14 15:05
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.86		mg/kg	0.059	0.007	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Beryllium, Total	1.13		mg/kg	0.035	0.010	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Cadmium, Total	0.163		mg/kg	0.024	0.003	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Chromium, Total	17.2		mg/kg	0.236	0.055	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD
Lead, Total	29.1		mg/kg	0.354	0.114	10	07/09/14 14:00	07/10/14 16:17	EPA 3050B	1,6020A	PD
Mercury, Total	0.042		mg/kg	0.013	0.009	1	07/09/14 14:00	07/10/14 14:58	EPA 7471B	1,7471B	AK
Nickel, Total	11.2		mg/kg	0.118	0.018	2	07/09/14 14:00	07/10/14 15:17	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-15
 Client ID: CPSW01
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/18/14 11:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00090		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Beryllium, Total	0.00009	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Chromium, Total	0.00039	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Lead, Total	0.00052	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:08	EPA 7470A	1,7470A	AK
Nickel, Total	0.00060		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	22.0		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 12:02	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00053		mg/l	0.00050	0.00008	1		07/09/14 10:11	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:11	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:11	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:11	NA	1,6020A	PD
Lead, Dissolved	0.00020	J	mg/l	0.00100	0.00006	1		07/09/14 10:11	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:53	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00040	J	mg/l	0.00050	0.00015	1		07/09/14 10:11	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-16
 Client ID: CPSW02
 Sample Location: DICKERSON, MD
 Matrix: Water

Date Collected: 06/18/14 11:30
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00088		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Cadmium, Total	0.00003	J	mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Chromium, Total	0.00045	J	mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Lead, Total	0.00045	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Mercury, Total	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:18	EPA 7470A	1,7470A	AK
Nickel, Total	0.00103		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	21.7		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 13:06	EPA 3020A	1,6020A	BS
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.00165		mg/l	0.00050	0.00008	1		07/09/14 10:18	NA	1,6020A	PD
Beryllium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:18	NA	1,6020A	PD
Cadmium, Dissolved	ND		mg/l	0.00050	0.00008	1		07/09/14 10:18	NA	1,6020A	PD
Chromium, Dissolved	ND		mg/l	0.00100	0.00029	1		07/09/14 10:18	NA	1,6020A	PD
Lead, Dissolved	0.00086	J	mg/l	0.00100	0.00006	1		07/09/14 10:18	NA	1,6020A	PD
Mercury, Dissolved	ND		mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 11:14	EPA 7470A	1,7470A	AK
Nickel, Dissolved	0.00048	J	mg/l	0.00050	0.00015	1		07/09/14 10:18	NA	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNTY

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-17

Date Collected: 06/18/14 11:15

Client ID: CPSD01

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Sediment

Percent Solids: 73%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.34		mg/kg	0.037	0.005	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Beryllium, Total	1.61		mg/kg	0.022	0.006	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Cadmium, Total	0.104		mg/kg	0.015	0.002	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Chromium, Total	17.0		mg/kg	0.149	0.035	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD
Lead, Total	17.0		mg/kg	0.224	0.072	10	07/09/14 14:00	07/10/14 16:19	EPA 3050B	1,6020A	PD
Mercury, Total	0.023		mg/kg	0.008	0.005	1	07/09/14 14:00	07/10/14 15:01	EPA 7471B	1,7471B	AK
Nickel, Total	10.0		mg/kg	0.075	0.011	2	07/09/14 14:00	07/10/14 15:18	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNT

Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-18

Date Collected: 06/18/14 11:45

Client ID: CPSD02

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Sediment

Percent Solids: 66%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.39		mg/kg	0.046	0.006	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Beryllium, Total	0.686		mg/kg	0.028	0.008	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Cadmium, Total	0.034		mg/kg	0.018	0.002	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Chromium, Total	18.8		mg/kg	0.184	0.043	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD
Lead, Total	16.4		mg/kg	0.276	0.089	10	07/09/14 14:00	07/10/14 16:25	EPA 3050B	1,6020A	PD
Mercury, Total	0.053		mg/kg	0.008	0.006	1	07/09/14 14:00	07/10/14 15:17	EPA 7471B	1,7471B	AK
Nickel, Total	6.86		mg/kg	0.092	0.014	2	07/09/14 14:00	07/10/14 15:22	EPA 3050B	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-04,11-12,15-16 Batch: WG703169-1										
Arsenic, Total	0.00027	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS
Chromium, Total	ND		mg/l	0.00100	0.00029	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS
Lead, Total	0.00009	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS
Nickel, Total	ND		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS

Prep Information

Digestion Method: EPA 3020A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01-04,11-12,15-16 Batch: WG703169-1										
Hardness	ND		mg/l	0.460	0.230	1	07/07/14 09:00	07/09/14 11:44	1,6020A	BS

Prep Information

Digestion Method: EPA 3020A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 07-09 Batch: WG703170-1										
Arsenic, Total	0.00017	J	mg/l	0.00050	0.00008	1	07/07/14 09:00	07/10/14 17:31	1,6020A	PD
Beryllium, Total	ND		mg/l	0.00050	0.00008	1	07/07/14 09:00	07/10/14 17:31	1,6020A	PD
Cadmium, Total	ND		mg/l	0.00050	0.00001	1	07/07/14 09:00	07/10/14 17:31	1,6020A	PD
Chromium, Total	ND		mg/l	0.00100	0.00029	1	07/07/14 09:00	07/10/14 17:31	1,6020A	PD
Lead, Total	0.00006	J	mg/l	0.00100	0.00006	1	07/07/14 09:00	07/10/14 17:31	1,6020A	PD
Nickel, Total	ND		mg/l	0.00050	0.00015	1	07/07/14 09:00	07/10/14 17:31	1,6020A	PD

Prep Information

Digestion Method: EPA 3020A



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-04,11-12,15-16 Batch: WG703171-1									
Mercury, Total	ND	mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 09:33	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 07-09 Batch: WG703173-1									
Mercury, Total	ND	mg/l	0.00020	0.00007	1	07/07/14 09:00	07/08/14 16:15	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 02-04,11-12,15-16 Batch: WG703174-1									
Mercury, Dissolved	ND	mg/l	0.00020	0.00007	1	07/07/14 09:00	07/09/14 10:27	1,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 02-04,11-12,15-16 Batch: WG704282-1									
Arsenic, Dissolved	ND	mg/l	0.00050	0.00008	1		07/09/14 09:58	1,6020A	PD
Beryllium, Dissolved	ND	mg/l	0.00050	0.00008	1		07/09/14 09:58	1,6020A	PD
Cadmium, Dissolved	ND	mg/l	0.00050	0.00008	1		07/09/14 09:58	1,6020A	PD
Chromium, Dissolved	ND	mg/l	0.00100	0.00029	1		07/09/14 09:58	1,6020A	PD
Lead, Dissolved	ND	mg/l	0.00100	0.00006	1		07/09/14 09:58	1,6020A	PD
Nickel, Dissolved	ND	mg/l	0.00050	0.00015	1		07/09/14 09:58	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: NA

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05-06,10,13-14,17-18 Batch: WG704286-1										
Arsenic, Total	0.025	J	mg/kg	0.050	0.006	2	07/09/14 14:00	07/10/14 15:03	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.030	0.009	2	07/09/14 14:00	07/10/14 15:03	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.020	0.003	2	07/09/14 14:00	07/10/14 15:03	1,6020A	PD
Chromium, Total	ND		mg/kg	0.200	0.047	2	07/09/14 14:00	07/10/14 15:03	1,6020A	PD
Lead, Total	ND		mg/kg	0.060	0.019	2	07/09/14 14:00	07/10/14 15:03	1,6020A	PD
Nickel, Total	ND		mg/kg	0.100	0.015	2	07/09/14 14:00	07/10/14 15:03	1,6020A	PD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 05-06,10,13-14,17-18 Batch: WG704291-1										
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/09/14 14:00	07/10/14 14:36	1,7471B	AK

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 Batch: WG703169-2 SRM Lot Number: A2METSPIKE								
Arsenic, Total	106		-		80-120	-		20
Beryllium, Total	107		-		80-120	-		20
Cadmium, Total	103		-		80-120	-		20
Chromium, Total	113		-		80-120	-		20
Lead, Total	111		-		80-120	-		20
Nickel, Total	103		-		80-120	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 Batch: WG703169-2 SRM Lot Number: A2METSPIKE								
Hardness	101		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 07-09 Batch: WG703170-2 SRM Lot Number: A2METSPIKE								
Arsenic, Total	104		-		80-120	-		20
Beryllium, Total	102		-		80-120	-		20
Cadmium, Total	103		-		80-120	-		20
Chromium, Total	110		-		80-120	-		20
Lead, Total	111		-		80-120	-		20
Nickel, Total	104		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 Batch: WG703171-2 SRM Lot Number: HPHGAA								
Mercury, Total	96		-		80-120	-		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

Project Number: MONTGOMERY COUNTY

Report Date: 07/11/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 07-09 Batch: WG703173-2 SRM Lot Number: HPHGAA					
Mercury, Total	105	-	80-120	-	20
Dissolved Metals - Mansfield Lab Associated sample(s): 02-04,11-12,15-16 Batch: WG703174-2 SRM Lot Number: HPHGAA					
Mercury, Dissolved	92	-	80-120	-	20
Dissolved Metals - Mansfield Lab Associated sample(s): 02-04,11-12,15-16 Batch: WG704282-2 SRM Lot Number: A2METSPIKE					
Arsenic, Dissolved	99	-	80-120	-	20
Beryllium, Dissolved	98	-	80-120	-	20
Cadmium, Dissolved	99	-	80-120	-	20
Chromium, Dissolved	106	-	80-120	-	20
Lead, Dissolved	108	-	80-120	-	20
Nickel, Dissolved	100	-	80-120	-	20
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 Batch: WG704286-2 SRM Lot Number: A2METSPIKE					
Arsenic, Total	103	-	75-125	-	20
Beryllium, Total	100	-	75-125	-	20
Cadmium, Total	111	-	75-125	-	20
Chromium, Total	118	-	75-125	-	20
Lead, Total	107	-	75-125	-	20
Nickel, Total	110	-	75-125	-	20

Lab Control Sample Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 Batch: WG704291-2 SRM Lot Number: HPHGAA					
Mercury, Total	109	-	80-120	-	20

Matrix Spike Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 QC Batch ID: WG703169-4 WG703169-5 QC Sample: L1413507-15 Client ID: CPSW01												
Arsenic, Total	0.00090	1	1.022	102		1.072	107		75-125	5		20
Beryllium, Total	0.00009J	0.5	0.5250	105		0.5432	109		75-125	3		20
Cadmium, Total	ND	0.5	0.5199	104		0.5293	106		75-125	2		20
Chromium, Total	0.00039J	1	1.05	105		1.12	112		75-125	6		20
Lead, Total	0.00052J	1	1.06	106		1.12	112		75-125	6		20
Nickel, Total	0.00060	1	1.009	101		1.061	106		75-125	5		20

Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 QC Batch ID: WG703169-4 WG703169-5 QC Sample: L1413507-15 Client ID: CPSW01

Hardness	22.0	33.1	51.9	90		54.8	99		75-125	5		20
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Total Metals - Mansfield Lab Associated sample(s): 07-09 QC Batch ID: WG703170-4 WG703170-5 QC Sample: L1413507-07 Client ID: JFM01

Arsenic, Total	0.00383J	1	1.369	137	Q	1.368	137	Q	75-125	0		20
Beryllium, Total	ND	0.5	0.4787	96		0.5168	103		75-125	8		20
Cadmium, Total	0.00027J	0.5	0.4816	96		0.5003	100		75-125	4		20
Chromium, Total	0.178	1	1.13	95		1.16	98		75-125	3		20
Lead, Total	0.00079J	1	0.951	95		0.973	97		75-125	2		20
Nickel, Total	0.01669	1	0.9645	95		1.023	101		75-125	6		20

Total Metals - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 QC Batch ID: WG703171-4 WG703171-5 QC Sample: L1413507-15 Client ID: CPSW01

Mercury, Total	ND	0.005	0.00461	92		0.00447	90		75-125	3		20
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Matrix Spike Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits	
Total Metals - Mansfield Lab Associated sample(s): 07-09 QC Batch ID: WG703173-4 WG703173-5 QC Sample: L1413507-07 Client ID: JFM01										
Mercury, Total	ND	0.005	0.00264	53	Q	0.00253	51	Q	75-125 4	20
Dissolved Metals - Mansfield Lab Associated sample(s): 02-04,11-12,15-16 QC Batch ID: WG703174-4 WG703174-5 QC Sample: L1413507-15 Client ID: CPSW01										
Mercury, Dissolved	ND	0.005	0.00458	92		0.00472	94		75-125 3	20
Dissolved Metals - Mansfield Lab Associated sample(s): 02-04,11-12,15-16 QC Batch ID: WG704282-4 WG704282-5 QC Sample: L1413507-15 Client ID: CPSW01										
Arsenic, Dissolved	0.00053	1	0.9205	92		0.9384	94		75-125 2	20
Beryllium, Dissolved	ND	0.5	0.5147	103		0.5116	102		75-125 1	20
Cadmium, Dissolved	ND	0.5	0.5017	100		0.4981	100		75-125 1	20
Chromium, Dissolved	ND	1	1.02	102		1.00	100		75-125 2	20
Lead, Dissolved	0.00020J	1	1.02	102		1.02	102		75-125 0	20
Nickel, Dissolved	0.00040J	1	0.9592	96		0.9524	95		75-125 1	20
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704286-4 WG704286-5 QC Sample: L1413507-17 Client ID: CPSD01										
Arsenic, Total	2.34	144	130	89		141	91		75-125 8	20
Beryllium, Total	1.61	71.8	74.0	101		78.8	101		75-125 6	20
Cadmium, Total	0.104	71.8	76.2	106		81.5	107		75-125 7	20
Chromium, Total	17.0	144	173	109		191	114		75-125 10	20
Lead, Total	17.0	144	148	91		147	85		75-125 1	20
Nickel, Total	10.0	144	157	102		163	100		75-125 4	20

Matrix Spike Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits	
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704291-4 WG704291-5 QC Sample: L1413507-17 Client ID: CPD01										
Mercury, Total	0.023	0.184	0.161	75	Q	0.177	80	80-120	9	20



Lab Duplicate Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY CC

Lab Number: L1413507
Report Date: 07/11/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 QC Batch ID: WG703169-3 QC Sample: L1413507-04 Client ID: LFSW03						
Arsenic, Total	0.00126	0.00127	mg/l	1		20
Beryllium, Total	0.00010J	0.00012J	mg/l	NC		20
Cadmium, Total	ND	0.00002J	mg/l	NC		20
Chromium, Total	0.00063J	0.00066J	mg/l	NC		20
Lead, Total	0.00061J	0.00067J	mg/l	NC		20
Nickel, Total	0.00268	0.00281	mg/l	5		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 QC Batch ID: WG703169-3 QC Sample: L1413507-04 Client ID: LFSW03						
Hardness	51.2	53.8	mg/l	5		20
Total Metals - Mansfield Lab Associated sample(s): 07-09 QC Batch ID: WG703170-3 QC Sample: L1413507-09 Client ID: JFM03						
Arsenic, Total	0.00402J	0.00314J	mg/l	NC		20
Beryllium, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.183	0.176	mg/l	4		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.01648	0.01586	mg/l	4		20
Total Metals - Mansfield Lab Associated sample(s): 01-04,11-12,15-16 QC Batch ID: WG703171-3 QC Sample: L1413507-04 Client ID: LFSW03						
Mercury, Total	ND	ND	mg/l	NC		20



Lab Duplicate Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Project Number: MONTGOMERY CC

Lab Number: L1413507

Report Date: 07/11/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 07-09 QC Batch ID: WG703173-3 QC Sample: L1413507-09 Client ID: JFM03					
Mercury, Total	ND	ND	mg/l	NC	20
Dissolved Metals - Mansfield Lab Associated sample(s): 02-04,11-12,15-16 QC Batch ID: WG703174-3 QC Sample: L1413507-04 Client ID: LFSW03					
Mercury, Dissolved	ND	ND	mg/l	NC	20
Dissolved Metals - Mansfield Lab Associated sample(s): 02-04,11-12,15-16 QC Batch ID: WG704282-3 QC Sample: L1413507-04 Client ID: LFSW03					
Arsenic, Dissolved	0.00090	0.00079	mg/l	13	20
Beryllium, Dissolved	ND	0.00011J	mg/l	NC	20
Cadmium, Dissolved	ND	ND	mg/l	NC	20
Chromium, Dissolved	ND	ND	mg/l	NC	20
Lead, Dissolved	0.00037J	0.00037J	mg/l	NC	20
Nickel, Dissolved	0.00238	0.00239	mg/l	1	20
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704286-3 QC Sample: L1413507-10 Client ID: LFSD03					
Arsenic, Total	1.31	1.04	mg/kg	23	Q 20
Beryllium, Total	1.10	1.07	mg/kg	3	20
Cadmium, Total	0.087	0.082	mg/kg	5	20
Chromium, Total	20.6	18.7	mg/kg	10	20
Nickel, Total	11.7	12.0	mg/kg	3	20
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704286-3 QC Sample: L1413507-10 Client ID: LFSD03					
Lead, Total	17.1	17.0	mg/kg	1	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Project Number: MONTGOMERY CC

Lab Number: L1413507

Report Date: 07/11/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704291-3 QC Sample: L1413507-10 Client ID: LFSD03					
Mercury, Total	0.018	0.018	mg/kg	4	20

INORGANICS & MISCELLANEOUS

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-05
Client ID: LFSD01
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 10:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.12		%	0.050	0.050	1	-	07/09/14 11:37	13,-	YX
Total Organic Carbon (Rep2)	2.05		%	0.050	0.050	1	-	07/09/14 11:37	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	53.1		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-06
Client ID: LFSD02
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 10:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.874		%	0.050	0.050	1	-	07/09/14 11:42	13,-	YX
Total Organic Carbon (Rep2)	0.946		%	0.050	0.050	1	-	07/09/14 11:42	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	56.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-10
Client ID: LFSD03
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 10:45
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.900		%	0.050	0.050	1	-	07/09/14 09:32	13,-	YX
Total Organic Carbon (Rep2)	1.01		%	0.050	0.050	1	-	07/09/14 09:32	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	59.6		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-13
Client ID: YFSD01
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 14:45
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.11		%	0.050	0.050	1	-	07/09/14 09:43	13,-	YX
Total Organic Carbon (Rep2)	1.15		%	0.050	0.050	1	-	07/09/14 09:43	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	64.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-14
Client ID: YFSD02
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/17/14 15:05
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.91		%	0.050	0.050	1	-	07/09/14 09:21	13,-	YX
Total Organic Carbon (Rep2)	3.34		%	0.050	0.050	1	-	07/09/14 09:21	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	43.4		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-17
Client ID: CPSD01
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/18/14 11:15
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.787		%	0.050	0.050	1	-	07/09/14 09:53	13,-	YX
Total Organic Carbon (Rep2)	0.800		%	0.050	0.050	1	-	07/09/14 09:53	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	72.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-18
Client ID: CPSD02
Sample Location: DICKERSON, MD
Matrix: Sediment

Date Collected: 06/18/14 11:45
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.437		%	0.050	0.050	1	-	07/09/14 10:04	13,-	YX
Total Organic Carbon (Rep2)	0.443		%	0.050	0.050	1	-	07/09/14 10:04	13,-	YX
General Chemistry - Mansfield Lab										
Solids, Total	65.9		%	0.100	0.100	1	-	07/07/14 10:00	30,2540G	MS



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

SAMPLE RESULTS

Lab ID: L1413507-19
Client ID: JFM01
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:35
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.25		%	0.100	NA	1	-	07/01/14 14:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
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Lab Number: L1413507
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SAMPLE RESULTS

Lab ID: L1413507-20
Client ID: JFM02
Sample Location: DICKERSON, MD
Matrix: Liquid

Date Collected: 06/17/14 13:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.37		%	0.100	NA	1	-	07/01/14 14:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413507

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Report Date: 07/11/14

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 19-20 Batch: WG702532-1									
Percent Lipids	ND	%	0.100	NA	1	-	07/01/14 14:00	111,-	AK
Total Organic Carbon - Mansfield Lab for sample(s): 05-06,10,13-14,17-18 Batch: WG704371-1									
Total Organic Carbon (Rep1)	ND	%	0.050	0.050	1	-	07/08/14 22:35	13,-	YX
Total Organic Carbon (Rep2)	ND	%	0.050	0.050	1	-	07/08/14 22:35	13,-	YX

Matrix Spike Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
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Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704371-4 WG704371-5 QC Sample: L1413507-17 Client ID: CPSD01												
Total Organic Carbon (Rep1)	0.787	1.22	2.14	110		2.11	92		75-125	1		25
Total Organic Carbon (Rep2)	0.800	1.22	2.16	112		2.46	108		75-125	13		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Project Number: MONTGOMERY CC

Lab Number: L1413507

Report Date: 07/11/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 19-20 QC Batch ID: WG702532-2 QC Sample: L1413507-19 Client ID: JFM01						
Percent Lipids	3.25	3.39	%	4		20
General Chemistry - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG703540-1 QC Sample: L1413507-05 Client ID: LFSD01						
Solids, Total	53.1	52.4	%	1		10
Total Organic Carbon - Mansfield Lab Associated sample(s): 05-06,10,13-14,17-18 QC Batch ID: WG704371-3 QC Sample: L1413507-10 Client ID: LFSD03						
Total Organic Carbon (Rep1)	0.900	0.983	%	9		25
Total Organic Carbon (Rep2)	1.01	0.837	%	19		25

Project Name: MONTGOMERY COUNTY RRF
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S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG704371-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	97		75-125
Total Organic Carbon (Rep2)	93		75-125

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent
 B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413507-01A	Plastic 250ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-02A	Plastic 250ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-02B	Plastic 500ml unpreserved	A	7	4.6	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-02X	Plastic 500ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-03A	Plastic 250ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-03B	Plastic 500ml unpreserved	A	7	4.6	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)

*Values in parentheses indicate holding time in days

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413507-03X	Plastic 500ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-04A	Plastic 250ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-04B	Plastic 500ml unpreserved	A	7	4.6	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-04X	Plastic 500ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-05A	Amber 120ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-06A	Amber 120ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-07A	Plastic 250ml HNO3 preserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180)
L1413507-07B	Plastic 250ml HNO3 preserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180)
L1413507-07C	Plastic 250ml HNO3 preserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413507-08A	Plastic 250ml HNO3 preserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180)
L1413507-09A	Plastic 250ml HNO3 preserved	A	<2	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180)
L1413507-10A	Amber 120ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-11A	Plastic 250ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-11B	Plastic 500ml unpreserved	B	7	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-11X	Plastic 500ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-12A	Plastic 250ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-12B	Plastic 500ml unpreserved	B	7	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-12X	Plastic 500ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413507-13A	Amber 120ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-14A	Amber 120ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-15A	Plastic 250ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-15B	Plastic 250ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-15C	Plastic 250ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-15D	Plastic 500ml unpreserved	B	7	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-15E	Plastic 500ml unpreserved	B	7	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-15F	Plastic 500ml unpreserved	B	7	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-15X	Plastic 500ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413507-16A	Plastic 250ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-HG-7470T(28),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HARDT(180)
L1413507-16B	Plastic 500ml unpreserved	B	7	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-16X	Plastic 500ml HNO3 preserved	B	<2	5.2	Y	Absent	A2-AS-6020S(180),A2-CR-6020S(180),A2-HG-7470S(28),A2-NI-6020S(180),A2-PB-6020S(180),A2-BE-6020S(180),A2-CD-6020S(180)
L1413507-17A	Amber 120ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-17B	Amber 120ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-17C	Amber 120ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-18A	Amber 120ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-TOC-LK-2REPS(14),A2-TS(7),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413507-19A	Plastic 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-LIPIDS(7)
L1413507-20A	Plastic 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-LIPIDS(7)

*Values in parentheses indicate holding time in days



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GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: DU Report with 'J' Qualifiers



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Data Qualifiers

- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413507
Report Date: 07/11/14

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 13 Determination of Total Organic Carbon in Sediment. U.S. EPA, Region II. July 27, 1988.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 111 NOAA Technical Memorandum NOS ORCA 130: Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project: 1993-196 Update. March 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

EPA 353.2: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 1 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #: **L1413507**

Client Information

Client: **TRC Environmental**

Address: **650 Suffolk St.
Lowell, MA 01854**

Phone: **(978) 970-5600**

Email: **Ldealy@trcsolutions.com**

Project Information

Project Name: **Montgomery County RRF**

Project Location: **Dickerson, MD**

Project #:

Project Manager: **Karen Vetrano**

ALPHA Quote #:

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods

Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

Yes No GW1 Standards (Info Required for Metals & EPH with Targets)

Yes No NPDES RGP

Other State /Fed Program _____ Criteria _____

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due:

Additional Project Information:

ANALYSIS	SAMPLE INFO	TOTAL # BOTTLES
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	Filtration	
SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	<input type="checkbox"/> Field	
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	<input checked="" type="checkbox"/> Lab to do	
METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8	Preservation	
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	<input type="checkbox"/> Lab to do	
VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	Sample Comments	
PCB <input type="checkbox"/> PEST		
TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint		
<i>Total Metals (As, Be, Cd, Cr, Pb, Hg, Ni, Ni) Dissolved Metals (As, Be, Cd, Cr, Pb, Hg, Ni, Ni) Handness Metals (As, Be, Cd, Cr, Pb, Hg, Ni, Ni) Total Organics Carbon (TOC) Lipids</i>		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
01	EB01	6-17-14	0900	SW	SSH
02	LFSW01	6-17-14	0945	SW	SSH
03	LFSW02	6-17-14	1020	SW	SSH
04	LFSW03	6-17-14	1020	SW	SSH
05	LFSD01	6-17-14	1000	SE	SSH
06	LFSD02	6-17-14	1045	SE	SSH
07	JFM01	6-17-14	1335	XIMilk	SSH
08	JFM02	6-17-14	1340	XIMilk	SSH
09	JFM03	6-17-14	1345	XIMilk	SSH
10	LFSD03	6-17-14	1045	SE	SSH

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type	P	P	P	G	G	P
Preservative	C	A	A	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
<i>Scott J. Oh</i>	6-17-14/1830	<i>F. Kelly</i>	6-17-14/1830
<i>Fed Ex</i>	6/17/14 10:04	<i>Fed Ex</i>	6/17/14 10:04

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



CHAIN OF CUSTODY

PAGE 1 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #: **L1413507**

Project Information

Project Name: **Montgomery County RRF**

Project Location: **MD**

Project #:

Project Manager: **Karen Vetrano**

ALPHA Quote #:

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client info PO #:

Client Information

Client: **TRC Environmental**

Address: **650 Suffolk St.
Lowell, MA 01854**

Phone: **(978) 970-5600**

Email: **Ldenly@trcsolutions.com**

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

*Fillet sampler need to be prepared from right side of fish
Send Fillet/whole body aliquots to Cape Fear Lab.*

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

ANALYSIS	TOTAL # BOTTLES	
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2		
SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH		
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15		
METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8		
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> PP13		
VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		
PCB <input type="checkbox"/> PEST		
TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint		
<i>Total Metals (As, Be, Cd, Co, Cr, Hg, Ni)</i>		
<i>Distilled Metals (As, Be, Cd, Co, Cr, Hg, Ni)</i>		
<i>Metals (As, Be, Cd, Co, Cr, Hg, Ni)</i>		
<i>Metals (As, Be, Cd, Co, Cr, Hg, Ni)</i>		

SAMPLE INFO

Filtration
 Field
 Lab to do
 Preservation
 Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
41	YFSW01	06-17-14	1440	SW	SJH
42	YFSW02	6-17-14	1500	SW	SJH
43	YFSD01	6-17-14	1445	SD	SJH
44	YFSD02	6-17-14	1505	SD	SJH
45	CPSW01	6-18-14	1100	SW	SJH
46	CPSW02	6-18-14	1130	SW	SJH
47	CPSD01	6-18-14	1115	SD	SJH
48	CPSD02	6-18-14	1145	SD	SJH
	YFBG01	6-17-14	1340	T	SJH
	YFBG02	6-17-14	1355	T	SJH

Container Type	Preservative
P = Plastic	A = None
A = Amber glass	B = HCl
V = Vial	C = HNO ₃
G = Glass	D = H ₂ SO ₄
B = Bacteria cup	E = NaOH
C = Cube	F = MeOH
O = Other	G = NaHSO ₄
E = Encore	H = Na ₂ S ₂ O ₃
D = BOD Bottle	I = Ascorbic Acid
	J = NH ₄ Cl
	K = Zn Acetate
	O = Other

Container Type	Preservative
P	P
G	O
O	P
C	A
A	A

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	6-18-14/1500	<i>Fed Ex</i>	6-18-14/1500
<i>Fed Ex</i>	6-19-14/9:31	<i>[Signature]</i>	6-19-14/9:31

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



ANALYTICAL REPORT

Lab Number:	L1413508
Client:	TRC Environmental Consultants Wannalancit Mills 650 Suffolk Street Lowell, MA 01854
ATTN:	Liz Denly
Phone:	(978) 656-3577
Project Name:	MONTGOMERY COUNTY RRF
Project Number:	MONTGOMERY COUNTY
Report Date:	07/28/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNTY

Report Date: 07/28/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1413508-01	LFH01	TISSUE	DICKERSON, MD	06/17/14 08:05	06/18/14
L1413508-02	LFH02	TISSUE	DICKERSON, MD	06/17/14 08:25	06/18/14
L1413508-03	LFH03	TISSUE	DICKERSON, MD	06/17/14 08:10	06/18/14
L1413508-04	LFBG01	TISSUE	DICKERSON, MD	06/17/14 11:00	06/18/14
L1413508-05	LFBG02	TISSUE	DICKERSON, MD	06/17/14 12:00	06/18/14
L1413508-06	LFLMB01	TISSUE	DICKERSON, MD	06/17/14 08:40	06/18/14
L1413508-07	JFH01	TISSUE	DICKERSON, MD	06/17/14 13:20	06/18/14
L1413508-08	JFH02	TISSUE	DICKERSON, MD	06/17/14 13:25	06/18/14
L1413508-09	YFBG01	TISSUE	DICKERSON, MD	06/17/14 13:40	06/19/14
L1413508-10	YFBG02	TISSUE	DICKERSON, MD	06/17/14 13:55	06/19/14
L1413508-11	CPBG01	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-12	CPBG02	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-13	CPLMB01	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-14	CPLMB02	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-15	LFLMB02	TISSUE	DICKERSON, MD	06/19/14 09:30	06/20/14
L1413508-16	MFH01	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-17	LFBG01-F	TISSUE	DICKERSON, MD	06/17/14 11:00	06/18/14
L1413508-18	LFBG02-F	TISSUE	DICKERSON, MD	06/17/14 12:00	06/18/14
L1413508-19	LFLMB01-F	TISSUE	DICKERSON, MD	06/17/14 08:40	06/18/14
L1413508-20	YFBG01-F / YFBG02-F	TISSUE	DICKERSON, MD	06/17/14 13:40	06/19/14
L1413508-21	YFBG02-F	TISSUE	DICKERSON, MD	06/17/14 13:55	06/19/14
L1413508-22	CPBG01-F	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-23	CPBG02-F	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-24	CPLMB01-F	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1413508-25	CPLMB02-F	TISSUE	DICKERSON, MD	06/18/14 00:00	06/19/14
L1413508-26	LFLMB02-F	TISSUE	DICKERSON, MD	06/19/14 09:30	06/20/14

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Metals


The WG706876-1 Method Blank, associated with L1413508-04, -05, -06, -09, -10, -11, -12, -13, -14 and -15 has a concentration above the reporting limit for Chromium. Since the associated sample concentrations are greater than 10x the blank concentration for this analyte, no qualification of the results was performed.

The WG704425-5/-6 MS/MSD recovery, performed on L1413508-14, is outside the acceptance criteria for Mercury, total (68% / 54%); however, the associated LCS recovery was within criteria. No further action was taken.

The WG706581-5/-6 MS/MSD recovery, performed on L1413508-25, is outside the acceptance criteria for Mercury, total (51% / 32%); however, the associated LCS recovery was within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Elizabeth Porta

Title: Technical Director/Representative

Date: 07/28/14

METALS

Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-01

Date Collected: 06/17/14 08:05

Client ID: LFH01

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/kg	0.588	0.033	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.294	0.023	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Cadmium, Total	0.026	J	mg/kg	0.118	0.011	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Chromium, Total	0.535		mg/kg	0.294	0.064	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Lead, Total	0.079	J	mg/kg	0.118	0.014	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:54	EPA 7471B	1,7471B	AK
Nickel, Total	0.164	J	mg/kg	0.294	0.069	10	07/15/14 12:00	07/17/14 13:31	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNTY

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-02

Date Collected: 06/17/14 08:25

Client ID: LFH02

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.230	J	mg/kg	0.510	0.029	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.255	0.020	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Cadmium, Total	0.016	J	mg/kg	0.102	0.009	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Chromium, Total	0.991		mg/kg	0.255	0.056	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Lead, Total	0.355		mg/kg	0.102	0.012	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:56	EPA 7471B	1,7471B	AK
Nickel, Total	0.520		mg/kg	0.255	0.060	10	07/15/14 12:00	07/17/14 13:33	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-03

Date Collected: 06/17/14 08:10

Client ID: LFH03

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.031	J	mg/kg	0.521	0.029	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.260	0.021	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Cadmium, Total	0.028	J	mg/kg	0.104	0.009	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Chromium, Total	0.487		mg/kg	0.260	0.057	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Lead, Total	0.051	J	mg/kg	0.104	0.013	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:59	EPA 7471B	1,7471B	AK
Nickel, Total	0.160	J	mg/kg	0.260	0.061	10	07/15/14 12:00	07/17/14 13:34	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-04
 Client ID: LFBG01
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 11:00
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.223		mg/kg	0.108	0.006	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD
Beryllium, Total	0.0090	J	mg/kg	0.054	0.004	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.108	0.010	10	07/18/14 14:00	07/27/14 10:58	EPA 3051A	1,6020A	PD
Chromium, Total	14.7		mg/kg	0.054	0.012	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD
Lead, Total	0.094	J	mg/kg	0.108	0.013	10	07/18/14 14:00	07/27/14 10:58	EPA 3051A	1,6020A	PD
Mercury, Total	0.016		mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 11:40	EPA 7471B	1,7471B	AK
Nickel, Total	9.76		mg/kg	0.054	0.013	2	07/18/14 14:00	07/27/14 09:43	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-05

Date Collected: 06/17/14 12:00

Client ID: LFBG02

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.109		mg/kg	0.108	0.006	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD
Beryllium, Total	0.006	J	mg/kg	0.054	0.004	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.108	0.010	10	07/18/14 14:00	07/27/14 10:32	EPA 3051A	1,6020A	PD
Chromium, Total	1.08		mg/kg	0.054	0.012	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD
Lead, Total	0.088	J	mg/kg	0.108	0.013	10	07/18/14 14:00	07/27/14 10:32	EPA 3051A	1,6020A	PD
Mercury, Total	0.005	J	mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 11:42	EPA 7471B	1,7471B	AK
Nickel, Total	0.838		mg/kg	0.054	0.013	2	07/18/14 14:00	07/27/14 09:44	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-06
 Client ID: LFLMB01
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 08:40
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.083	J	mg/kg	0.562	0.032	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.056	0.004	2	07/18/14 14:00	07/27/14 09:51	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.112	0.010	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Chromium, Total	1.43		mg/kg	0.281	0.061	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.112	0.014	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD
Mercury, Total	0.036		mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 11:50	EPA 7471B	1,7471B	AK
Nickel, Total	0.772		mg/kg	0.281	0.066	10	07/18/14 14:00	07/27/14 10:38	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF**Lab Number:** L1413508**Project Number:** MONTGOMERY COUNT**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1413508-07

Date Collected: 06/17/14 13:20

Client ID: JFH01

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	ND		mg/kg	0.581	0.033	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Beryllium, Total	0.057	J	mg/kg	0.291	0.023	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Cadmium, Total	0.033	J	mg/kg	0.116	0.010	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Chromium, Total	0.352		mg/kg	0.291	0.063	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Lead, Total	0.060	J	mg/kg	0.116	0.014	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD
Mercury, Total	0.005	J	mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 16:07	EPA 7471B	1,7471B	AK
Nickel, Total	0.575		mg/kg	0.291	0.068	10	07/15/14 12:00	07/17/14 13:38	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-08
 Client ID: JFH02
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:25
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.044	J	mg/kg	0.556	0.031	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Beryllium, Total	0.028	J	mg/kg	0.278	0.022	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Cadmium, Total	0.058	J	mg/kg	0.111	0.010	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Chromium, Total	0.327		mg/kg	0.278	0.060	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Lead, Total	0.062	J	mg/kg	0.111	0.014	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 16:10	EPA 7471B	1,7471B	AK
Nickel, Total	0.640		mg/kg	0.278	0.065	10	07/15/14 12:00	07/17/14 13:39	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-09
 Client ID: YFBG01
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:40
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.162		mg/kg	0.118	0.007	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD
Beryllium, Total	0.007	J	mg/kg	0.059	0.005	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD
Cadmium, Total	0.011	J	mg/kg	0.118	0.011	10	07/18/14 14:00	07/27/14 10:40	EPA 3051A	1,6020A	PD
Chromium, Total	0.976		mg/kg	0.059	0.013	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD
Lead, Total	0.269		mg/kg	0.118	0.014	10	07/18/14 14:00	07/27/14 10:40	EPA 3051A	1,6020A	PD
Mercury, Total	0.023		mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 11:54	EPA 7471B	1,7471B	AK
Nickel, Total	0.872		mg/kg	0.059	0.014	2	07/18/14 14:00	07/27/14 09:52	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-10

Date Collected: 06/17/14 13:55

Client ID: YFBG02

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.098	J	mg/kg	0.111	0.006	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.056	0.004	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.111	0.010	10	07/18/14 14:00	07/27/14 10:41	EPA 3051A	1,6020A	PD
Chromium, Total	0.708		mg/kg	0.056	0.012	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD
Lead, Total	0.079	J	mg/kg	0.111	0.014	10	07/18/14 14:00	07/27/14 10:41	EPA 3051A	1,6020A	PD
Mercury, Total	0.040		mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 11:56	EPA 7471B	1,7471B	AK
Nickel, Total	0.741		mg/kg	0.056	0.013	2	07/18/14 14:00	07/27/14 09:53	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-11

Date Collected: 06/18/14 00:00

Client ID: CPBG01

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.079	J	mg/kg	0.105	0.006	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.053	0.004	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.105	0.009	10	07/18/14 14:00	07/27/14 10:42	EPA 3051A	1,6020A	PD
Chromium, Total	3.19		mg/kg	0.053	0.011	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD
Lead, Total	0.029	J	mg/kg	0.105	0.013	10	07/18/14 14:00	07/27/14 10:42	EPA 3051A	1,6020A	PD
Mercury, Total	0.037		mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 12:00	EPA 7471B	1,7471B	AK
Nickel, Total	2.32		mg/kg	0.053	0.012	2	07/18/14 14:00	07/27/14 09:55	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-12

Date Collected: 06/18/14 00:00

Client ID: CPBG02

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.091	J	mg/kg	0.575	0.032	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.058	0.005	2	07/18/14 14:00	07/27/14 09:56	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.115	0.010	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Chromium, Total	4.55		mg/kg	0.287	0.063	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Lead, Total	0.028	J	mg/kg	0.115	0.014	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD
Mercury, Total	0.051		mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 12:08	EPA 7471B	1,7471B	AK
Nickel, Total	3.05		mg/kg	0.287	0.067	10	07/18/14 14:00	07/27/14 10:44	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF**Lab Number:** L1413508**Project Number:** MONTGOMERY COUNT**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1413508-13

Date Collected: 06/18/14 00:00

Client ID: CPLMB01

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.047	J	mg/kg	0.575	0.032	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.058	0.005	2	07/18/14 14:00	07/27/14 09:57	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.115	0.010	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Chromium, Total	1.67		mg/kg	0.287	0.063	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.115	0.014	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD
Mercury, Total	0.140		mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 12:12	EPA 7471B	1,7471B	AK
Nickel, Total	1.10		mg/kg	0.287	0.067	10	07/18/14 14:00	07/27/14 10:45	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF**Lab Number:** L1413508**Project Number:** MONTGOMERY COUNT**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1413508-14

Date Collected: 06/18/14 00:00

Client ID: CPLMB02

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.041	J	mg/kg	0.575	0.032	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.287	0.023	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.115	0.010	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Chromium, Total	1.41		mg/kg	0.287	0.063	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.115	0.014	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD
Mercury, Total	0.164		mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 12:16	EPA 7471B	1,7471B	AK
Nickel, Total	0.783		mg/kg	0.287	0.067	10	07/18/14 14:00	07/27/14 10:46	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNTY

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-15

Date Collected: 06/19/14 09:30

Client ID: LFLMB02

Date Received: 06/20/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.078	J	mg/kg	0.521	0.029	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.052	0.004	2	07/18/14 14:00	07/27/14 10:00	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.104	0.009	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Chromium, Total	3.56		mg/kg	0.260	0.057	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Lead, Total	0.037	J	mg/kg	0.104	0.013	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD
Mercury, Total	0.008		mg/kg	0.006	0.004	1	07/09/14 14:00	07/15/14 12:31	EPA 7471B	1,7471B	AK
Nickel, Total	2.53		mg/kg	0.260	0.061	10	07/18/14 14:00	07/27/14 10:59	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-16
 Client ID: MFH01
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.270	J	mg/kg	0.510	0.029	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.255	0.020	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Cadmium, Total	0.036	J	mg/kg	0.102	0.009	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Chromium, Total	0.385		mg/kg	0.255	0.056	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Lead, Total	0.10	J	mg/kg	0.102	0.012	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD
Mercury, Total	ND		mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 16:28	EPA 7471B	1,7471B	AK
Nickel, Total	0.718		mg/kg	0.255	0.060	10	07/15/14 12:00	07/17/14 13:43	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF**Lab Number:** L1413508**Project Number:** MONTGOMERY COUNT**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1413508-17

Date Collected: 06/17/14 11:00

Client ID: LFBG01-F

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.029	J	mg/kg	0.116	0.007	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.058	0.005	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Cadmium, Total	0.002	J	mg/kg	0.023	0.002	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Chromium, Total	5.85		mg/kg	0.058	0.013	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Lead, Total	0.006	J	mg/kg	0.023	0.003	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD
Mercury, Total	0.025		mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:03	EPA 7471B	1,7471B	AK
Nickel, Total	2.94		mg/kg	0.058	0.014	2	07/15/14 16:00	07/27/14 11:33	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-18
 Client ID: LFBG02-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 12:00
 Date Received: 06/18/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.031	J	mg/kg	0.109	0.006	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.054	0.004	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.022	0.002	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Chromium, Total	1.30		mg/kg	0.054	0.012	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.022	0.003	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD
Mercury, Total	0.014		mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:06	EPA 7471B	1,7471B	AK
Nickel, Total	0.449		mg/kg	0.054	0.013	2	07/15/14 16:00	07/27/14 11:35	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNTY

Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-19

Date Collected: 06/17/14 08:40

Client ID: LFLMB01-F

Date Received: 06/18/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.023	J	mg/kg	0.112	0.006	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.056	0.004	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.023	0.002	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Chromium, Total	1.77		mg/kg	0.056	0.012	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.023	0.003	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD
Mercury, Total	0.033		mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:14	EPA 7471B	1,7471B	AK
Nickel, Total	0.799		mg/kg	0.056	0.013	2	07/15/14 16:00	07/27/14 11:38	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-20
 Client ID: YFBG01-F / YFBG02-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/17/14 13:40
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.063	J	mg/kg	0.108	0.006	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.054	0.004	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.022	0.002	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Chromium, Total	0.893		mg/kg	0.054	0.012	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Lead, Total	0.004	J	mg/kg	0.022	0.003	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD
Mercury, Total	0.044		mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:17	EPA 7471B	1,7471B	AK
Nickel, Total	0.162		mg/kg	0.054	0.013	2	07/15/14 16:00	07/27/14 11:40	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF**Lab Number:** L1413508**Project Number:** MONTGOMERY COUNT**Report Date:** 07/28/14**SAMPLE RESULTS**

Lab ID: L1413508-22

Date Collected: 06/18/14 00:00

Client ID: CPBG01-F

Date Received: 06/19/14

Sample Location: DICKERSON, MD

Field Prep: Not Specified

Matrix: Tissue

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.037	J	mg/kg	0.505	0.028	10	07/15/14 16:00	07/27/14 11:16	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.051	0.004	2	07/15/14 16:00	07/27/14 11:41	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.020	0.002	2	07/15/14 16:00	07/27/14 11:41	EPA 3051A	1,6020A	PD
Chromium, Total	1.14		mg/kg	0.252	0.055	10	07/15/14 16:00	07/27/14 11:16	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.020	0.002	2	07/15/14 16:00	07/27/14 11:41	EPA 3051A	1,6020A	PD
Mercury, Total	0.048		mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:21	EPA 7471B	1,7471B	AK
Nickel, Total	0.339		mg/kg	0.252	0.059	10	07/15/14 16:00	07/27/14 11:16	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-23
 Client ID: CPBG02-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.039	J	mg/kg	0.521	0.029	10	07/15/14 16:00	07/27/14 11:17	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.052	0.004	2	07/15/14 16:00	07/27/14 11:42	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.021	0.002	2	07/15/14 16:00	07/27/14 11:42	EPA 3051A	1,6020A	PD
Chromium, Total	0.924		mg/kg	0.260	0.057	10	07/15/14 16:00	07/27/14 11:17	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.021	0.003	2	07/15/14 16:00	07/27/14 11:42	EPA 3051A	1,6020A	PD
Mercury, Total	0.040		mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:24	EPA 7471B	1,7471B	AK
Nickel, Total	0.235	J	mg/kg	0.260	0.061	10	07/15/14 16:00	07/27/14 11:17	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-24
 Client ID: CPLMB01-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.019	J	mg/kg	0.103	0.006	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.052	0.004	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.021	0.002	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Chromium, Total	1.73		mg/kg	0.052	0.011	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Lead, Total	0.003	J	mg/kg	0.021	0.003	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD
Mercury, Total	0.148		mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 12:39	EPA 7471B	1,7471B	AK
Nickel, Total	0.631		mg/kg	0.052	0.012	2	07/15/14 16:00	07/27/14 11:47	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-25
 Client ID: CPLMB02-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/18/14 00:00
 Date Received: 06/19/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.024	J	mg/kg	0.106	0.006	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.053	0.004	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.021	0.002	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Chromium, Total	0.796		mg/kg	0.053	0.012	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Lead, Total	ND		mg/kg	0.021	0.003	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD
Mercury, Total	0.164		mg/kg	0.006	0.004	1	07/17/14 14:00	07/21/14 12:44	EPA 7471B	1,7471B	AK
Nickel, Total	0.025	J	mg/kg	0.053	0.012	2	07/15/14 16:00	07/27/14 11:48	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-26
 Client ID: LFLMB02-F
 Sample Location: DICKERSON, MD
 Matrix: Tissue
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Date Collected: 06/19/14 09:30
 Date Received: 06/20/14
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.035	J	mg/kg	0.110	0.006	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.055	0.004	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.022	0.002	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Chromium, Total	0.946		mg/kg	0.055	0.012	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Lead, Total	0.003	J	mg/kg	0.022	0.003	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD
Mercury, Total	0.022		mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 13:02	EPA 7471B	1,7471B	AK
Nickel, Total	0.616		mg/kg	0.055	0.013	2	07/15/14 16:00	07/27/14 11:56	EPA 3051A	1,6020A	PD



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413508
Report Date: 07/28/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 04-06,09-15 Batch: WG704425-1									
Mercury, Total	ND	mg/kg	0.005	0.004	1	07/09/14 14:00	07/15/14 11:33	1,7471B	AK

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03,07-08,16 Batch: WG705785-1									
Arsenic, Total	0.024	J	mg/kg	0.100	0.006	2	07/15/14 12:00	07/17/14 12:16	1,6020A PD
Beryllium, Total	ND		mg/kg	0.050	0.004	2	07/15/14 12:00	07/17/14 12:16	1,6020A PD
Cadmium, Total	ND		mg/kg	0.020	0.002	2	07/15/14 12:00	07/17/14 12:16	1,6020A PD
Chromium, Total	ND		mg/kg	0.050	0.011	2	07/15/14 12:00	07/17/14 12:16	1,6020A PD
Lead, Total	ND		mg/kg	0.020	0.002	2	07/15/14 12:00	07/17/14 12:16	1,6020A PD
Nickel, Total	ND		mg/kg	0.050	0.012	2	07/15/14 12:00	07/17/14 12:16	1,6020A PD

Prep Information

Digestion Method: EPA 3051A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17-20,22-26 Batch: WG705829-1									
Arsenic, Total	ND		mg/kg	0.100	0.006	2	07/15/14 16:00	07/27/14 11:00	1,6020A PD
Beryllium, Total	ND		mg/kg	0.050	0.004	2	07/15/14 16:00	07/27/14 11:00	1,6020A PD
Cadmium, Total	ND		mg/kg	0.020	0.002	2	07/15/14 16:00	07/27/14 11:00	1,6020A PD
Chromium, Total	0.029	J	mg/kg	0.050	0.011	2	07/15/14 16:00	07/27/14 11:00	1,6020A PD
Lead, Total	ND		mg/kg	0.020	0.002	2	07/15/14 16:00	07/27/14 11:00	1,6020A PD
Nickel, Total	0.012	J	mg/kg	0.050	0.012	2	07/15/14 16:00	07/27/14 11:00	1,6020A PD

Prep Information

Digestion Method: EPA 3051A



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNT'

Lab Number: L1413508
Report Date: 07/28/14

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03,07-08,16 Batch: WG706579-1									
Mercury, Total	ND	mg/kg	0.005	0.004	1	07/17/14 14:00	07/18/14 15:47	1,7471B	AK

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 17-20,22-26 Batch: WG706581-1									
Mercury, Total	ND	mg/kg	0.005	0.004	1	07/17/14 14:00	07/21/14 11:56	1,7471B	AK

Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst	
Total Metals - Mansfield Lab for sample(s): 04-06,09-15 Batch: WG706876-1										
Arsenic, Total	0.014	J	mg/kg	0.100	0.006	2	07/18/14 14:00	07/27/14 09:40	1,6020A	PD
Beryllium, Total	ND		mg/kg	0.050	0.004	2	07/18/14 14:00	07/27/14 09:40	1,6020A	PD
Cadmium, Total	ND		mg/kg	0.020	0.002	2	07/18/14 14:00	07/27/14 09:40	1,6020A	PD
Chromium, Total	0.056		mg/kg	0.050	0.011	2	07/18/14 14:00	07/27/14 09:40	1,6020A	PD
Lead, Total	ND		mg/kg	0.020	0.002	2	07/18/14 14:00	07/27/14 09:40	1,6020A	PD
Nickel, Total	ND		mg/kg	0.050	0.012	2	07/18/14 14:00	07/27/14 09:40	1,6020A	PD

Prep Information

Digestion Method: EPA 3051A

Lab Control Sample Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 Batch: WG704425-2 SRM Lot Number: HPHGAA								
Mercury, Total	118		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-03,07-08,16 Batch: WG705785-2 SRM Lot Number: A2METSPIKE								
Arsenic, Total	86		-		75-125	-		20
Beryllium, Total	83		-		75-125	-		20
Cadmium, Total	82		-		75-125	-		20
Chromium, Total	90		-		75-125	-		20
Lead, Total	89		-		75-125	-		20
Nickel, Total	87		-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 Batch: WG705829-2 SRM Lot Number: A2METSPIKE								
Arsenic, Total	89		-		75-125	-		20
Beryllium, Total	90		-		75-125	-		20
Cadmium, Total	88		-		75-125	-		20
Chromium, Total	117		-		75-125	-		20
Lead, Total	107		-		75-125	-		20
Nickel, Total	94		-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-03,07-08,16 Batch: WG706579-2 SRM Lot Number: HPHGAA								
Mercury, Total	110		-		80-120	-		20



Lab Control Sample Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNTY

Report Date: 07/28/14

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 Batch: WG706581-2 SRM Lot Number: HPHGAA					
Mercury, Total	113	-	80-120	-	20
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 Batch: WG706876-2 SRM Lot Number: A2METSPIKE					
Arsenic, Total	94	-	75-125	-	20
Beryllium, Total	92	-	75-125	-	20
Cadmium, Total	95	-	75-125	-	20
Chromium, Total	111	-	75-125	-	20
Lead, Total	115	-	75-125	-	20
Nickel, Total	92	-	75-125	-	20

Matrix Spike Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG704425-5 WG704425-6 QC Sample: L1413508-14 Client ID: CPLMB02												
Mercury, Total	0.164	0.149	0.265	68	Q	0.241	54	Q	80-120	9		20
Total Metals - Mansfield Lab Associated sample(s): 01-03,07-08,16 QC Batch ID: WG705785-4 WG705785-5 QC Sample: L1413508-08 Client ID: JFH02												
Arsenic, Total	0.044J	109	113	104		112	104		75-125	1		20
Beryllium, Total	0.028J	54.3	56.9	105		53.1	99		75-125	7		20
Cadmium, Total	0.058J	54.3	55.7	102		53.8	100		75-125	3		20
Chromium, Total	0.327	109	106	97		105	97		75-125	1		20
Lead, Total	0.062J	109	112	103		106	98		75-125	6		20
Nickel, Total	0.640	109	108	99		107	99		75-125	1		20
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 QC Batch ID: WG705829-5 WG705829-6 QC Sample: L1413508-25 Client ID: CPLMB02-F												
Arsenic, Total	0.024J	108	104	97		115	101		75-125	10		20
Beryllium, Total	ND	53.8	46.6	87		47.6	84		75-125	2		20
Cadmium, Total	ND	53.8	45.1	84		51.7	91		75-125	14		20
Chromium, Total	0.796	108	126	116		131	114		75-125	4		20
Lead, Total	ND	108	111	103		118	104		75-125	6		20
Nickel, Total	0.025J	108	98.5	92		108	95		75-125	9		20
Total Metals - Mansfield Lab Associated sample(s): 01-03,07-08,16 QC Batch ID: WG706579-4 WG706579-5 QC Sample: L1413508-08 Client ID: JFH02												
Mercury, Total	ND	0.134	0.117	87		0.124	92		80-120	6		20



Matrix Spike Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits		
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 QC Batch ID: WG706581-5 WG706581-6 QC Sample: L1413508-25 Client ID: CPLMB02-F											
Mercury, Total	0.164	0.14	0.236	51	Q	0.207	32	Q	80-120	13	20
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG706876-5 WG706876-6 QC Sample: L1413508-14 Client ID: CPLMB02											
Arsenic, Total	0.041J	104	105	101		118	105		75-125	12	20
Beryllium, Total	ND	52.1	48.4	93		53.7	96		75-125	10	20
Cadmium, Total	ND	52.1	47.7	92		55.2	98		75-125	15	20
Chromium, Total	1.41	104	103	98		113	99		75-125	9	20
Lead, Total	ND	104	101	97		113	100		75-125	11	20
Nickel, Total	0.783	104	106	101		116	102		75-125	9	20

Lab Duplicate Analysis Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY CC

Lab Number: L1413508
Report Date: 07/28/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG704425-3 QC Sample: L1413508-05 Client ID: LFBG02						
Mercury, Total	0.005J	0.008	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG704425-4 QC Sample: L1413508-14 Client ID: CPLMB02						
Mercury, Total	0.164	0.163	mg/kg	1		20
Total Metals - Mansfield Lab Associated sample(s): 01-03,07-08,16 QC Batch ID: WG705785-3 QC Sample: L1413508-03 Client ID: LFH03						
Arsenic, Total	0.031J	0.034J	mg/kg	NC		20
Beryllium, Total	ND	ND	mg/kg	NC		20
Cadmium, Total	0.028J	0.023J	mg/kg	NC		20
Chromium, Total	0.487	0.569	mg/kg	16		20
Lead, Total	0.051J	0.056J	mg/kg	NC		20
Nickel, Total	0.160J	0.176J	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 QC Batch ID: WG705829-3 QC Sample: L1413508-18 Client ID: LFBG02-F						
Arsenic, Total	0.031J	0.020J	mg/kg	NC		20
Beryllium, Total	ND	ND	mg/kg	NC		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Chromium, Total	1.30	1.24	mg/kg	5		20
Lead, Total	ND	ND	mg/kg	NC		20
Nickel, Total	0.449	0.450	mg/kg	0		20



Lab Duplicate Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY CC

Lab Number: L1413508
Report Date: 07/28/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 QC Batch ID: WG705829-4 QC Sample: L1413508-25 Client ID: CPLMB02-F					
Arsenic, Total	0.024J	0.015J	mg/kg	NC	20
Beryllium, Total	ND	ND	mg/kg	NC	20
Cadmium, Total	ND	ND	mg/kg	NC	20
Chromium, Total	0.796	0.700	mg/kg	13	20
Lead, Total	ND	0.004J	mg/kg	NC	20
Nickel, Total	0.025J	0.037J	mg/kg	NC	20
Total Metals - Mansfield Lab Associated sample(s): 01-03,07-08,16 QC Batch ID: WG706579-3 QC Sample: L1413508-03 Client ID: LFH03					
Mercury, Total	ND	ND	mg/kg	NC	20
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 QC Batch ID: WG706581-3 QC Sample: L1413508-18 Client ID: LFBG02-F					
Mercury, Total	0.014	0.015	mg/kg	10	20
Total Metals - Mansfield Lab Associated sample(s): 17-20,22-26 QC Batch ID: WG706581-4 QC Sample: L1413508-25 Client ID: CPLMB02-F					
Mercury, Total	0.164	0.154	mg/kg	6	20
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG706876-3 QC Sample: L1413508-05 Client ID: LFBG02					
Arsenic, Total	0.109	0.079J	mg/kg	NC	20
Beryllium, Total	0.006J	0.007J	mg/kg	NC	20
Chromium, Total	1.08	0.984	mg/kg	9	20
Nickel, Total	0.838	0.969	mg/kg	14	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Project Number: MONTGOMERY CC

Lab Number: L1413508

Report Date: 07/28/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG706876-3 QC Sample: L1413508-05 Client ID: LFBG02					
Cadmium, Total	ND	ND	mg/kg	NC	20
Lead, Total	0.088J	0.112	mg/kg	NC	20
Total Metals - Mansfield Lab Associated sample(s): 04-06,09-15 QC Batch ID: WG706876-4 QC Sample: L1413508-14 Client ID: CPLMB02					
Arsenic, Total	0.041J	0.033J	mg/kg	NC	20
Beryllium, Total	ND	ND	mg/kg	NC	20
Cadmium, Total	ND	ND	mg/kg	NC	20
Chromium, Total	1.41	1.15	mg/kg	20	20
Lead, Total	ND	ND	mg/kg	NC	20
Nickel, Total	0.783	0.747	mg/kg	5	20

INORGANICS & MISCELLANEOUS

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-01
Client ID: LFH01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:05
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.801		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-02
Client ID: LFH02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:25
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.857		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-04
Client ID: LFBG01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 11:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.54		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-05
Client ID: LFBG02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 12:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.15		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-06
Client ID: LFLMB01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.90		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-07
Client ID: JFH01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:20
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.61		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-08
Client ID: JFH02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:25
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.74		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-09
Client ID: YFBG01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	1.10		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-10
Client ID: YFBG02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:55
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.823		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-11
Client ID: CPBG01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.18		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-12
Client ID: CPBG02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.31		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-13
Client ID: CPLMB01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.29		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-14
Client ID: CPLMB02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	3.03		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-15
Client ID: LFLMB02
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/19/14 09:30
Date Received: 06/20/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	2.06		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-16
Client ID: MFH01
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	1.61		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-17
Client ID: LFBG01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 11:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.744		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-18
Client ID: LFBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 12:00
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.245		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-19
Client ID: LFLMB01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 08:40
Date Received: 06/18/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.289		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-20
Client ID: YFBG01-F / YFBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/17/14 13:40
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.293		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-22
Client ID: CPBG01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.688		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-23
Client ID: CPBG02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.406		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-24
Client ID: CPLMB01-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.773		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-25
Client ID: CPLMB02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/18/14 00:00
Date Received: 06/19/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.738		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

SAMPLE RESULTS

Lab ID: L1413508-26
Client ID: LFLMB02-F
Sample Location: DICKERSON, MD
Matrix: Tissue

Date Collected: 06/19/14 09:30
Date Received: 06/20/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Percent Lipids	0.429		%	0.100	NA	1	-	07/23/14 09:00	111,-	AK



Project Name: MONTGOMERY COUNTY RRF

Lab Number: L1413508

Project Number: MONTGOMERY COUNT

Report Date: 07/28/14

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab for sample(s): 01-02,07-08,16 Batch: WG708619-1									
Percent Lipids	ND	%	0.100	NA	1	-	07/23/14 09:00	111,-	AK
General Chemistry - Mansfield Lab for sample(s): 04-06,09-15,17-20,22-26 Batch: WG708749-1									
Percent Lipids	ND	%	0.100	NA	1	-	07/23/14 09:00	111,-	AK

Lab Duplicate Analysis

Batch Quality Control

Project Name: MONTGOMERY COUNTY RRF

Project Number: MONTGOMERY CC

Lab Number: L1413508

Report Date: 07/28/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 04-06,09-15,17-20,22-26 QC Batch ID: WG708749-2 QC Sample: L1413508-13 Client ID: CPLMB01						
Percent Lipids	3.29	3.57	%	8		20

Project Name: MONTGOMERY COUNTY RRF
Project Number: MONTGOMERY COUNTY

Lab Number: L1413508
Report Date: 07/28/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent
C Absent
B Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413508-01A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-02A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-03A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-04A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-04B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-05A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413508-05B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-06A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-06B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-07A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-08A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-08B	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-09A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-09B	Amber 500ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413508-10A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-10B	Amber 500ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-11A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-11B	Amber 500ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-12A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-12B	Amber 500ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-13A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-13B	Amber 500ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413508-14A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-14B	Amber 500ml unpreserved	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-15A	Bag	C	N/A	4.9	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-15B	Amber 500ml unpreserved	C	N/A	4.9	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-16A	Bag	B	N/A	5.2	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-17A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-17B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-18A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413508-18B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-19A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-19B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-20A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-20B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-21A	Bag	A	N/A	4.6	Y	Absent	CANCELLED()
L1413508-22A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-22B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-23A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)

*Values in parentheses indicate holding time in days



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Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1413508-23B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-24A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-24B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-25A	Bag	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-MS/MSD(),A2-HG-7471T(28)
L1413508-25B	Amber 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-MS/MSD(),A2-HG-7471T(28)
L1413508-26A	Bag	C	N/A	4.9	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)
L1413508-26B	Amber 500ml unpreserved	C	N/A	4.9	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-LIPIDS(7),A2-CR-6020T(180),A2-TISSUE_PREP(),A2-AS-6020T(180),A2-BE-6020T(180),A2-CD-6020T(180),A2-HG-7471T(28)

*Values in parentheses indicate holding time in days



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GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: DU Report with 'J' Qualifiers



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Data Qualifiers

- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 111 NOAA Technical Memorandum NOS ORCA 130: Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project: 1993-196 Update. March 1998.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.

EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 625: 4-Chloroaniline, 4-Methylphenol.

SM4500: Soil: Total Phosphorus, TKN, NO₂, NO₃.

EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility

EPA 8270D: Biphenyl.

EPA 2540D: TSS

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

EPA 353.2: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**

SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



CHAIN OF CUSTODY

PAGE 2 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-896-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Montgomery County RRF

Project Location: Dickerson, MD

Project #:

Project Manager: Karen Vetrand

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due:

Date Rec'd in Lab:

ALPHA Job #: L1413508

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client info PO #:

Client Information

Client: TRC Environmental

Address: 650 Suffolk St.
Lowell, MA 01854

Phone: (978) 970-5600

Email: Ldenly@trcsolutions.com

Additional Project Information:

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

ANALYSIS		SAMPLE INFO	
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 824.2		Filtration	
SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH		<input type="checkbox"/> Field	
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15		<input type="checkbox"/> Lab to do	
METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8		Preservation	
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		<input type="checkbox"/> Lab to do	
VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only			
PCB <input type="checkbox"/> PEST			
TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint			
Metals (As, Be, Cd, Cr, Pb, Hg, Ni)			
Lipids			
		Sample Comments	

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS		SAMPLE INFO		Sample Comments	TOTAL # BOTTLES
		Date	Time			VOC	SVOC	Filtration	Preservation		
1350801	LFH01	6-17-14	0805	X2Hay	STH			X	X		1
02	LFH02	6-17-14	0825	X2Hay	STH			X	X		1
03	LFH03	6-17-14	0810	X2Hay	STH			X		Duplicate	1
04	LFBG01	6-17-14	1100	T	STH			X	X		1
05	LFBG02	6-17-14	1200	T	STH			X	X		1
	LM LFEB01^{SH}	6-17-14		T				X	X		1
06	LFMLB021 ^{STH}	6-17-14	0840	T	STH			X	X		1
07	JFH01	6-17-14	1320	X2Hay	STH			X	X		1
08	JFH02	6-17-14	1325	X2Hay	STH			X	X	MS/MSD	2

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type

Preservative

OP OP

A A

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Scott J. Th...</u>	<u>6-17-14/1830</u>	<u>Ed E...</u>	<u>6-17-14/1830</u>
<u>Ed E...</u>	<u>6/18/14 10:04</u>	<u>STH</u>	<u>6/18/14 10:04</u>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



CHAIN OF CUSTODY

PAGE 1 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #: **L1413508**

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

Client Information

Client: **TRC Environmental**
 Address: **650 Suffolk St.
Lowell, MA 01854**
 Phone: **(978) 970-5600**
 Email: **Ldenly@trcsolutions.com**

Project Information

Project Name: **Montgomery County RRF**
 Project Location: **MD**
 Project #: _____
 Project Manager: **Karen Vetrano**
 ALPHA Quote #: _____

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
 Date Due: _____

Additional Project Information:

*Fillet sampler need to be prepared from right side of fish
 Send fillet/whole body aliquots to Cape Fear Lab.*

ANALYSIS	VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	EPH: <input type="checkbox"/> RCRAS <input type="checkbox"/> RCRAB <input type="checkbox"/> PPI3	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	PCB <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	SAMPLE INFO Filtration <input type="checkbox"/> Field <input checked="" type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do	TOTAL # BOTTLES
	Total Metals: (As, Be, Cd, Cr, Pb, Hg, Ni) Dioxin/PCB Metals: (As, Be, Cd, Cr, Pb, Hg, Ni) Metals: (As, Be, Cd, Cr, Pb, Hg, Ni) Metals: (As, Be, Cd, Cr, Pb, Hg, Ni)								
	Sample Comments								

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS										Sample Comments	TOTAL # BOTTLES						
		Date	Time			VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	Total Metals	Dioxin/PCB Metals			Metals	Metals				
	YFSW01	06-17-14	1440	SW	SJH														1	1		2	
	YFSW02	6-17-14	1500	SW	SJH														1	1		2	
	YFSD01	6-17-14	1445	SD	SJH																1	1	
	YFSD02	6-17-14	1505	SD	SJH																1	1	
	CPSW01	6-18-14	1100	SW	SJH														3	3	MS/MSD	6	
	CPSW02	6-18-14	1130	SW	SJH														1	1		2	
	CPSD01	6-18-14	1115	SD	SJH																3	MS/MSD	3
	CPSD02	6-18-14	1145	SD	SJH																1	1	
13508-09	YFBG01	6-17-14	1340	T	SJH																1	1	
✓ 10	YFBG02	6-17-14	1355	T	SJH																1	1	

Container Type
 P= Plastic
 A= Amber glass
 V= Vial
 G= Glass
 B= Bacteria cup
 C= Cube
 O= Other
 E= Encore
 D= BOD Bottle

Preservative
 A= None
 B= HCl
 C= HNO₃
 D= H₂SO₄
 E= NaOH
 F= MeOH
 G= NaHSO₄
 H= Na₂S₂O₈
 I= Ascorbic Acid
 J= NH₄Cl
 K= Zn Acetate
 O= Other

Container Type
 Preservative

P P G O P
 C A A A

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	6-18-14/1500	<i>[Signature]</i>	6-18-14/1500
	6/19/14 9:31		6/19/14 9:31

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



CHAIN OF CUSTODY

PAGE 2 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Montgomery County RRF

Project Location: MD

Project #:

Project Manager: Karen Vetrano

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due:

Date Rec'd in Lab:

ALPHA Job #: L1413508

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client info PO #:

Client Information

Client: TRC Environmental

Address: 650 Suffolk St
Lowell, MA 01854

Phone: (978) 970-5600

Email: L.Dery@trcsolutions.com

Additional Project Information:

Aliquots of fish tissue to be sent to Cape Fear Lab
- Fillet (Right side)
- Whole Body (all remainder)

Regulatory Requirements & Project Information Requirements

- Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

ANALYSIS		SAMPLE INFO	
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	Filtration	<input type="checkbox"/> Field
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCP 13 <input type="checkbox"/> RCP 14 <input type="checkbox"/> RCP 15	<input type="checkbox"/> Lab to do	
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	Preservation	<input type="checkbox"/> Lab to do
VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only		
PCB: <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint		
<u>Lipids/Metals (As, Ba, Cd, Cr, Ni, Hg, Pb)</u>		Sample Comments	

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
<u>13508 -11</u>	<u>CPBG01</u>	<u>6-18-14</u>		<u>T</u>	<u>SJH</u>
<u>72</u>	<u>CPBG02</u>	<u>6-18-14</u>		<u>T</u>	<u>SJH</u>
<u>73</u>	<u>CPLMB01</u>	<u>6-18-14</u>		<u>T</u>	<u>SJH</u>
<u>74</u>	<u>CPLMB02</u>	<u>6-18-14</u>		<u>T</u>	<u>SJH</u>
<u>75</u>	<u>CPLMB03</u>	<u>6-18-14</u>		<u>T</u>	<u>SJH</u>

MS/MSD
Hold - Do not analyze

Container Type	Preservative	Container Type	OP
		Preservative	A

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Scott J. Han</u> <u>Beu Es</u>	<u>6-18-14/1500</u> <u>6/19/14 9:31</u>	<u>Fed Ex</u> <u>Grubel</u>	<u>6-18-14/1500</u> <u>6/19/14 9:31</u>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



MANSFIELD CHAIN OF CUSTODY

PAGE 1 OF 1

Project Information

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Project Name: Montgomery County RRF

Client Information

Project Location: MD

Client: TRC Environmental;

Project #:

Address: 650 Suffolk Street

Project Manager: Karen Vetrano

Lowell, MA 01854

ALPHA Quote #:

Phone: (978) 970-5600

Turn-Around Time

Fax:

Standard

Rush (ONLY IF PRE-APPROVED)

Email: Ldenly@trcsolutions.com

These samples have been Previously analyzed by Alpha

Due Date:

Time:

Other Project Specific Requirements/Comments/Detection Limits:

MS/MSD (at unit cost) will be omitted unless you check here

Date Rec'd in Lab:

ALPHA Job #: 1413508

Report Information Data Deliverables

FAX

EMAIL

Billing Information

Same as Client info

PO #:

ADEx

Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

ANALYSIS

Lipids, Metals (As, Be, Cd, Cr, Pb, Hg, Ni)

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE HANDLING
Filtration
 Done
 Not Needed
 Lab to do
Preservation
 Lab to do
 (Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
-15	LFLMB02	6-19-14	0930	Tissue	sjh

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By: [Signature] Date/Time: 6-20-14/1238
 Received By: [Signature] Date/Time: 6/20/14 19:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 101-09(L-N)
 (rev. 5-JAN-12)



July 10, 2014

Ms. Elizabeth Denly
TRC Companies, Incorporated
Wannalancit Mills
650 Suffolk Street Suite 200
Lowell, Massachusetts 01854

Re: Montgomery County RRF DXN
Work Order: 6260

Dear Ms. Denly:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 19, 2014. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421 Ext. 4485.

Sincerely,

Cynthia Larkins
Project Manager

Enclosures

Page: 1 of 2
 Project #: _____
 CFA Quote #: _____
 COC Number (1): _____
 PO Number: _____

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

Chain of Custody and Analytical Request

CFA Work Order Number: 6260

Client Name: TRC Environmental Phone #: _____
 Project/Site Name: Montgomery County RRF Fax #: _____
 Address: 650 Suffolk St., Lowell, MA
 Collected by: SH/mw Send Results To: Liz Donly

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Total number of containers	Sample Analysis Requested (6) (Fill in the number of containers for each test)	Preservative Type (6)	Comments
YFSW01	06-17-14	1440	N	N	SW	2			Note: extra sample is required for sample specific QC
YFSW02	06-17-14	1500	N	N	SW	2			
CP SW 01	06-18-14	1100	N	N	SW	2			
CP SW 02	06-18-14	1130	N	N	SW	2			
YF SD 01	06-17-14	1445	N		SD	1			
YF SD 02	06-17-14	1505	N		SD	1			
CP SDO 1	06-18-14	1115	N		SD	1			
CP SDO 2	06-18-14	1145	N		SD	1			
LFH 01	06-17-14	0805	N		Hay	1			
LFH 02	06-17-14	0825	N		Hay	1			

TAT Requested: Normal: Rush: _____ Specify: _____ (Subject to Surcharges) Fax Results: Yes / No

Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

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

Chain of Custody Signatures			Sample Shipping and Delivery Details		
Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
<u>Liz Donly</u>	<u>6-18-14</u>	<u>1500</u>	<u>Fed Ex</u>	<u>6-18-14</u>	<u>1500</u>
<u>Fed Ex</u>	<u>19 JUN 14</u>	<u>1005</u>	<u>Clyde Jackson</u>	<u>19 JUN 14</u>	<u>1005</u>

CFA PM: _____
 Method of Shipment: Fed Ex Date Shipped: 6-18-14
 Airbill #: 8641 9325 7626 0215
 Airbill #: _____

1.) Chain of Custody Number = Client Determined
 2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
 3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for no sample was field filtered.
 4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
 5.) Sample Analysis Requested: Analytical method requested (i.e. 8290B, 1668B) and number of containers provided for each (i.e. 8290B - 3, 1668B - 1).
 6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
 Custody Seal Intact? NO
 Cooler Temp 4.3 C

WHITE = LABORATORY
 YELLOW = FILE
 PINK = CLIENT

Client Name: TRC Environmental Phone #: _____
 Project/Site Name: Montgomery County / RRF Fax #: _____
 Address: 650 Suffolk St., Lowell, MA
 Collected by: SH/MW Send Results To: Liz Denly

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (h)	Field Filtered (a)	Sample Matrix (e)
LFH03	06-17-14	0805	FD		Hay
JFH01	06-17-14	1320	N		Hay
JFH02	06-17-14	1325	N		Hay
MFH01	06-18-14	0800	N		Hay

TAT Requested: Normal: Rush: _____ Specify: _____ (Subject to Surcharge) Fax Results: Yes / No
 Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4
 Sample Collection Time Zone: Eastern Pacific Other _____
 Mountain

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*
 Chain of Custody Signatures
 Relinquished By (Signed) Date Time Received by (signed) Date Time
 1. Ann J. Han 6-18-14 1500 Fed Ex 6-18-14 1500
 2. Fed Ex 19JUN14 1005 Cyril Jackson 19JUN14 1005
 3. _____

Sample Analysis Requested (6) (Fill in the number of containers for each test)
 Total number of containers: _____
 1613 - Rev B
 Dioxins / Furan
 Comments: Note: extra sample is required for sample specific QC
 <- Preservative Type (6)
 For Lab Receiving Use Only
 Custody Seal Intact? YES NO
 Cooler Temp: 4.3 C
 Chain of Custody Number = Client Determined
 1.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
 2.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or - N - for sample was not field filtered.
 3.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
 4.) Sample Analysis Requested: Analytical method requested (i.e. 8290B, 1668B) and number of containers provided for each (i.e. 8290B - 3, 1668B - 1).
 5.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, if no preservative is added = leave field blank
 6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, if no preservative is added = leave field blank
 WHITE = LABORATORY
 YELLOW = FILE
 PINK = CLIENT

SAMPLE RECEIPT CHECKLIST
Cape Fear Analytical

Client: TRCC	Work Order: 6260
Shipping Company: Fed Ex	Date/Time Received: 19 JUN 14 1005

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			<input checked="" type="checkbox"/>
Samples identified as Foreign Soil?			<input checked="" type="checkbox"/>

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?			<input checked="" type="checkbox"/>
Samples < 2x background?			<input checked="" type="checkbox"/>

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			<input checked="" type="checkbox"/>

Air Witness: _____

#	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Chain of Custody documents included with shipment?	<input checked="" type="checkbox"/>			
3	Samples requiring cold preservation within 0-6°C?	<input checked="" type="checkbox"/>			Preservation Method: ice bags blue ice dry ice none other (describe) 4.30C
4	Aqueous samples found to have visible solids?			<input checked="" type="checkbox"/>	Sample IDs, containers affected:
5	Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample IDs, containers affected and pH observed: pH=7 on all water samples If preservative added, Lot#:
6	Samples requiring preservation have no residual chlorine?	<input checked="" type="checkbox"/>			Sample IDs, containers affected: If preservative added, Lot#:
7	Samples received within holding time?	<input checked="" type="checkbox"/>			Sample IDs, tests affected:
8	Sample IDs on COC match IDs on containers?	<input checked="" type="checkbox"/>			Sample IDs, containers affected:
9	Date & time of COC match date & time on containers?				Sample IDs, containers affected: Collection times not noted on CPSWO1 and CPSWO2 labels (4 containers) CPSD01 or CPSD02 @ 150.
10	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample IDs, containers affected:
11	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments:

YFSWO1 and YFSWO2 - On sample labels of each second containers the "1" and "2" of the sample ID's have been written over with a "2" and "1". The collection dates are incorrect: YFSWO 1 has 1500 and YFSWO 2 has 1440. YFSDO1 has collection time on label of 1440, COC has 1445. YFSDO2 has collection time on label of 1500, COC has 1505

Checklist performed by: Initials: **COL**

Date: **19 JUN 14**

Subject: RE: CFA receipt Mont. Co. RRF

From: "Heim, Scott" <SHeim@trcsolutions.com>

Date: 6/20/2014 9:41 AM

To: "Denly, Elizabeth" <edenly@trcsolutions.com>, Cynde Larkins <cynde.larkins@cfanalytical.com>

CC: Valerie Davis <Valerie.Davis@cfanalytical.com>, Chris <chris.cornwell@cfanalytical.com>, "Vetrano, Karen" <KVetrano@trcsolutions.com>

Hi Cynde,

Answers to your issues are as follows:

1. Collection times on the COC are correct for those samples.
2. Collection time of 1445 on COC is correct.
3. Collection time of 1505 on COC is correct.
4. Sample is YFSW01.
5. Sample is YFSW02.

Let me know if you have any additional questions. Thanks.

Scott Heim
Senior Ecologist

Wannalancit Mills, 650 Suffolk Street, Lowell, MA 01854
T: 978.656.3583 | F: 978.453.1995 | C: 508.320.2678

Follow us on LinkedIn or Twitter | www.trcsolutions.com

-----Original Message-----

From: Denly, Elizabeth

Sent: Thursday, June 19, 2014 2:44 PM

To: Cynde Larkins

Cc: Valerie Davis; Chris; Heim, Scott; Vetrano, Karen

Subject: RE: CFA receipt Mont. Co. RRF

Thanks Cynde. I am cc'ing Scott Heim and he will resolve these issues/discrepancies.

Elizabeth Denly
Senior QA Chemist
RMD Practice Quality Coordinator

650 Suffolk Street, Lowell, MA 01854

T: 978.656.3577 | F: 978.453.1995 | C: 978.328.2551 LinkedIn | Twitter | Blog | Flickr
| www.trcsolutions.com

-----Original Message-----

From: Cynde Larkins [<mailto:cynde.larkins@cfanalytical.com>]

Sent: Thursday, June 19, 2014 2:40 PM

To: Denly, Elizabeth

Cc: Valerie Davis; Chris

Subject: CFA receipt Mont. Co. RRF

Good afternoon,

CFA received some samples today for the Montgomery County RRF project and there are a few issues that I need to bring to your attention.

1. There are no collection times on the following samples:

CPSW01

CPSW02

CPSD01

CPSD02

I will use the collection times listed on the COC for these samples unless told otherwise.

2. YFSD01 has a collection time on the label of 14:40 while the COC has 14:45. Please let me know the correct collection time to use.

3. YFSD02 has a collection time on the label of 15:00 while the COC has 15:05. Please let me know the correct collection time to use.

4. The label on the second container of YFSW01 has the "1" written in bold over a 2. The collection time on this label reads 1500, but the COC has a collection time of 14:40 for sample YFSW01. (Picture attached as 038.) The lid has the sample ID of YFSW01. Please let me know if I should label this sample as YFSW01.

5. The label on the second container of YFSW02 has the "2" written in bold over a 1. The collection time on this label reads 1440, but the COC has a collection time of 15:00 for sample YFSW02. (Picture attached as 044.) The lid has the sample ID of YFSW02. Please let me know if I should label this sample as YFSW02.

Thank you,

--

Cynde Larkins
Project Manager Assistant
Cape Fear Analytical
3306 Kitty Hawk Road
Suite 120
Wilmington, NC 28405
(910) 795-0421

How was your customer experience? Customer service is a high priority for us, so we listen to what our customers have to say!

Thank you for taking time to email us your thoughts and opinions at

feedback@cfanalytical.com

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High Resolution Dioxins and Furans Analysis

Case Narrative

**HDOX Case Narrative
TRC Environmental Corporation (TRCC)
SDG 6260**

Method/Analysis Information

Product: Dioxins/Furans by EPA Method 1613B
Analytical Method: EPA Method 1613B
Extraction Method: SW846 3520C, 3540C
Analytical Batch Number: 26223, 26255
Clean Up Batch Number: 26221, 26254
Extraction Batch Number: 26220, 26253

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1613B:

Sample ID	Client ID
6260001	YFSW01
6260002	YFSW02
6260003	CPSW01
6260004	CPSW02
6260005	YFSD01
6260006	YFSD02
6260007	CPSD01
6260008	CPSD02
6260009	LFH01
6260010	LFH02
6260011	LFH03
6260012	JFH01
6260013	JFH02
6260014	MFH01
12010724	Method Blank (MB)
12010725	Laboratory Control Sample (LCS)
12010726	Laboratory Control Sample Duplicate (LCSD)
12010756	Method Blank (MB)
12010757	Laboratory Control Sample (LCS)
12010758	Laboratory Control Sample Duplicate (LCSD)

Samples 6260 005, 006, 007 and 008 in this SDG were analyzed on a "dry weight" basis.
Samples 6260 001, 002, 003 and 004 in this SDG were analyzed on an "as received" basis.

Samples 6260 009, 010, 011, 012, 013 and 014 were analyzed on an “as received” basis due to the sample matrix.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 13.

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

Calibration Information

Initial Calibration

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

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement

The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard.

Method Blank (MB) Statement

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

Surrogate Recoveries

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

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery

The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement

The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation

A sample of similar matrix, not associated with this SDG, was selected for analysis as the matrix spike and matrix spike duplicate. Batch 26255.

Technical Information

Holding Time Specifications

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

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation

A NCR was not required for this SDG.

Manual Integrations

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

Sample Preparation

No difficulties were encountered during sample preparation.

Electronic Packaging Comment

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

Sample Data Summary

Cape Fear Analytical, LLC

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

Qualifier Definition Report for

TRCC001 TRC Environmental Corporation

Client SDG: 6260 CFA Work Order: 6260


The Qualifiers in this report are defined as follows:

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

Review/Validation

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

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

Signature: 

Name: Erin Suhrie

Date: 10 JUL 2014

Title: Data Validator

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260001	Date Collected: 06/17/2014 14:40	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: YFSW01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 19:32	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-7		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 985.2 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.03		pg/L	1.03	10.2
40321-76-4	1,2,3,7,8-PeCDD	U	1.21		pg/L	1.21	50.8
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.93		pg/L	1.93	50.8
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.97		pg/L	1.97	50.8
19408-74-3	1,2,3,7,8,9-HxCDD	U	2.07		pg/L	2.07	50.8
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	12.5		pg/L	2.50	50.8
3268-87-9	1,2,3,4,6,7,8,9-OCDD		173		pg/L	7.75	102
51207-31-9	2,3,7,8-TCDF	U	1.14		pg/L	1.14	10.2
57117-41-6	1,2,3,7,8-PeCDF	U	.897		pg/L	0.897	50.8
57117-31-4	2,3,4,7,8-PeCDF	JK		1.20	pg/L	0.899	50.8
70648-26-9	1,2,3,4,7,8-HxCDF	U	1.34		pg/L	1.34	50.8
57117-44-9	1,2,3,6,7,8-HxCDF	JK		1.30	pg/L	1.25	50.8
60851-34-5	2,3,4,6,7,8-HxCDF	U	1.34		pg/L	1.34	50.8
72918-21-9	1,2,3,7,8,9-HxCDF	J	1.99		pg/L	1.91	50.8
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		2.68	pg/L	1.21	50.8
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.94		pg/L	1.94	50.8
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	7.39		pg/L	3.82	102
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.03		pg/L	1.03	10.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	1.21		pg/L	1.21	50.8
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.93		pg/L	1.93	50.8
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	26.3		pg/L	2.50	50.8
30402-14-3	Total Tetrachlorodibenzofuran	U	1.14		pg/L	1.14	10.2
30402-15-4	Total Pentachlorodibenzofuran	U	.641	1.20	pg/L	0.641	50.8
55684-94-1	Total Hexachlorodibenzofuran	J	1.99	3.29	pg/L	1.25	50.8
38998-75-3	Total Heptachlorodibenzofuran	J	2.13	4.81	pg/L	1.21	50.8
3333-30-0	TEQ WHO2005 ND=0		0.378	0.894	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		2.21	2.53	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1480	2030	pg/L	73.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		1650	2030	pg/L	81.5	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1470	2030	pg/L	72.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1610	2030	pg/L	79.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1710	2030	pg/L	84.4	(23%-140%)
13C-OCDD		3250	4060	pg/L	80.0	(17%-157%)
13C-2,3,7,8-TCDF		1680	2030	pg/L	82.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		1790	2030	pg/L	88.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		1750	2030	pg/L	86.1	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1490	2030	pg/L	73.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1520	2030	pg/L	75.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1590	2030	pg/L	78.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1510	2030	pg/L	74.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260001	Date Collected: 06/17/2014 14:40	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: YFSW01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 19:32	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-7		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 985.2 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1680	2030	pg/L	83.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1700	2030	pg/L	83.9	(26%-138%)
37Cl-2,3,7,8-TCDD			175	203	pg/L	86.1	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260002	Date Collected: 06/17/2014 15:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: YFSW02		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 20:20	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-8		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 991.9 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.05		pg/L	1.05	10.1
40321-76-4	1,2,3,7,8-PeCDD	U	.962		pg/L	0.962	50.4
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.3		pg/L	1.30	50.4
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.34		pg/L	1.34	50.4
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.4		pg/L	1.40	50.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK		3.61	pg/L	2.08	50.4
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	46.8		pg/L	5.30	101
51207-31-9	2,3,7,8-TCDF	U	1.03		pg/L	1.03	10.1
57117-41-6	1,2,3,7,8-PeCDF	U	.879		pg/L	0.879	50.4
57117-31-4	2,3,4,7,8-PeCDF	U	.841		pg/L	0.841	50.4
70648-26-9	1,2,3,4,7,8-HxCDF	U	.657		pg/L	0.657	50.4
57117-44-9	1,2,3,6,7,8-HxCDF	U	.625		pg/L	0.625	50.4
60851-34-5	2,3,4,6,7,8-HxCDF	U	.633		pg/L	0.633	50.4
72918-21-9	1,2,3,7,8,9-HxCDF	U	.917		pg/L	0.917	50.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.803		pg/L	0.803	50.4
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.24		pg/L	1.24	50.4
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.62		pg/L	2.62	101
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.05		pg/L	1.05	10.1
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.962		pg/L	0.962	50.4
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.3		pg/L	1.30	50.4
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	2.08	6.59	pg/L	2.08	50.4
30402-14-3	Total Tetrachlorodibenzofuran	U	1.03		pg/L	1.03	10.1
30402-15-4	Total Pentachlorodibenzofuran	U	.728		pg/L	0.728	50.4
55684-94-1	Total Hexachlorodibenzofuran	U	.625		pg/L	0.625	50.4
38998-75-3	Total Heptachlorodibenzofuran	U	.803		pg/L	0.803	50.4
3333-30-0	TEQ WHO2005 ND=0		0.014	0.0501	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.57	1.60	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1330	2020	pg/L	66.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		1610	2020	pg/L	79.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1420	2020	pg/L	70.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1570	2020	pg/L	78.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1770	2020	pg/L	87.9	(23%-140%)
13C-OCDD		3290	4030	pg/L	81.6	(17%-157%)
13C-2,3,7,8-TCDF		1470	2020	pg/L	72.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		1690	2020	pg/L	84.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		1670	2020	pg/L	82.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1370	2020	pg/L	68.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1520	2020	pg/L	75.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1500	2020	pg/L	74.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1450	2020	pg/L	72.1	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260002	Date Collected: 06/17/2014 15:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: YFSW02		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 20:20	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-8		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 991.9 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1660	2020	pg/L	82.5	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1730	2020	pg/L	85.9	(26%-138%)
37Cl-2,3,7,8-TCDD			182	202	pg/L	90.5	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260003	Date Collected: 06/18/2014 11:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: CPSW01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 21:08	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-9		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 935.6 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.64		pg/L	1.64	10.7
40321-76-4	1,2,3,7,8-PeCDD	U	1.49		pg/L	1.49	53.4
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.53		pg/L	1.53	53.4
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.49		pg/L	1.49	53.4
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.6		pg/L	1.60	53.4
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	1.75		pg/L	1.75	53.4
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	18.6		pg/L	4.70	107
51207-31-9	2,3,7,8-TCDF	U	1.31		pg/L	1.31	10.7
57117-41-6	1,2,3,7,8-PeCDF	U	.836		pg/L	0.836	53.4
57117-31-4	2,3,4,7,8-PeCDF	U	.84		pg/L	0.840	53.4
70648-26-9	1,2,3,4,7,8-HxCDF	U	.789		pg/L	0.789	53.4
57117-44-9	1,2,3,6,7,8-HxCDF	U	.74		pg/L	0.740	53.4
60851-34-5	2,3,4,6,7,8-HxCDF	U	.821		pg/L	0.821	53.4
72918-21-9	1,2,3,7,8,9-HxCDF	U	1.24		pg/L	1.24	53.4
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.669		pg/L	0.669	53.4
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.11		pg/L	1.11	53.4
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	3.23		pg/L	3.23	107
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.64		pg/L	1.64	10.7
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	1.49		pg/L	1.49	53.4
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.49		pg/L	1.49	53.4
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	2.20		pg/L	1.75	53.4
30402-14-3	Total Tetrachlorodibenzofuran	U	1.31		pg/L	1.31	10.7
30402-15-4	Total Pentachlorodibenzofuran	U	.797		pg/L	0.797	53.4
55684-94-1	Total Hexachlorodibenzofuran	U	.74		pg/L	0.740	53.4
38998-75-3	Total Heptachlorodibenzofuran	U	.669		pg/L	0.669	53.4
3333-30-0	TEQ WHO2005 ND=0		0.00557	0.00557	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		2.20	2.20	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1300	2140	pg/L	60.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		1640	2140	pg/L	76.6	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1390	2140	pg/L	64.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1620	2140	pg/L	75.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1700	2140	pg/L	79.7	(23%-140%)
13C-OCDD		3260	4280	pg/L	76.2	(17%-157%)
13C-2,3,7,8-TCDF		1490	2140	pg/L	69.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		1660	2140	pg/L	77.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		1650	2140	pg/L	77.1	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1410	2140	pg/L	65.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1540	2140	pg/L	72.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1510	2140	pg/L	70.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1450	2140	pg/L	67.8	(29%-147%)

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260003	Date Collected: 06/18/2014 11:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: CPSW01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 21:08	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-9		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 935.6 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1600	2140	pg/L	74.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1640	2140	pg/L	76.8	(26%-138%)
37Cl-2,3,7,8-TCDD			184	214	pg/L	86.0	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260004	Date Collected: 06/18/2014 11:30	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: CPSW02		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 21:56	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-10		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 948.6 mL	

CAS No.	Parname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.26		pg/L	1.26	10.5
40321-76-4	1,2,3,7,8-PeCDD	U	.915		pg/L	0.915	52.7
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.5		pg/L	1.50	52.7
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.5		pg/L	1.50	52.7
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.59		pg/L	1.59	52.7
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK		2.17	pg/L	1.81	52.7
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	31.5		pg/L	4.53	105
51207-31-9	2,3,7,8-TCDF	U	1.3		pg/L	1.30	10.5
57117-41-6	1,2,3,7,8-PeCDF	U	.826		pg/L	0.826	52.7
57117-31-4	2,3,4,7,8-PeCDF	U	.816		pg/L	0.816	52.7
70648-26-9	1,2,3,4,7,8-HxCDF	U	.687		pg/L	0.687	52.7
57117-44-9	1,2,3,6,7,8-HxCDF	U	.687		pg/L	0.687	52.7
60851-34-5	2,3,4,6,7,8-HxCDF	U	.719		pg/L	0.719	52.7
72918-21-9	1,2,3,7,8,9-HxCDF	U	.98		pg/L	0.980	52.7
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.869		pg/L	0.869	52.7
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.43		pg/L	1.43	52.7
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.93		pg/L	2.93	105
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.26		pg/L	1.26	10.5
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.915		pg/L	0.915	52.7
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.5		pg/L	1.50	52.7
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	1.81	5.33	pg/L	1.81	52.7
30402-14-3	Total Tetrachlorodibenzofuran	U	1.3		pg/L	1.30	10.5
30402-15-4	Total Pentachlorodibenzofuran	U	.816		pg/L	0.816	52.7
55684-94-1	Total Hexachlorodibenzofuran	U	.687		pg/L	0.687	52.7
38998-75-3	Total Heptachlorodibenzofuran	U	.869		pg/L	0.869	52.7
3333-30-0	TEQ WHO2005 ND=0		0.00944	0.0312	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.70	1.71	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1490	2110	pg/L	70.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		1860	2110	pg/L	88.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1550	2110	pg/L	73.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1690	2110	pg/L	80.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1780	2110	pg/L	84.3	(23%-140%)
13C-OCDD		3260	4220	pg/L	77.2	(17%-157%)
13C-2,3,7,8-TCDF		1790	2110	pg/L	84.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		1920	2110	pg/L	91.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		1920	2110	pg/L	91.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1540	2110	pg/L	72.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1700	2110	pg/L	80.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1640	2110	pg/L	77.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1590	2110	pg/L	75.5	(29%-147%)

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260004	Date Collected: 06/18/2014 11:30	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/19/2014 10:05	
Client ID: CPSW02		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 21:56	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-10		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 948.6 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1730	2110	pg/L	82.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1720	2110	pg/L	81.4	(26%-138%)
37Cl-2,3,7,8-TCDD			172	211	pg/L	81.6	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260005	Date Collected: 06/17/2014 14:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 47.5
Client ID: YFSD01		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 08:02	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-8		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 19.25 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.168		pg/g	0.168	0.990
40321-76-4	1,2,3,7,8-PeCDD	U	.166		pg/g	0.166	4.95
39227-28-6	1,2,3,4,7,8-HxCDD	JK		0.335	pg/g	0.275	4.95
57653-85-7	1,2,3,6,7,8-HxCDD	JK		0.519	pg/g	0.261	4.95
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.897		pg/g	0.285	4.95
35822-46-9	1,2,3,4,6,7,8-HpCDD		18.7		pg/g	0.402	4.95
3268-87-9	1,2,3,4,6,7,8,9-OCDD		541		pg/g	0.844	9.90
51207-31-9	2,3,7,8-TCDF	J	0.232		pg/g	0.160	0.990
57117-41-6	1,2,3,7,8-PeCDF	J	0.105		pg/g	0.0893	4.95
57117-31-4	2,3,4,7,8-PeCDF	JK		0.133	pg/g	0.0846	4.95
70648-26-9	1,2,3,4,7,8-HxCDF	U	.125		pg/g	0.125	4.95
57117-44-9	1,2,3,6,7,8-HxCDF	JK		0.230	pg/g	0.118	4.95
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.232		pg/g	0.125	4.95
72918-21-9	1,2,3,7,8,9-HxCDF	U	.184		pg/g	0.184	4.95
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.06		pg/g	0.132	4.95
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.226		pg/g	0.226	4.95
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	5.72		pg/g	0.384	9.90
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.168		pg/g	0.168	0.990
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.723	1.04	pg/g	0.166	4.95
34465-46-8	Total Hexachlorodibenzo-p-dioxin		7.57	8.42	pg/g	0.261	4.95
37871-00-4	Total Heptachlorodibenzo-p-dioxin		47.7		pg/g	0.402	4.95
30402-14-3	Total Tetrachlorodibenzofuran	J	0.402		pg/g	0.160	0.990
30402-15-4	Total Pentachlorodibenzofuran	J	0.864	1.19	pg/g	0.0487	4.95
55684-94-1	Total Hexachlorodibenzofuran	J	1.40	2.61	pg/g	0.118	4.95
38998-75-3	Total Heptachlorodibenzofuran		5.78		pg/g	0.132	4.95
3333-30-0	TEQ WHO2005 ND=0		0.511	0.659	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.740	0.843	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		155	198	pg/g	78.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		160	198	pg/g	80.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		168	198	pg/g	84.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		157	198	pg/g	79.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		180	198	pg/g	90.8	(23%-140%)
13C-OCDD		336	396	pg/g	84.7	(17%-157%)
13C-2,3,7,8-TCDF		173	198	pg/g	87.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		166	198	pg/g	83.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		176	198	pg/g	89.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		172	198	pg/g	87.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		164	198	pg/g	82.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		169	198	pg/g	85.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	198	pg/g	84.1	(29%-147%)

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260005	Date Collected: 06/17/2014 14:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 47.5
Client ID: YFSD01		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 08:02	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-8		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 19.25 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			173	198	pg/g	87.5	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			172	198	pg/g	87.0	(26%-138%)
37Cl-2,3,7,8-TCDD			18.6	19.8	pg/g	94.0	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260006	Date Collected: 06/17/2014 15:05	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 51.4
Client ID: YFSD02		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 08:50	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-9		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 21.6 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.16		pg/g	0.160	0.952
40321-76-4	1,2,3,7,8-PeCDD	JK		0.187	pg/g	0.134	4.76
39227-28-6	1,2,3,4,7,8-HxCDD	JK		0.322	pg/g	0.196	4.76
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.724		pg/g	0.204	4.76
19408-74-3	1,2,3,7,8,9-HxCDD	J	1.37		pg/g	0.213	4.76
35822-46-9	1,2,3,4,6,7,8-HpCDD		24.0		pg/g	0.419	4.76
3268-87-9	1,2,3,4,6,7,8,9-OCDD		610		pg/g	0.988	9.52
51207-31-9	2,3,7,8-TCDF	J	0.213		pg/g	0.176	0.952
57117-41-6	1,2,3,7,8-PeCDF	U	.138		pg/g	0.138	4.76
57117-31-4	2,3,4,7,8-PeCDF	U	.128		pg/g	0.128	4.76
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.189		pg/g	0.167	4.76
57117-44-9	1,2,3,6,7,8-HxCDF	J	0.261		pg/g	0.159	4.76
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.272		pg/g	0.166	4.76
72918-21-9	1,2,3,7,8,9-HxCDF	U	.253		pg/g	0.253	4.76
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.76		pg/g	0.123	4.76
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.204		pg/g	0.204	4.76
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	7.47		pg/g	0.642	9.52
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.301		pg/g	0.160	0.952
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	1.42	2.00	pg/g	0.134	4.76
34465-46-8	Total Hexachlorodibenzo-p-dioxin		11.0	11.4	pg/g	0.196	4.76
37871-00-4	Total Heptachlorodibenzo-p-dioxin		62.2		pg/g	0.419	4.76
30402-14-3	Total Tetrachlorodibenzofuran	J	0.638	0.863	pg/g	0.176	0.952
30402-15-4	Total Pentachlorodibenzofuran	J	1.28		pg/g	0.0598	4.76
55684-94-1	Total Hexachlorodibenzofuran	J	3.87		pg/g	0.159	4.76
38998-75-3	Total Heptachlorodibenzofuran		7.75		pg/g	0.123	4.76
3333-30-0	TEQ WHO2005 ND=0		0.756	0.975	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.948	1.09	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		159	190	pg/g	83.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		158	190	pg/g	83.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		171	190	pg/g	89.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		153	190	pg/g	80.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		173	190	pg/g	90.7	(23%-140%)
13C-OCDD		313	381	pg/g	82.2	(17%-157%)
13C-2,3,7,8-TCDF		175	190	pg/g	92.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		160	190	pg/g	84.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		175	190	pg/g	92.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		169	190	pg/g	89.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		165	190	pg/g	86.7	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		169	190	pg/g	88.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		156	190	pg/g	82.2	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260006	Date Collected: 06/17/2014 15:05	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 51.4
Client ID: YFSD02		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 08:50	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-9		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 21.6 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			170	190	pg/g	89.4	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			165	190	pg/g	86.6	(26%-138%)
37Cl-2,3,7,8-TCDD			18.6	19.0	pg/g	97.9	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260007	Date Collected: 06/18/2014 11:15	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 32.1
Client ID: CPSD01		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 09:37	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-10		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 15.89 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.134		pg/g	0.134	0.926
40321-76-4	1,2,3,7,8-PeCDD	JK		0.119	pg/g	0.113	4.63
39227-28-6	1,2,3,4,7,8-HxCDD	U	.164		pg/g	0.164	4.63
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.319		pg/g	0.169	4.63
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.309		pg/g	0.176	4.63
35822-46-9	1,2,3,4,6,7,8-HpCDD		11.8		pg/g	0.367	4.63
3268-87-9	1,2,3,4,6,7,8,9-OCDD		767		pg/g	0.799	9.26
51207-31-9	2,3,7,8-TCDF	J	0.148		pg/g	0.118	0.926
57117-41-6	1,2,3,7,8-PeCDF	U	.0926		pg/g	0.0926	4.63
57117-31-4	2,3,4,7,8-PeCDF	U	.0849		pg/g	0.0849	4.63
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0852		pg/g	0.0852	4.63
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0856		pg/g	0.0856	4.63
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0889		pg/g	0.0889	4.63
72918-21-9	1,2,3,7,8,9-HxCDF	U	.127		pg/g	0.127	4.63
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.330		pg/g	0.141	4.63
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.243		pg/g	0.243	4.63
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK		0.447	pg/g	0.341	9.26
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.204		pg/g	0.134	0.926
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.454	0.823	pg/g	0.113	4.63
34465-46-8	Total Hexachlorodibenzo-p-dioxin		5.87		pg/g	0.164	4.63
37871-00-4	Total Heptachlorodibenzo-p-dioxin		32.8		pg/g	0.367	4.63
30402-14-3	Total Tetrachlorodibenzofuran	J	0.313		pg/g	0.118	0.926
30402-15-4	Total Pentachlorodibenzofuran	J	0.371		pg/g	0.0409	4.63
55684-94-1	Total Hexachlorodibenzofuran	U	.0852	0.372	pg/g	0.0852	4.63
38998-75-3	Total Heptachlorodibenzofuran	J	0.330		pg/g	0.141	4.63
3333-30-0	TEQ WHO2005 ND=0		0.429	0.548	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.596	0.658	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		148	185	pg/g	80.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		152	185	pg/g	81.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		170	185	pg/g	91.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	185	pg/g	81.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		173	185	pg/g	93.4	(23%-140%)
13C-OCDD		322	371	pg/g	86.8	(17%-157%)
13C-2,3,7,8-TCDF		160	185	pg/g	86.6	(24%-169%)
13C-1,2,3,7,8-PeCDF		156	185	pg/g	84.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		168	185	pg/g	90.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		171	185	pg/g	92.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		164	185	pg/g	88.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		168	185	pg/g	90.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	185	pg/g	89.9	(29%-147%)

**Hi-Res Dioxins/Furans
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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260007	Date Collected: 06/18/2014 11:15	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 32.1
Client ID: CPSD01		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 09:37	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-10		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 15.89 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			171	185	pg/g	92.1	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			164	185	pg/g	88.5	(26%-138%)
37Cl-2,3,7,8-TCDD			17.6	18.5	pg/g	95.0	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260008	Date Collected: 06/18/2014 11:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 30.4
Client ID: CPSD02		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 22:21	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-11		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 14.89 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.222		pg/g	0.222	0.965
40321-76-4	1,2,3,7,8-PeCDD	U	.336		pg/g	0.336	4.82
39227-28-6	1,2,3,4,7,8-HxCDD	U	.425		pg/g	0.425	4.82
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.486		pg/g	0.411	4.82
19408-74-3	1,2,3,7,8,9-HxCDD	J	0.780		pg/g	0.442	4.82
35822-46-9	1,2,3,4,6,7,8-HpCDD		30.9		pg/g	0.602	4.82
3268-87-9	1,2,3,4,6,7,8,9-OCDD		2260		pg/g	1.32	9.65
51207-31-9	2,3,7,8-TCDF	U	.128		pg/g	0.128	0.965
57117-41-6	1,2,3,7,8-PeCDF	J	0.108		pg/g	0.0766	4.82
57117-31-4	2,3,4,7,8-PeCDF	JK		0.135	pg/g	0.0693	4.82
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.114		pg/g	0.104	4.82
57117-44-9	1,2,3,6,7,8-HxCDF	JK		0.104	pg/g	0.103	4.82
60851-34-5	2,3,4,6,7,8-HxCDF	U	.112		pg/g	0.112	4.82
72918-21-9	1,2,3,7,8,9-HxCDF	U	.158		pg/g	0.158	4.82
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.351	pg/g	0.118	4.82
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.205		pg/g	0.205	4.82
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	0.454		pg/g	0.344	9.65
41903-57-5	Total Tetrachlorodibenzo-p-dioxin		18.2	18.6	pg/g	0.222	0.965
36088-22-9	Total Pentachlorodibenzo-p-dioxin		95.4		pg/g	0.336	4.82
34465-46-8	Total Hexachlorodibenzo-p-dioxin		700		pg/g	0.411	4.82
37871-00-4	Total Heptachlorodibenzo-p-dioxin		238		pg/g	0.602	4.82
30402-14-3	Total Tetrachlorodibenzofuran	U	.128		pg/g	0.128	0.965
30402-15-4	Total Pentachlorodibenzofuran	J	0.220	0.481	pg/g	0.0384	4.82
55684-94-1	Total Hexachlorodibenzofuran	J	0.623	0.728	pg/g	0.103	4.82
38998-75-3	Total Heptachlorodibenzofuran	U	.118	0.351	pg/g	0.118	4.82
3333-30-0	TEQ WHO2005 ND=0		1.13	1.18	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		1.47	1.50	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		162	193	pg/g	83.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		169	193	pg/g	87.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		174	193	pg/g	90.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		167	193	pg/g	86.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		183	193	pg/g	94.8	(23%-140%)
13C-OCDD		374	386	pg/g	96.9	(17%-157%)
13C-2,3,7,8-TCDF		176	193	pg/g	91.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		173	193	pg/g	89.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		187	193	pg/g	96.7	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		189	193	pg/g	98.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	193	pg/g	91.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	193	pg/g	93.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	193	pg/g	92.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260008	Date Collected: 06/18/2014 11:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/19/2014 10:05	%Moisture: 30.4
Client ID: CPSD02		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 22:21	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-11		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 14.89 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			180	193	pg/g	93.4	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			177	193	pg/g	91.7	(26%-138%)
37Cl-2,3,7,8-TCDD			18.8	19.3	pg/g	97.4	(35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260009	Date Collected: 06/17/2014 08:05	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: LFH01		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 23:09	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-12		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.56 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.136		pg/g	0.136	0.947
40321-76-4	1,2,3,7,8-PeCDD	U	.082		pg/g	0.082	4.73
39227-28-6	1,2,3,4,7,8-HxCDD	U	.132		pg/g	0.132	4.73
57653-85-7	1,2,3,6,7,8-HxCDD	U	.135		pg/g	0.135	4.73
19408-74-3	1,2,3,7,8,9-HxCDD	U	.142		pg/g	0.142	4.73
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.420		pg/g	0.254	4.73
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.94		pg/g	0.464	9.47
51207-31-9	2,3,7,8-TCDF	J	0.127		pg/g	0.0983	0.947
57117-41-6	1,2,3,7,8-PeCDF	J	0.0795		pg/g	0.053	4.73
57117-31-4	2,3,4,7,8-PeCDF	U	.0489		pg/g	0.0489	4.73
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0811		pg/g	0.0811	4.73
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0777		pg/g	0.0777	4.73
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0869		pg/g	0.0869	4.73
72918-21-9	1,2,3,7,8,9-HxCDF	U	.12		pg/g	0.120	4.73
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.155		pg/g	0.0847	4.73
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.142		pg/g	0.142	4.73
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.341		pg/g	0.341	9.47
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.136		pg/g	0.136	0.947
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.082		pg/g	0.082	4.73
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.477		pg/g	0.132	4.73
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.960		pg/g	0.254	4.73
30402-14-3	Total Tetrachlorodibenzofuran	J	0.127		pg/g	0.0983	0.947
30402-15-4	Total Pentachlorodibenzofuran	J	0.0795		pg/g	0.0377	4.73
55684-94-1	Total Hexachlorodibenzofuran	U	.0777		pg/g	0.0777	4.73
38998-75-3	Total Heptachlorodibenzofuran	J	0.305		pg/g	0.0847	4.73
3333-30-0	TEQ WHO2005 ND=0		0.0226	0.0226	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.178	0.178	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		143	189	pg/g	75.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		153	189	pg/g	80.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		155	189	pg/g	81.9	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	189	pg/g	79.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		163	189	pg/g	86.0	(23%-140%)
13C-OCDD		286	379	pg/g	75.6	(17%-157%)
13C-2,3,7,8-TCDF		157	189	pg/g	83.0	(24%-169%)
13C-1,2,3,7,8-PeCDF		156	189	pg/g	82.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	189	pg/g	90.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		161	189	pg/g	85.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		151	189	pg/g	79.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		157	189	pg/g	83.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		157	189	pg/g	82.9	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260009	Date Collected: 06/17/2014 08:05	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: LFH01		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 23:09	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-12		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.56 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			156	189	pg/g	82.5	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			155	189	pg/g	81.6	(26%-138%)
37Cl-2,3,7,8-TCDD			16.8	18.9	pg/g	88.9	(35%-197%)

Comments:
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260010	Date Collected: 06/17/2014 08:25	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: LFH02		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 23:57	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-13		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.95 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.144		pg/g	0.144	0.913
40321-76-4	1,2,3,7,8-PeCDD	U	.0995		pg/g	0.0995	4.57
39227-28-6	1,2,3,4,7,8-HxCDD	U	.133		pg/g	0.133	4.57
57653-85-7	1,2,3,6,7,8-HxCDD	U	.137		pg/g	0.137	4.57
19408-74-3	1,2,3,7,8,9-HxCDD	U	.143		pg/g	0.143	4.57
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.771		pg/g	0.245	4.57
3268-87-9	1,2,3,4,6,7,8,9-OCDD		10.5		pg/g	0.610	9.13
51207-31-9	2,3,7,8-TCDF	J	0.170		pg/g	0.126	0.913
57117-41-6	1,2,3,7,8-PeCDF	U	.074		pg/g	0.074	4.57
57117-31-4	2,3,4,7,8-PeCDF	J	0.0676		pg/g	0.0663	4.57
70648-26-9	1,2,3,4,7,8-HxCDF	U	.111		pg/g	0.111	4.57
57117-44-9	1,2,3,6,7,8-HxCDF	U	.109		pg/g	0.109	4.57
60851-34-5	2,3,4,6,7,8-HxCDF	U	.117		pg/g	0.117	4.57
72918-21-9	1,2,3,7,8,9-HxCDF	U	.178		pg/g	0.178	4.57
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.148	pg/g	0.106	4.57
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.181		pg/g	0.181	4.57
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.422		pg/g	0.422	9.13
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.144		pg/g	0.144	0.913
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0995		pg/g	0.0995	4.57
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.426		pg/g	0.133	4.57
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.94		pg/g	0.245	4.57
30402-14-3	Total Tetrachlorodibenzofuran	J	0.170	0.305	pg/g	0.126	0.913
30402-15-4	Total Pentachlorodibenzofuran	J	0.0676		pg/g	0.0506	4.57
55684-94-1	Total Hexachlorodibenzofuran	U	.109		pg/g	0.109	4.57
38998-75-3	Total Heptachlorodibenzofuran	J	0.254	0.402	pg/g	0.106	4.57
3333-30-0	TEQ WHO2005 ND=0		0.0481	0.0496	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.219	0.220	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		147	183	pg/g	80.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		155	183	pg/g	85.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		164	183	pg/g	89.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		153	183	pg/g	84.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		162	183	pg/g	88.4	(23%-140%)
13C-OCDD		288	365	pg/g	78.8	(17%-157%)
13C-2,3,7,8-TCDF		160	183	pg/g	87.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		154	183	pg/g	84.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		165	183	pg/g	90.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	183	pg/g	88.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		163	183	pg/g	89.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		162	183	pg/g	88.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		151	183	pg/g	82.6	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260010	Date Collected: 06/17/2014 08:25	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: LFH02		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 23:57	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-13		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.95 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			165	183	pg/g	90.1	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			155	183	pg/g	84.9	(26%-138%)
37Cl-2,3,7,8-TCDD			17.1	18.3	pg/g	93.8	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260011	Date Collected: 06/17/2014 08:05	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: LFH03		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 00:45	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-14		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 11.27 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.118		pg/g	0.118	0.887
40321-76-4	1,2,3,7,8-PeCDD	U	.0953		pg/g	0.0953	4.44
39227-28-6	1,2,3,4,7,8-HxCDD	U	.122		pg/g	0.122	4.44
57653-85-7	1,2,3,6,7,8-HxCDD	U	.123		pg/g	0.123	4.44
19408-74-3	1,2,3,7,8,9-HxCDD	U	.13		pg/g	0.130	4.44
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.495		pg/g	0.256	4.44
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	4.36		pg/g	0.531	8.87
51207-31-9	2,3,7,8-TCDF	JK		0.108	pg/g	0.0932	0.887
57117-41-6	1,2,3,7,8-PeCDF	U	.0681		pg/g	0.0681	4.44
57117-31-4	2,3,4,7,8-PeCDF	U	.0644		pg/g	0.0644	4.44
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0838		pg/g	0.0838	4.44
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0831		pg/g	0.0831	4.44
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0898		pg/g	0.0898	4.44
72918-21-9	1,2,3,7,8,9-HxCDF	U	.138		pg/g	0.138	4.44
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.170		pg/g	0.120	4.44
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.209		pg/g	0.209	4.44
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.369		pg/g	0.369	8.87
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.118		pg/g	0.118	0.887
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0953		pg/g	0.0953	4.44
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.206		pg/g	0.122	4.44
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.14		pg/g	0.256	4.44
30402-14-3	Total Tetrachlorodibenzofuran	U	.0932	0.108	pg/g	0.0932	0.887
30402-15-4	Total Pentachlorodibenzofuran	U	.0465		pg/g	0.0465	4.44
55684-94-1	Total Hexachlorodibenzofuran	J	0.103		pg/g	0.0831	4.44
38998-75-3	Total Heptachlorodibenzofuran	J	0.398		pg/g	0.120	4.44
3333-30-0	TEQ WHO2005 ND=0		0.00796	0.0188	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.169	0.176	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		138	177	pg/g	77.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		130	177	pg/g	73.3	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		159	177	pg/g	89.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		145	177	pg/g	82.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		151	177	pg/g	84.9	(23%-140%)
13C-OCDD		261	355	pg/g	73.5	(17%-157%)
13C-2,3,7,8-TCDF		157	177	pg/g	88.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		130	177	pg/g	73.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		140	177	pg/g	79.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	177	pg/g	91.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		158	177	pg/g	88.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		160	177	pg/g	90.0	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		144	177	pg/g	81.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260011	Date Collected: 06/17/2014 08:05	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: LFH03		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 00:45	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-14		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 11.27 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			154	177	pg/g	87.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			146	177	pg/g	82.4	(26%-138%)
37Cl-2,3,7,8-TCDD			16.4	17.7	pg/g	92.7	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260012	Date Collected: 06/17/2014 13:20	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: JFH01		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 10:25	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-11		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 9.98 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.163		pg/g	0.163	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	.121		pg/g	0.121	5.01
39227-28-6	1,2,3,4,7,8-HxCDD	U	.131		pg/g	0.131	5.01
57653-85-7	1,2,3,6,7,8-HxCDD	U	.128		pg/g	0.128	5.01
19408-74-3	1,2,3,7,8,9-HxCDD	U	.138		pg/g	0.138	5.01
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.689		pg/g	0.220	5.01
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.84		pg/g	0.812	10.0
51207-31-9	2,3,7,8-TCDF	U	.128		pg/g	0.128	1.00
57117-41-6	1,2,3,7,8-PeCDF	U	.0864		pg/g	0.0864	5.01
57117-31-4	2,3,4,7,8-PeCDF	U	.0778		pg/g	0.0778	5.01
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0918		pg/g	0.0918	5.01
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0886		pg/g	0.0886	5.01
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0964		pg/g	0.0964	5.01
72918-21-9	1,2,3,7,8,9-HxCDF	U	.147		pg/g	0.147	5.01
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.162	pg/g	0.120	5.01
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.216		pg/g	0.216	5.01
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.395		pg/g	0.395	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.163		pg/g	0.163	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.121		pg/g	0.121	5.01
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.285	0.625	pg/g	0.128	5.01
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.52		pg/g	0.220	5.01
30402-14-3	Total Tetrachlorodibenzofuran	U	.128		pg/g	0.128	1.00
30402-15-4	Total Pentachlorodibenzofuran	U	.0515		pg/g	0.0515	5.01
55684-94-1	Total Hexachlorodibenzofuran	J	0.140		pg/g	0.0886	5.01
38998-75-3	Total Heptachlorodibenzofuran	U	.12	0.162	pg/g	0.120	5.01
3333-30-0	TEQ WHO2005 ND=0		0.00865	0.0103	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.213	0.214	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	200	pg/g	84.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		171	200	pg/g	85.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		179	200	pg/g	89.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		172	200	pg/g	85.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		186	200	pg/g	93.0	(23%-140%)
13C-OCDD		327	401	pg/g	81.5	(17%-157%)
13C-2,3,7,8-TCDF		178	200	pg/g	88.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		171	200	pg/g	85.5	(24%-185%)
13C-2,3,4,7,8-PeCDF		183	200	pg/g	91.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		191	200	pg/g	95.1	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		178	200	pg/g	88.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		185	200	pg/g	92.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		171	200	pg/g	85.3	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260012	Date Collected: 06/17/2014 13:20	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: JFH01		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 10:25	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-11		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 9.98 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			182	200	pg/g	90.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			173	200	pg/g	86.3	(26%-138%)
37Cl-2,3,7,8-TCDD			19.3	20.0	pg/g	96.3	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260013	Date Collected: 06/17/2014 13:25	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: JFH02		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 11:13	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-12		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.15 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.13		pg/g	0.130	0.985
40321-76-4	1,2,3,7,8-PeCDD	U	.119		pg/g	0.119	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	U	.148		pg/g	0.148	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	U	.15		pg/g	0.150	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	U	.159		pg/g	0.159	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.717		pg/g	0.223	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.93		pg/g	0.510	9.85
51207-31-9	2,3,7,8-TCDF	U	.102		pg/g	0.102	0.985
57117-41-6	1,2,3,7,8-PeCDF	U	.0682		pg/g	0.0682	4.93
57117-31-4	2,3,4,7,8-PeCDF	U	.0638		pg/g	0.0638	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0875		pg/g	0.0875	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0843		pg/g	0.0843	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0928		pg/g	0.0928	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.138		pg/g	0.138	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.290		pg/g	0.100	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.18		pg/g	0.180	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.351		pg/g	0.351	9.85
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.13		pg/g	0.130	0.985
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.119		pg/g	0.119	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.564		pg/g	0.148	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	1.58		pg/g	0.223	4.93
30402-14-3	Total Tetrachlorodibenzofuran	U	.102		pg/g	0.102	0.985
30402-15-4	Total Pentachlorodibenzofuran	J	0.106		pg/g	0.0467	4.93
55684-94-1	Total Hexachlorodibenzofuran	J	0.140		pg/g	0.0843	4.93
38998-75-3	Total Heptachlorodibenzofuran	J	0.290	0.493	pg/g	0.100	4.93
3333-30-0	TEQ WHO2005 ND=0		0.0118	0.0118	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.196	0.196	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		171	197	pg/g	86.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		158	197	pg/g	80.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		191	197	pg/g	96.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		171	197	pg/g	86.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		189	197	pg/g	95.8	(23%-140%)
13C-OCDD		326	394	pg/g	82.7	(17%-157%)
13C-2,3,7,8-TCDF		182	197	pg/g	92.2	(24%-169%)
13C-1,2,3,7,8-PeCDF		159	197	pg/g	80.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		167	197	pg/g	85.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		197	197	pg/g	100	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		185	197	pg/g	93.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		190	197	pg/g	96.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		173	197	pg/g	87.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260013	Date Collected: 06/17/2014 13:25	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: JFH02		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 11:13	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-12		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.15 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			187	197	pg/g	94.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			170	197	pg/g	86.3	(26%-138%)
37Cl-2,3,7,8-TCDD			19.5	19.7	pg/g	98.7	(35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260014	Date Collected: 06/18/2014 08:00	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: MFH01		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 12:01	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-13		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.74 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.125		pg/g	0.125	0.931
40321-76-4	1,2,3,7,8-PeCDD	U	.0926		pg/g	0.0926	4.66
39227-28-6	1,2,3,4,7,8-HxCDD	U	.121		pg/g	0.121	4.66
57653-85-7	1,2,3,6,7,8-HxCDD	U	.126		pg/g	0.126	4.66
19408-74-3	1,2,3,7,8,9-HxCDD	U	.131		pg/g	0.131	4.66
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.777		pg/g	0.139	4.66
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	9.16		pg/g	0.223	9.31
51207-31-9	2,3,7,8-TCDF	U	.108		pg/g	0.108	0.931
57117-41-6	1,2,3,7,8-PeCDF	U	.0622		pg/g	0.0622	4.66
57117-31-4	2,3,4,7,8-PeCDF	U	.0585		pg/g	0.0585	4.66
70648-26-9	1,2,3,4,7,8-HxCDF	U	.067		pg/g	0.067	4.66
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0642		pg/g	0.0642	4.66
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0685		pg/g	0.0685	4.66
72918-21-9	1,2,3,7,8,9-HxCDF	JK		0.121	pg/g	0.0987	4.66
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.156		pg/g	0.0704	4.66
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.118		pg/g	0.118	4.66
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.21		pg/g	0.210	9.31
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.125		pg/g	0.125	0.931
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.192		pg/g	0.0926	4.66
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	1.07		pg/g	0.121	4.66
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	2.02		pg/g	0.139	4.66
30402-14-3	Total Tetrachlorodibenzofuran	U	.108		pg/g	0.108	0.931
30402-15-4	Total Pentachlorodibenzofuran	J	0.138	0.261	pg/g	0.0413	4.66
55684-94-1	Total Hexachlorodibenzofuran	J	0.136	0.257	pg/g	0.0642	4.66
38998-75-3	Total Heptachlorodibenzofuran	J	0.268		pg/g	0.0704	4.66
3333-30-0	TEQ WHO2005 ND=0		0.0121	0.0242	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.170	0.177	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		156	186	pg/g	84.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		159	186	pg/g	85.3	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		175	186	pg/g	94.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		156	186	pg/g	83.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		187	186	pg/g	100	(23%-140%)
13C-OCDD		347	372	pg/g	93.3	(17%-157%)
13C-2,3,7,8-TCDF		173	186	pg/g	92.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		161	186	pg/g	86.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		170	186	pg/g	91.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		181	186	pg/g	97.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		173	186	pg/g	92.7	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		175	186	pg/g	93.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		171	186	pg/g	91.7	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6260014	Date Collected: 06/18/2014 08:00	Matrix: SOLID
Client Sample: 1613B Solid	Date Received: 06/19/2014 10:05	
Client ID: MFH01		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/28/2014 12:01	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a_2-13		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10.74 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			181	186	pg/g	97.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			178	186	pg/g	95.7	(26%-138%)
37Cl-2,3,7,8-TCDD			17.8	18.6	pg/g	95.8	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6260

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010725	LCS for batch 26220	13C-2,3,7,8-TCDD		85.1	(20%-175%)
		13C-1,2,3,7,8-PeCDD		88.6	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		83.6	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		94.3	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		68.9	(22%-166%)
		13C-OCDD		29.6	(13%-199%)
		13C-2,3,7,8-TCDF		97.2	(22%-152%)
		13C-1,2,3,7,8-PeCDF		96.4	(21%-192%)
		13C-2,3,4,7,8-PeCDF		93.1	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		92.8	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		94.9	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		91.8	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		73.8	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		80.6	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		57.7	(20%-186%)
		37Cl-2,3,7,8-TCDD		102	(31%-191%)
12010726	LCSD for batch 26220	13C-2,3,7,8-TCDD		87.0	(20%-175%)
		13C-1,2,3,7,8-PeCDD		89.2	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		86.1	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		94.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		65.0	(22%-166%)
		13C-OCDD		43.9	(13%-199%)
		13C-2,3,7,8-TCDF		101	(22%-152%)
		13C-1,2,3,7,8-PeCDF		93.5	(21%-192%)
		13C-2,3,4,7,8-PeCDF		91.3	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		94.9	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		98.1	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		90.2	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		70.5	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		67.3	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		56.5	(20%-186%)
		37Cl-2,3,7,8-TCDD		96.2	(31%-191%)
12010724	MB for batch 26220	13C-2,3,7,8-TCDD		86.2	(25%-164%)
		13C-1,2,3,7,8-PeCDD		82.1	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		83.5	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		90.9	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		93.3	(23%-140%)
		13C-OCDD		57.9	(17%-157%)
		13C-2,3,7,8-TCDF		98.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		91.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		87.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		111	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		106	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		89.2	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		77.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		79.6	(26%-138%)
		37Cl-2,3,7,8-TCDD		100	(35%-197%)
6260001	YFSW01	13C-2,3,7,8-TCDD		73.1	(25%-164%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6260

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6260001	YFSW01	13C-1,2,3,7,8-PeCDD		81.5	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		72.4	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		79.3	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		84.4	(23%-140%)
		13C-OCDD		80.0	(17%-157%)
		13C-2,3,7,8-TCDF		82.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		88.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		86.1	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		73.6	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		75.0	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		78.5	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		74.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		83.0	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		83.9	(26%-138%)
		37Cl-2,3,7,8-TCDD		86.1	(35%-197%)
6260002	YFSW02	13C-2,3,7,8-TCDD		66.1	(25%-164%)
		13C-1,2,3,7,8-PeCDD		79.7	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		70.4	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		78.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		87.9	(23%-140%)
		13C-OCDD		81.6	(17%-157%)
		13C-2,3,7,8-TCDF		72.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		84.0	(24%-185%)
		13C-2,3,4,7,8-PeCDF		82.9	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		68.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		75.6	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		74.2	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		72.1	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		82.5	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		85.9	(26%-138%)
37Cl-2,3,7,8-TCDD		90.5	(35%-197%)		
6260003	CPSW01	13C-2,3,7,8-TCDD		60.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		76.6	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		64.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		75.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		79.7	(23%-140%)
		13C-OCDD		76.2	(17%-157%)
		13C-2,3,7,8-TCDF		69.9	(24%-169%)
		13C-1,2,3,7,8-PeCDF		77.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		77.1	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		65.8	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		72.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		70.8	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		67.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		74.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		76.8	(26%-138%)
37Cl-2,3,7,8-TCDD		86.0	(35%-197%)		
6260004	CPSW02	13C-2,3,7,8-TCDD		70.7	(25%-164%)
		13C-1,2,3,7,8-PeCDD		88.1	(25%-181%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6260

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6260004	CPSW02	13C-1,2,3,4,7,8-HxCDD		73.6	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		80.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		84.3	(23%-140%)
		13C-OCDD		77.2	(17%-157%)
		13C-2,3,7,8-TCDF		84.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		91.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		91.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		72.8	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		80.6	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		77.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		75.5	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		82.0	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		81.4	(26%-138%)
		37Cl-2,3,7,8-TCDD		81.6	(35%-197%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6260

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010757	LCS for batch 26253	13C-2,3,7,8-TCDD		85.1	(20%-175%)
		13C-1,2,3,7,8-PeCDD		81.4	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		95.7	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		83.9	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		93.8	(22%-166%)
		13C-OCDD		79.9	(13%-199%)
		13C-2,3,7,8-TCDF		90.6	(22%-152%)
		13C-1,2,3,7,8-PeCDF		83.7	(21%-192%)
		13C-2,3,4,7,8-PeCDF		90.3	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		96.7	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		92.9	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		93.4	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		88.3	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		92.4	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		88.8	(20%-186%)
		37Cl-2,3,7,8-TCDD		97.0	(31%-191%)
		12010758	LCSD for batch 26253	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				82.4	(21%-227%)
13C-1,2,3,4,7,8-HxCDD				89.4	(21%-193%)
13C-1,2,3,6,7,8-HxCDD				87.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD				87.1	(22%-166%)
13C-OCDD				74.8	(13%-199%)
13C-2,3,7,8-TCDF				90.8	(22%-152%)
13C-1,2,3,7,8-PeCDF				83.2	(21%-192%)
13C-2,3,4,7,8-PeCDF				91.2	(13%-328%)
13C-1,2,3,4,7,8-HxCDF				95.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF				91.6	(21%-159%)
13C-2,3,4,6,7,8-HxCDF				91.3	(22%-176%)
13C-1,2,3,7,8,9-HxCDF				84.4	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF				89.7	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF				81.2	(20%-186%)
37Cl-2,3,7,8-TCDD				98.1	(31%-191%)
12010756	MB for batch 26253			13C-2,3,7,8-TCDD	
		13C-1,2,3,7,8-PeCDD		80.0	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		87.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		75.4	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		89.0	(23%-140%)
		13C-OCDD		80.8	(17%-157%)
		13C-2,3,7,8-TCDF		83.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		81.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		88.7	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		85.5	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		82.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		84.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		86.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		86.3	(26%-138%)
		37Cl-2,3,7,8-TCDD		96.8	(35%-197%)
		6260008	CPSD02	13C-2,3,7,8-TCDD	

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6260

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6260008	CPSD02	13C-1,2,3,7,8-PeCDD		87.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		90.3	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		86.5	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		94.8	(23%-140%)
		13C-OCDD		96.9	(17%-157%)
		13C-2,3,7,8-TCDF		91.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		89.9	(24%-185%)
		13C-2,3,4,7,8-PeCDF		96.7	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		98.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		91.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		93.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		92.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		93.4	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		91.7	(26%-138%)
		37Cl-2,3,7,8-TCDD		97.4	(35%-197%)
6260009	LFH01	13C-2,3,7,8-TCDD		75.5	(25%-164%)
		13C-1,2,3,7,8-PeCDD		80.7	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		81.9	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		79.7	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		86.0	(23%-140%)
		13C-OCDD		75.6	(17%-157%)
		13C-2,3,7,8-TCDF		83.0	(24%-169%)
		13C-1,2,3,7,8-PeCDF		82.2	(24%-185%)
		13C-2,3,4,7,8-PeCDF		90.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		85.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		79.9	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		83.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		82.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		82.5	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		81.6	(26%-138%)
37Cl-2,3,7,8-TCDD		88.9	(35%-197%)		
6260010	LFH02	13C-2,3,7,8-TCDD		80.5	(25%-164%)
		13C-1,2,3,7,8-PeCDD		85.0	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		89.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		84.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		88.4	(23%-140%)
		13C-OCDD		78.8	(17%-157%)
		13C-2,3,7,8-TCDF		87.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		84.2	(24%-185%)
		13C-2,3,4,7,8-PeCDF		90.5	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		88.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		89.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		88.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		82.6	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		90.1	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		84.9	(26%-138%)
37Cl-2,3,7,8-TCDD		93.8	(35%-197%)		
6260011	LFH03	13C-2,3,7,8-TCDD		77.7	(25%-164%)
		13C-1,2,3,7,8-PeCDD		73.3	(25%-181%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6260

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6260011	LFH03	13C-1,2,3,4,7,8-HxCDD		89.5	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		82.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		84.9	(23%-140%)
		13C-OCDD		73.5	(17%-157%)
		13C-2,3,7,8-TCDF		88.4	(24%-169%)
		13C-1,2,3,7,8-PeCDF		73.4	(24%-185%)
		13C-2,3,4,7,8-PeCDF		79.0	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		91.4	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		88.8	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		90.0	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		81.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		87.0	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		82.4	(26%-138%)
		37Cl-2,3,7,8-TCDD		92.7	(35%-197%)
6260005	YFSD01	13C-2,3,7,8-TCDD		78.0	(25%-164%)
		13C-1,2,3,7,8-PeCDD		80.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		84.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		79.2	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		90.8	(23%-140%)
		13C-OCDD		84.7	(17%-157%)
		13C-2,3,7,8-TCDF		87.1	(24%-169%)
		13C-1,2,3,7,8-PeCDF		83.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		89.0	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		87.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		82.9	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		85.4	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		84.1	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		87.5	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		87.0	(26%-138%)		
37Cl-2,3,7,8-TCDD		94.0	(35%-197%)		
6260006	YFSD02	13C-2,3,7,8-TCDD		83.3	(25%-164%)
		13C-1,2,3,7,8-PeCDD		83.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		89.6	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		80.4	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		90.7	(23%-140%)
		13C-OCDD		82.2	(17%-157%)
		13C-2,3,7,8-TCDF		92.1	(24%-169%)
		13C-1,2,3,7,8-PeCDF		84.2	(24%-185%)
		13C-2,3,4,7,8-PeCDF		92.0	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		89.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		86.7	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		88.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		82.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		89.4	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		86.6	(26%-138%)		
37Cl-2,3,7,8-TCDD		97.9	(35%-197%)		
6260007	CPSD01	13C-2,3,7,8-TCDD		80.0	(25%-164%)
		13C-1,2,3,7,8-PeCDD		81.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		91.6	(32%-141%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6260

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6260007	CPSD01	13C-1,2,3,6,7,8-HxCDD		81.4	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		93.4	(23%-140%)
		13C-OCDD		86.8	(17%-157%)
		13C-2,3,7,8-TCDF		86.6	(24%-169%)
		13C-1,2,3,7,8-PeCDF		84.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		90.5	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		92.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		88.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		90.8	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		89.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		92.1	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		88.5	(26%-138%)
		37Cl-2,3,7,8-TCDD		95.0	(35%-197%)
		6260012	JFH01	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				85.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD				89.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD				85.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD				93.0	(23%-140%)
13C-OCDD				81.5	(17%-157%)
13C-2,3,7,8-TCDF				88.8	(24%-169%)
13C-1,2,3,7,8-PeCDF				85.5	(24%-185%)
13C-2,3,4,7,8-PeCDF				91.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF				95.1	(26%-152%)
13C-1,2,3,6,7,8-HxCDF				88.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF				92.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF				85.3	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF				90.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		86.3	(26%-138%)		
37Cl-2,3,7,8-TCDD		96.3	(35%-197%)		
6260013	JFH02	13C-2,3,7,8-TCDD		86.6	(25%-164%)
		13C-1,2,3,7,8-PeCDD		80.4	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		96.7	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		86.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		95.8	(23%-140%)
		13C-OCDD		82.7	(17%-157%)
		13C-2,3,7,8-TCDF		92.2	(24%-169%)
		13C-1,2,3,7,8-PeCDF		80.7	(24%-185%)
		13C-2,3,4,7,8-PeCDF		85.0	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		100	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		93.8	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		96.3	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		94.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		86.3	(26%-138%)		
37Cl-2,3,7,8-TCDD		98.7	(35%-197%)		
6260014	MFH01	13C-2,3,7,8-TCDD		84.0	(25%-164%)
		13C-1,2,3,7,8-PeCDD		85.3	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		94.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		83.6	(28%-130%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6260

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6260014	MFH01	13C-1,2,3,4,6,7,8-HpCDD		100	(23%-140%)
		13C-OCDD		93.3	(17%-157%)
		13C-2,3,7,8-TCDF		92.9	(24%-169%)
		13C-1,2,3,7,8-PeCDF		86.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		91.5	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		97.4	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		92.7	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		93.8	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		91.7	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.0	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		95.7	(26%-138%)
		37Cl-2,3,7,8-TCDD		95.8	(35%-197%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6260

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 26220

Matrix: WATER

Lab Sample ID: 12010725

Instrument: HRP750

Analysis Date: 06/24/2014 04:44

Dilution: 1

Analyst: JTF

Prep Batch ID: 26220

Batch ID: 26223

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	200	217	109	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	1000	1040	104	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	1000	1020	102	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	1000	1050	105	74-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	1000	1030	103	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	1000	1030	103	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	2000	2120	106	78-144
51207-31-9	LCS 2,3,7,8-TCDF	200	188	93.9	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	1000	999	99.9	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	1000	1000	100	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	1000	1030	103	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	1000	1040	104	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	1000	1030	103	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	1000	1050	105	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	1000	993	99.3	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	1000	1030	103	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	2000	2080	104	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6260

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 26220

Matrix: WATER

Lab Sample ID: 12010726

Instrument: HRP750

Analysis Date: 06/24/2014 05:32

Dilution: 1

Analyst: JTF

Prep Batch ID: 26220

Batch ID: 26223

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	200	213	106	67-158	2.20	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	1000	1010	101	70-142	2.50	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	1000	1020	102	70-164	0.0216	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	1000	1020	102	74-134	2.62	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	1000	1010	101	64-162	1.51	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	1000	994	99.4	70-140	4.00	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	2000	2080	104	78-144	2.08	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	200	185	92.7	75-158	1.35	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	1000	1040	104	80-134	3.88	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	1000	1040	104	68-160	3.17	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	1000	1050	105	72-134	2.22	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	1000	1060	106	84-130	1.74	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	1000	1060	106	70-156	2.52	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	1000	1110	111	78-130	5.62	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	1000	1030	103	82-122	3.25	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	1000	1040	104	78-138	0.527	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	2000	1930	96.7	63-170	7.06	0-20

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6260

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 26253

Matrix: SOLID

Lab Sample ID: 12010757

Instrument: HRP763

Analysis Date: 06/27/2014 15:12

Dilution: 1

Analyst: JTF

Prep Batch ID: 26253

Batch ID: 26255

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	20.0	21.9	109	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	100	108	108	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	100	109	109	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	100	110	110	76-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	100	107	107	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	100	103	103	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	200	202	101	78-144
51207-31-9	LCS 2,3,7,8-TCDF	20.0	20.9	104	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	100	106	106	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	100	104	104	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	100	109	109	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	100	109	109	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	100	111	111	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	100	115	115	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	100	108	108	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	100	107	107	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	200	216	108	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6260

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 26253

Matrix: SOLID

Lab Sample ID: 12010758

Instrument: HRP763

Analysis Date: 06/27/2014 15:59

Dilution: 1

Analyst: JTF

Prep Batch ID: 26253

Batch ID: 26255

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	20.0	21.8	109	67-158	0.422	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	100	107	107	70-142	0.504	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	100	109	109	70-164	0.308	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	100	108	108	76-134	1.44	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	100	109	109	64-162	1.98	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	100	104	104	70-140	0.623	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	200	209	105	78-144	3.41	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	20.0	21.1	105	75-158	1.15	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	100	109	109	80-134	2.78	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	100	106	106	68-160	1.50	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	100	109	109	72-134	0.224	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	100	108	108	84-130	0.411	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	100	110	110	70-156	0.796	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	100	113	113	78-130	2.47	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	100	108	108	82-122	0.410	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	100	111	111	78-138	3.24	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	200	213	107	63-170	1.21	0-20

Method Blank Summary

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SDG Number: 6260 Client: TRCC001 Matrix: WATER
Client ID: MB for batch 26220 Instrument ID: HRP750 Data File: A23JUN14A_3-3
Lab Sample ID: 12010724 Prep Date: 20-JUN-14 Analyzed: 06/24/14 06:20
Column:

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26220	12010725	A23JUN14A_3-1	06/24/14	0444
02 LCSD for batch 26220	12010726	A23JUN14A_3-2	06/24/14	0532
03 YFSW01	6260001	A23JUN14A_4-7	06/24/14	1932
04 YFSW02	6260002	A23JUN14A_4-8	06/24/14	2020
05 CPSW01	6260003	A23JUN14A_4-9	06/24/14	2108
06 CPSW02	6260004	A23JUN14A_4-10	06/24/14	2156

Method Blank Summary

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SDG Number: 6260
Client ID: MB for batch 26253
Lab Sample ID: 12010756
Column:

Client: TRCC001
Instrument ID: HRP763
Prep Date: 24-JUN-14

Matrix: SOLID
Data File: b27jun14a-4
Analyzed: 06/27/14 16:47

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26253	12010757	b27jun14a-2	06/27/14	1512
02 LCSD for batch 26253	12010758	b27jun14a-3	06/27/14	1559
03 CPSD02	6260008	b27jun14a-11	06/27/14	2221
04 LFH01	6260009	b27jun14a-12	06/27/14	2309
05 LFH02	6260010	b27jun14a-13	06/27/14	2357
06 LFH03	6260011	b27jun14a-14	06/28/14	0045
07 YFSD01	6260005	b27jun14a_2-8	06/28/14	0802
08 YFSD02	6260006	b27jun14a_2-9	06/28/14	0850
09 CPSD01	6260007	b27jun14a_2-10	06/28/14	0937
10 JFH01	6260012	b27jun14a_2-11	06/28/14	1025
11 JFH02	6260013	b27jun14a_2-12	06/28/14	1113
12 MFH01	6260014	b27jun14a_2-13	06/28/14	1201

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010724		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: MB for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 06:20	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-3		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.87		pg/L	0.870	10.0
40321-76-4	1,2,3,7,8-PeCDD	JK		1.84	pg/L	0.900	50.0
39227-28-6	1,2,3,4,7,8-HxCDD	U	2.46		pg/L	2.46	50.0
57653-85-7	1,2,3,6,7,8-HxCDD	JK		3.90	pg/L	2.42	50.0
19408-74-3	1,2,3,7,8,9-HxCDD	J	3.64		pg/L	2.60	50.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK		3.78	pg/L	2.52	50.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	12.5		pg/L	9.50	100
51207-31-9	2,3,7,8-TCDF	U	.812		pg/L	0.812	10.0
57117-41-6	1,2,3,7,8-PeCDF	J	2.02		pg/L	0.958	50.0
57117-31-4	2,3,4,7,8-PeCDF	J	2.34		pg/L	0.992	50.0
70648-26-9	1,2,3,4,7,8-HxCDF	JK		2.90	pg/L	1.20	50.0
57117-44-9	1,2,3,6,7,8-HxCDF	J	2.50		pg/L	1.33	50.0
60851-34-5	2,3,4,6,7,8-HxCDF	J	3.78		pg/L	1.64	50.0
72918-21-9	1,2,3,7,8,9-HxCDF	JK		4.16	pg/L	2.60	50.0
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		3.10	pg/L	2.02	50.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	JK		5.80	pg/L	3.82	50.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK		8.86	pg/L	8.74	100
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.87		pg/L	0.870	10.0
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.9	1.84	pg/L	0.900	50.0
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	3.64	7.54	pg/L	2.42	50.0
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	2.52	3.78	pg/L	2.52	50.0
30402-14-3	Total Tetrachlorodibenzofuran	U	.812		pg/L	0.812	10.0
30402-15-4	Total Pentachlorodibenzofuran	J	4.36		pg/L	0.688	50.0
55684-94-1	Total Hexachlorodibenzofuran	J	6.28	13.3	pg/L	1.20	50.0
38998-75-3	Total Heptachlorodibenzofuran	U	2.02	8.90	pg/L	2.02	50.0
3333-30-0	TEQ WHO2005 ND=0		1.76	4.82	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		3.16	5.42	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1720	2000	pg/L	86.2	(25%-164%)
13C-1,2,3,7,8-PeCDD		1640	2000	pg/L	82.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1670	2000	pg/L	83.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1820	2000	pg/L	90.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1870	2000	pg/L	93.3	(23%-140%)
13C-OCDD		2310	4000	pg/L	57.9	(17%-157%)
13C-2,3,7,8-TCDF		1970	2000	pg/L	98.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		1830	2000	pg/L	91.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		1740	2000	pg/L	87.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		2230	2000	pg/L	111	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		2110	2000	pg/L	106	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1780	2000	pg/L	89.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1540	2000	pg/L	77.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010724		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: MB for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 06:20	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-3		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
	13C-1,2,3,4,6,7,8-HpCDF		1950	2000	pg/L	97.3	(28%-143%)
	13C-1,2,3,4,7,8,9-HpCDF		1590	2000	pg/L	79.6	(26%-138%)
	37Cl-2,3,7,8-TCDD		200	200	pg/L	100	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010725		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: LCS for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 04:44	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-1		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		217		pg/L	1.60	10.0
40321-76-4	1,2,3,7,8-PeCDD		1040		pg/L	3.28	50.0
39227-28-6	1,2,3,4,7,8-HxCDD		1020		pg/L	6.42	50.0
57653-85-7	1,2,3,6,7,8-HxCDD		1050		pg/L	6.64	50.0
19408-74-3	1,2,3,7,8,9-HxCDD		1030		pg/L	6.92	50.0
35822-46-9	1,2,3,4,6,7,8-HpCDD		1030		pg/L	8.78	50.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD		2120		pg/L	37.0	100
51207-31-9	2,3,7,8-TCDF		188		pg/L	1.42	10.0
57117-41-6	1,2,3,7,8-PeCDF		999		pg/L	3.10	50.0
57117-31-4	2,3,4,7,8-PeCDF		1000		pg/L	3.04	50.0
70648-26-9	1,2,3,4,7,8-HxCDF		1030		pg/L	6.62	50.0
57117-44-9	1,2,3,6,7,8-HxCDF		1040		pg/L	7.04	50.0
60851-34-5	2,3,4,6,7,8-HxCDF		1030		pg/L	7.34	50.0
72918-21-9	1,2,3,7,8,9-HxCDF		1050		pg/L	12.3	50.0
67562-39-4	1,2,3,4,6,7,8-HpCDF		993		pg/L	4.94	50.0
55673-89-7	1,2,3,4,7,8,9-HpCDF		1030		pg/L	11.6	50.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF		2080		pg/L	55.0	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1700	2000	pg/L	85.1	(20%-175%)
13C-1,2,3,7,8-PeCDD		1770	2000	pg/L	88.6	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		1670	2000	pg/L	83.6	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		1890	2000	pg/L	94.3	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		1380	2000	pg/L	68.9	(22%-166%)
13C-OCDD		1190	4000	pg/L	29.6	(13%-199%)
13C-2,3,7,8-TCDF		1940	2000	pg/L	97.2	(22%-152%)
13C-1,2,3,7,8-PeCDF		1930	2000	pg/L	96.4	(21%-192%)
13C-2,3,4,7,8-PeCDF		1860	2000	pg/L	93.1	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		1860	2000	pg/L	92.8	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		1900	2000	pg/L	94.9	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		1840	2000	pg/L	91.8	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		1480	2000	pg/L	73.8	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		1610	2000	pg/L	80.6	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		1150	2000	pg/L	57.7	(20%-186%)
37Cl-2,3,7,8-TCDD		204	200	pg/L	102	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010726		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: LCSD for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 05:32	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-2		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		213		pg/L	1.12	10.0
40321-76-4	1,2,3,7,8-PeCDD		1010		pg/L	3.16	50.0
39227-28-6	1,2,3,4,7,8-HxCDD		1020		pg/L	6.26	50.0
57653-85-7	1,2,3,6,7,8-HxCDD		1020		pg/L	6.12	50.0
19408-74-3	1,2,3,7,8,9-HxCDD		1010		pg/L	6.56	50.0
35822-46-9	1,2,3,4,6,7,8-HpCDD		994		pg/L	10.5	50.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD		2080		pg/L	29.6	100
51207-31-9	2,3,7,8-TCDF		185		pg/L	1.34	10.0
57117-41-6	1,2,3,7,8-PeCDF		1040		pg/L	3.00	50.0
57117-31-4	2,3,4,7,8-PeCDF		1040		pg/L	2.90	50.0
70648-26-9	1,2,3,4,7,8-HxCDF		1050		pg/L	6.90	50.0
57117-44-9	1,2,3,6,7,8-HxCDF		1060		pg/L	6.64	50.0
60851-34-5	2,3,4,6,7,8-HxCDF		1060		pg/L	7.90	50.0
72918-21-9	1,2,3,7,8,9-HxCDF		1110		pg/L	14.5	50.0
67562-39-4	1,2,3,4,6,7,8-HpCDF		1030		pg/L	7.44	50.0
55673-89-7	1,2,3,4,7,8,9-HpCDF		1040		pg/L	14.3	50.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF		1930		pg/L	60.2	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1740	2000	pg/L	87.0	(20%-175%)
13C-1,2,3,7,8-PeCDD		1780	2000	pg/L	89.2	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		1720	2000	pg/L	86.1	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		1890	2000	pg/L	94.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		1300	2000	pg/L	65.0	(22%-166%)
13C-OCDD		1760	4000	pg/L	43.9	(13%-199%)
13C-2,3,7,8-TCDF		2010	2000	pg/L	101	(22%-152%)
13C-1,2,3,7,8-PeCDF		1870	2000	pg/L	93.5	(21%-192%)
13C-2,3,4,7,8-PeCDF		1830	2000	pg/L	91.3	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		1900	2000	pg/L	94.9	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		1960	2000	pg/L	98.1	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		1800	2000	pg/L	90.2	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		1410	2000	pg/L	70.5	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		1350	2000	pg/L	67.3	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		1130	2000	pg/L	56.5	(20%-186%)
37Cl-2,3,7,8-TCDD		192	200	pg/L	96.2	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010756		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: MB for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 16:47	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-4		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0994		pg/g	0.0994	1.00
40321-76-4	1,2,3,7,8-PeCDD	J	0.198		pg/g	0.0714	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	JK		0.198	pg/g	0.0966	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.208		pg/g	0.103	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	JK		0.210	pg/g	0.106	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.380		pg/g	0.140	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	2.09		pg/g	0.220	10.0
51207-31-9	2,3,7,8-TCDF	U	.0668		pg/g	0.0668	1.00
57117-41-6	1,2,3,7,8-PeCDF	J	0.242		pg/g	0.0432	5.00
57117-31-4	2,3,4,7,8-PeCDF	J	0.176		pg/g	0.040	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	JK		0.188	pg/g	0.069	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	JK		0.176	pg/g	0.0654	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.180		pg/g	0.0704	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	J	0.322		pg/g	0.096	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.220	pg/g	0.0656	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	0.194		pg/g	0.108	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK		0.396	pg/g	0.234	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.0994		pg/g	0.0994	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.198		pg/g	0.0714	5.00
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.208	0.616	pg/g	0.0966	5.00
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.704		pg/g	0.140	5.00
30402-14-3	Total Tetrachlorodibenzofuran	U	.0668		pg/g	0.0668	1.00
30402-15-4	Total Pentachlorodibenzofuran	J	0.528	0.670	pg/g	0.033	5.00
55684-94-1	Total Hexachlorodibenzofuran	J	1.07	1.43	pg/g	0.0654	5.00
38998-75-3	Total Heptachlorodibenzofuran	J	0.336	0.556	pg/g	0.0656	5.00
3333-30-0	TEQ WHO2005 ND=0		0.335	0.415	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.406	0.468	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		156	200	pg/g	77.8	(25%-164%)
13C-1,2,3,7,8-PeCDD		160	200	pg/g	80.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		174	200	pg/g	87.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	200	pg/g	75.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		178	200	pg/g	89.0	(23%-140%)
13C-OCDD		323	400	pg/g	80.8	(17%-157%)
13C-2,3,7,8-TCDF		168	200	pg/g	83.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		162	200	pg/g	81.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		177	200	pg/g	88.7	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		171	200	pg/g	85.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		164	200	pg/g	82.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		170	200	pg/g	84.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		174	200	pg/g	87.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010756		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: MB for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 16:47	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-4		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
	13C-1,2,3,4,6,7,8-HpCDF		173	200	pg/g	86.3	(28%-143%)
	13C-1,2,3,4,7,8,9-HpCDF		173	200	pg/g	86.3	(26%-138%)
	37Cl-2,3,7,8-TCDD		19.4	20.0	pg/g	96.8	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010757		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: LCS for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 15:12	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-2		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.9		pg/g	0.161	1.00
40321-76-4	1,2,3,7,8-PeCDD		108		pg/g	0.168	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		109		pg/g	0.244	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		110		pg/g	0.258	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		107		pg/g	0.266	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		103		pg/g	0.344	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		202		pg/g	0.520	10.0
51207-31-9	2,3,7,8-TCDF		20.9		pg/g	0.0984	1.00
57117-41-6	1,2,3,7,8-PeCDF		106		pg/g	0.228	5.00
57117-31-4	2,3,4,7,8-PeCDF		104		pg/g	0.210	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		109		pg/g	0.364	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		109		pg/g	0.372	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		111		pg/g	0.374	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		115		pg/g	0.572	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.292	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		107		pg/g	0.514	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		216		pg/g	0.600	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	200	pg/g	85.1	(20%-175%)
13C-1,2,3,7,8-PeCDD		163	200	pg/g	81.4	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		191	200	pg/g	95.7	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		168	200	pg/g	83.9	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		188	200	pg/g	93.8	(22%-166%)
13C-OCDD		320	400	pg/g	79.9	(13%-199%)
13C-2,3,7,8-TCDF		181	200	pg/g	90.6	(22%-152%)
13C-1,2,3,7,8-PeCDF		167	200	pg/g	83.7	(21%-192%)
13C-2,3,4,7,8-PeCDF		181	200	pg/g	90.3	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		193	200	pg/g	96.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		186	200	pg/g	92.9	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		187	200	pg/g	93.4	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		177	200	pg/g	88.3	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		185	200	pg/g	92.4	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		178	200	pg/g	88.8	(20%-186%)
37Cl-2,3,7,8-TCDD		19.4	20.0	pg/g	97.0	(31%-191%)

Comments:**K Estimated Maximum Possible Concentration**

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: 6260	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010758		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: LCSD for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 15:59	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-3		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.8		pg/g	0.156	1.00
40321-76-4	1,2,3,7,8-PeCDD		107		pg/g	0.121	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		109		pg/g	0.180	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		108		pg/g	0.186	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		109		pg/g	0.194	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		104		pg/g	0.354	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		209		pg/g	0.594	10.0
51207-31-9	2,3,7,8-TCDF		21.1		pg/g	0.0828	1.00
57117-41-6	1,2,3,7,8-PeCDF		109		pg/g	0.150	5.00
57117-31-4	2,3,4,7,8-PeCDF		106		pg/g	0.133	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		109		pg/g	0.322	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		108		pg/g	0.314	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		110		pg/g	0.354	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		113		pg/g	0.538	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.338	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		111		pg/g	0.612	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		213		pg/g	0.682	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	200	pg/g	84.5	(20%-175%)
13C-1,2,3,7,8-PeCDD		165	200	pg/g	82.4	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		179	200	pg/g	89.4	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		175	200	pg/g	87.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		174	200	pg/g	87.1	(22%-166%)
13C-OCDD		299	400	pg/g	74.8	(13%-199%)
13C-2,3,7,8-TCDF		182	200	pg/g	90.8	(22%-152%)
13C-1,2,3,7,8-PeCDF		166	200	pg/g	83.2	(21%-192%)
13C-2,3,4,7,8-PeCDF		182	200	pg/g	91.2	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		191	200	pg/g	95.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		183	200	pg/g	91.6	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		183	200	pg/g	91.3	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		169	200	pg/g	84.4	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		179	200	pg/g	89.7	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		162	200	pg/g	81.2	(20%-186%)
37Cl-2,3,7,8-TCDD		19.6	20.0	pg/g	98.1	(31%-191%)

Comments:**K Estimated Maximum Possible Concentration**

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"

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VTE'Eqo r cplgu 'kpeqr qtevgf ""
Y cppenpek'O kmu""
872'Uwhqmi'Utggv'Uwkg'422""
Nqy gm'O cucej wugvu'23: 76""

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Y qtnlQtf gt<8476""

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qp'Lxpg'3: .'42360Vj ku'qtki kpcnlf cvc'tgr qtvj cu'dggp'r tgr ctgf 'cpf'tgxley gf 'lp'ceeqtf cpeg'y kj 'EHCai'ucpf ctf 'qr gt cvpi 'r tqegf wtgu'

*****Qwt'r qnle{ 'ku'vq'r tqxkf g'y ki j 's wcnk{ .r gtuqpcrk gf 'cpcn{ vlecnl'ugt'xlegu'vq'gpcdnq' { qw'vq'o ggv' { qwt'cpcn{ vlecnl'pggf u'qp'vko g'gxgt { 'vko g0
Y g'tvuv'y cv' { qw'y knhkp' 'gxgt { vj kpi 'lp'qtf gt 'cpf 'vq' { qwt'uc'vut'cev'qp'0k' { qw'j cxg'cp { 's wgnv'qpu.'r ngcug't q'pqv'j gukscv'vq'ecni'o g'cv
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Page: 1 of 1
 Project #: _____
 CFA Quote #: _____
 COC Number (1): _____
 PO Number: _____

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

Chain of Custody and Analytical Request
 CFA Work Order Number: 60254

Client Name: TRC Environmental Phone # (978) 970-5600
 Project/Site Name: Montgomery County REF Fax #: _____
 Address: 650 Suffolk St. Lowell, MA 01854
 Collected by: S. Heim/M. Wyant Send Results To: Liz Denly

Sample ID	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hh:mm)	QC Code (a)	Field Filtered (b)	Sample Matrix (c)	Total number of containers	Sample Analysis Requested (d) (Fill in the number of containers for each test)
<u>EB01</u>	<u>06-17-14</u>	<u>0900</u>	<u>EB</u>	<u>N</u>	<u>W</u>	<u>163-Rev. 8</u>	
<u>LF SW 01</u>	<u>06-17-14</u>	<u>0946</u>	<u>N</u>	<u>N</u>	<u>SW</u>		
<u>LF SW 02</u>	<u>06-17-14</u>	<u>1620</u>	<u>N</u>	<u>N</u>	<u>SW</u>		
<u>LF SW 03</u>	<u>06-17-14</u>	<u>1620</u>	<u>FD</u>	<u>N</u>	<u>SW</u>		
<u>LF SD 01</u>	<u>06-17-14</u>	<u>1000</u>	<u>N</u>	<u>SD</u>	<u>SD</u>		
<u>LF SD 02</u>	<u>06-17-14</u>	<u>1046</u>	<u>N</u>	<u>SD</u>	<u>SD</u>		
<u>LF SD 03</u>	<u>06-17-14</u>	<u>1046</u>	<u>FD</u>	<u>SD</u>	<u>SD</u>		
<u>JFM 01</u>	<u>06-17-14</u>	<u>1335</u>	<u>N</u>	<u>N</u>	<u>ML</u>		
<u>JFM 02</u>	<u>06-17-14</u>	<u>1340</u>	<u>N</u>	<u>N</u>	<u>ML</u>		
<u>JFM 03</u>	<u>06-17-14</u>	<u>1346</u>	<u>FD</u>	<u>N</u>	<u>ML</u>		

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

Sample Collection Time Zone: Eastern Pacific Other _____
 Mountain
 Sample Shipping and Delivery Details
 CFA PM: _____
 Method of Shipment: FedEx Date Shipped: 6-17-14
 Airbill #: 8641932576150215
 Airbill #: _____

Chain of Custody Signatures
 Received by (signed) Date Time
 1 Liz Denly 6-17-14 1830
 2 FedEx 18JUN14 1050
 3 _____
 Chain of Custody Number = Client Determined
 2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite
 3.) Field Filtered: For liquid matrices, indicate with a Y - for yes the sample was field filtered or N - for sample was not field filtered.
 4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Waste Water, W=Water, ML=Misc Liquid, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Waste, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal
 5.) Sample Analysis Requested: Analytical method requested (i.e. 8290B, 1668B) and number of containers provided for each (i.e. 8290B - 3, 1668B - 1).
 6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SH = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, if no preservative is added = leave field blank
 WHITE = LABORATORY
 YELLOW = FILE
 PINK = CLIENT

For Lab Receiving Use Only
 Custody Seal Intact?
 YES
 Cooler Temp: 3.0 C

SAMPLE RECEIPT CHECKLIST
Cape Fear Analytical

Client: TRC	Work Order: 6254
Shipping Company: Fed Ex	Date/Time Received: 18 JUN 14 1050

Suspected Hazard Information	Yes	NA	No	DOE Site Sample Packages	Yes	NA	No*
Shipped as DOT Hazardous?			<input checked="" type="checkbox"/>	Screened <0.5 mR/hr?			<input checked="" type="checkbox"/>
Samples identified as Foreign Soil?			<input checked="" type="checkbox"/>	Samples < 2x background?			<input checked="" type="checkbox"/>

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			<input checked="" type="checkbox"/>

Air Witness: _____

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: seal broken damaged container leaking container other (describe)
2 Chain of Custody documents included with shipment?	<input checked="" type="checkbox"/>			
3 Samples requiring cold preservation within 0-6°C?	<input checked="" type="checkbox"/>			Preservation Method: ice bags blue ice dry ice none other (describe) 3.0°C
4 Aqueous samples found to have visible solids?			<input checked="" type="checkbox"/>	Sample IDs, containers affected:
5 Samples requiring chemical preservation at proper pH?		<input checked="" type="checkbox"/>		Sample IDs, containers affected and pH observed: pH=7 on all liquid samples
6 Samples requiring preservation have no residual chlorine?	<input checked="" type="checkbox"/>			Sample IDs, containers affected: If preservative added, Lot#:
7 Samples received within holding time?	<input checked="" type="checkbox"/>			Sample IDs, tests affected:
8 Sample IDs on COC match IDs on containers?	<input checked="" type="checkbox"/>			Sample IDs, containers affected:
9 Date & time of COC match date & time on containers?	<input checked="" type="checkbox"/>			Sample IDs, containers affected:
10 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample IDs, containers affected:
11 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			

Comments:

Checklist performed by: Initials: **CF**

Date: **18 JUN 14**

Rci g'5'qh'8;

High Resolution Dioxins and Furans Analysis

Case Narrative

**HDOX Case Narrative
TRC Environmental Corporation (TRCC)
SDG 6254**

Method/Analysis Information

Product: **Dioxins/Furans by EPA Method 1613B**

Analytical Method: EPA Method 1613B

Extraction Method: SW846 3520C, 3540C

Analytical Batch Number: 26223, 26255, 26307, 26419

Clean Up Batch Number: 26221, 26306, 26418, 26254

Extraction Batch Number: 26220, 26253, 26305, 26417

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1613B:

Sample ID	Client ID
6254001	EB01
6254002	LFSW01
6254003	LFSW02
6254004	LFSW03
6254005	LFSD01
6254006	LFSD02
6254007	LFSD03
6254008	JFM01
6254009	JFM02
6254010	JFM03
12010724	Method Blank (MB)
12010725	Laboratory Control Sample (LCS)
12010726	Laboratory Control Sample Duplicate (LCSD)
12010756	Method Blank (MB)
12010757	Laboratory Control Sample (LCS)
12010758	Laboratory Control Sample Duplicate (LCSD)
12010819	Method Blank (MB)
12010820	Laboratory Control Sample (LCS)
12010821	Laboratory Control Sample Duplicate (LCSD)
12010925	Method Blank (MB)
12010926	Laboratory Control Sample (LCS)
12010927	Laboratory Control Sample Duplicate (LCSD)

Samples 6254 005, 006 and 007 in this SDG were analyzed on a "dry weight" basis. Samples 6254 001, 002, 003, 004, 008, 009 and 010 in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 13.

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

Calibration Information

Initial Calibration

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

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement

The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard.

Method Blank (MB) Statement

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

Surrogate Recoveries

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

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery

The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement

The RPD(s) between the LCS and LCSD met the acceptance limits.

Technical Information

Holding Time Specifications

CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of

expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation

A NCR was not required for this SDG.

Manual Integrations

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

Sample preparation

No difficulties were encountered during sample preparation.

Electronic Packaging Comment

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

Sample Data Summary

Cape Fear Analytical, LLC

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

Qualifier Definition Report for

VTEE223"VTE"Gpxkqpo gpvnrEqtr qtcvkqp
ErkpvUF I <8476"EHC"Y qtnlQtf gt<8476

The Qualifiers in this report are defined as follows:

, ""C"s wcrk\ 'eqpvtqn\cpcn\ vg'tgeqxt { 'ku'qwukf g'qh'ur gekhgf "ceegr vcpge'etkgtk
, , ""Cpcn\ vg'ku'c'lwttqi cvg'eqo r qwpf
L""Xcwg'ku'guko cvgf
M""Guko cvgf 'O czko wo 'Rqukdrg'Eqpepvtcvkqp
W""Cpcn\ vg'y cu'cpcn\ | gf 'hqt.'dw'pqvf ggevgf "cdqxs'vj g'ur gekhgf "f ggevkqp'iko k0
FN""Kpf lecvgu'vj cv'uco r ng'ku'f kwgfg 0""
TC""Kpf lecvgu'vj cv'uco r ng'ku'tg/cpcn\ | gf 'y kj qwtg/gzvtcvkqp0""
TG""Kpf lecvgu'vj cv'uco r ng'ku'tg/gzvtcvgf 0"

Review/Validation

Ecr g'Hgct"Cpcn\ vlcnl'ts wktgu'cm\cpcn\ vlcnl'f cvc'vq'dg'xgtkhgf "d { "c"s wcrk\hgf "f cvc'tgxky gt0
Vj g'hqmny lpi "f cvc'xcnl' cvqt'xgtkhgf "vj g'lpqto cvkqp'r tguvgf "lp'vj ku'ecug'pcttcvkxg<"

Signature: 

Name: Heather Patterson

Date: 21 JUL 2014

Title: Data Validator

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254001	Date Collected: 06/17/2014 09:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: EB01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 12:57	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-11		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 904.4 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.818		pg/L	0.818	11.1
40321-76-4	1,2,3,7,8-PeCDD	U	.889		pg/L	0.889	55.3
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.14		pg/L	1.14	55.3
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.17		pg/L	1.17	55.3
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.23		pg/L	1.23	55.3
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	1.41		pg/L	1.41	55.3
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		9.84	pg/L	4.36	111
51207-31-9	2,3,7,8-TCDF	U	1.01		pg/L	1.01	11.1
57117-41-6	1,2,3,7,8-PeCDF	U	.809		pg/L	0.809	55.3
57117-31-4	2,3,4,7,8-PeCDF	U	.803		pg/L	0.803	55.3
70648-26-9	1,2,3,4,7,8-HxCDF	U	.579		pg/L	0.579	55.3
57117-44-9	1,2,3,6,7,8-HxCDF	U	.573		pg/L	0.573	55.3
60851-34-5	2,3,4,6,7,8-HxCDF	U	.568		pg/L	0.568	55.3
72918-21-9	1,2,3,7,8,9-HxCDF	U	.871		pg/L	0.871	55.3
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.845		pg/L	0.845	55.3
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.42		pg/L	1.42	55.3
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.45		pg/L	2.45	111
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.818		pg/L	0.818	11.1
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.889		pg/L	0.889	55.3
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.14		pg/L	1.14	55.3
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	1.41		pg/L	1.41	55.3
30402-14-3	Total Tetrachlorodibenzofuran	J	1.28		pg/L	1.01	11.1
30402-15-4	Total Pentachlorodibenzofuran	U	.803		pg/L	0.803	55.3
55684-94-1	Total Hexachlorodibenzofuran	U	.568		pg/L	0.568	55.3
38998-75-3	Total Heptachlorodibenzofuran	U	.845		pg/L	0.845	55.3
3333-30-0	TEQ WHO2005 ND=0		0.00	0.00295	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.36	1.36	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1780	2210	pg/L	80.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		1990	2210	pg/L	90.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1810	2210	pg/L	81.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1750	2210	pg/L	79.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1840	2210	pg/L	83.0	(23%-140%)
13C-OCDD		3490	4420	pg/L	79.0	(17%-157%)
13C-2,3,7,8-TCDF		1950	2210	pg/L	88.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		2080	2210	pg/L	94.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		2050	2210	pg/L	92.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1740	2210	pg/L	78.7	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1790	2210	pg/L	81.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1840	2210	pg/L	83.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1720	2210	pg/L	77.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254001	Date Collected: 06/17/2014 09:00	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: EB01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 12:57	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-11		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 904.4 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
	13C-1,2,3,4,6,7,8-HpCDF		1850	2210	pg/L	83.7	(28%-143%)
	13C-1,2,3,4,7,8,9-HpCDF		1690	2210	pg/L	76.3	(26%-138%)
	37Cl-2,3,7,8-TCDD		210	221	pg/L	95.1	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254002	Date Collected: 06/17/2014 09:45	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: LFSW01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 23:33	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-12		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 978.9 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.913		pg/L	0.913	10.2
40321-76-4	1,2,3,7,8-PeCDD	U	.887		pg/L	0.887	51.1
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.29		pg/L	1.29	51.1
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.24		pg/L	1.24	51.1
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.34		pg/L	1.34	51.1
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	4.15		pg/L	2.00	51.1
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	92.4		pg/L	11.8	102
51207-31-9	2,3,7,8-TCDF	U	.815		pg/L	0.815	10.2
57117-41-6	1,2,3,7,8-PeCDF	U	.744		pg/L	0.744	51.1
57117-31-4	2,3,4,7,8-PeCDF	U	.725		pg/L	0.725	51.1
70648-26-9	1,2,3,4,7,8-HxCDF	U	.548		pg/L	0.548	51.1
57117-44-9	1,2,3,6,7,8-HxCDF	U	.543		pg/L	0.543	51.1
60851-34-5	2,3,4,6,7,8-HxCDF	U	.58		pg/L	0.580	51.1
72918-21-9	1,2,3,7,8,9-HxCDF	U	.881		pg/L	0.881	51.1
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.635		pg/L	0.635	51.1
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.93		pg/L	0.930	51.1
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.19		pg/L	2.19	102
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.913		pg/L	0.913	10.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.887		pg/L	0.887	51.1
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.24		pg/L	1.24	51.1
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	10.2		pg/L	2.00	51.1
30402-14-3	Total Tetrachlorodibenzofuran	U	.815		pg/L	0.815	10.2
30402-15-4	Total Pentachlorodibenzofuran	U	.556		pg/L	0.556	51.1
55684-94-1	Total Hexachlorodibenzofuran	U	.543		pg/L	0.543	51.1
38998-75-3	Total Heptachlorodibenzofuran	U	.635		pg/L	0.635	51.1
3333-30-0	TEQ WHO2005 ND=0		0.0692	0.0692	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.46	1.46	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1670	2040	pg/L	81.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		1860	2040	pg/L	91.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1510	2040	pg/L	74.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1620	2040	pg/L	79.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1710	2040	pg/L	83.6	(23%-140%)
13C-OCDD		3240	4090	pg/L	79.4	(17%-157%)
13C-2,3,7,8-TCDF		1760	2040	pg/L	86.0	(24%-169%)
13C-1,2,3,7,8-PeCDF		1930	2040	pg/L	94.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		1890	2040	pg/L	92.5	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1570	2040	pg/L	77.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1620	2040	pg/L	79.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1600	2040	pg/L	78.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1480	2040	pg/L	72.6	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254002	Date Collected: 06/17/2014 09:45	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: LFSW01		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 23:33	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-12		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 978.9 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1530	2040	pg/L	74.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1680	2040	pg/L	82.2	(26%-138%)
37Cl-2,3,7,8-TCDD			202	204	pg/L	98.9	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254003	Date Collected: 06/17/2014 10:20	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: LFSW02		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/25/2014 00:21	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-13		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 987.2 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.774		pg/L	0.774	10.1
40321-76-4	1,2,3,7,8-PeCDD	U	.713		pg/L	0.713	50.6
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.13		pg/L	1.13	50.6
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.11		pg/L	1.11	50.6
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.19		pg/L	1.19	50.6
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK		2.86	pg/L	2.07	50.6
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	56.4		pg/L	6.44	101
51207-31-9	2,3,7,8-TCDF	U	.81		pg/L	0.810	10.1
57117-41-6	1,2,3,7,8-PeCDF	U	.61		pg/L	0.610	50.6
57117-31-4	2,3,4,7,8-PeCDF	U	.598		pg/L	0.598	50.6
70648-26-9	1,2,3,4,7,8-HxCDF	U	.569		pg/L	0.569	50.6
57117-44-9	1,2,3,6,7,8-HxCDF	U	.551		pg/L	0.551	50.6
60851-34-5	2,3,4,6,7,8-HxCDF	U	.563		pg/L	0.563	50.6
72918-21-9	1,2,3,7,8,9-HxCDF	U	.81		pg/L	0.810	50.6
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.401		pg/L	0.401	50.6
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.598		pg/L	0.598	50.6
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	1.8		pg/L	1.80	101
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.774		pg/L	0.774	10.1
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.713		pg/L	0.713	50.6
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.11		pg/L	1.11	50.6
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	3.38	6.24	pg/L	2.07	50.6
30402-14-3	Total Tetrachlorodibenzofuran	U	.81		pg/L	0.810	10.1
30402-15-4	Total Pentachlorodibenzofuran	U	.513		pg/L	0.513	50.6
55684-94-1	Total Hexachlorodibenzofuran	U	.551		pg/L	0.551	50.6
38998-75-3	Total Heptachlorodibenzofuran	U	.401		pg/L	0.401	50.6
3333-30-0	TEQ WHO2005 ND=0		0.0169	0.0455	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.21	1.23	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1640	2030	pg/L	80.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		1720	2030	pg/L	84.9	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1580	2030	pg/L	77.9	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1560	2030	pg/L	77.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1780	2030	pg/L	87.7	(23%-140%)
13C-OCDD		3420	4050	pg/L	84.4	(17%-157%)
13C-2,3,7,8-TCDF		1810	2030	pg/L	89.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		1830	2030	pg/L	90.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		1750	2030	pg/L	86.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1520	2030	pg/L	75.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1590	2030	pg/L	78.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1610	2030	pg/L	79.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1570	2030	pg/L	77.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254003	Date Collected: 06/17/2014 10:20	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: LFSW02		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/25/2014 00:21	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-13		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 987.2 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1680	2030	pg/L	83.1	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1770	2030	pg/L	87.4	(26%-138%)
37Cl-2,3,7,8-TCDD			193	203	pg/L	95.5	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254004	Date Collected: 06/17/2014 10:20	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: LFSW03		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 22:45	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-11		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 982.2 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	1.1		pg/L	1.10	10.2
40321-76-4	1,2,3,7,8-PeCDD	U	.916		pg/L	0.916	50.9
39227-28-6	1,2,3,4,7,8-HxCDD	U	1.5		pg/L	1.50	50.9
57653-85-7	1,2,3,6,7,8-HxCDD	U	1.46		pg/L	1.46	50.9
19408-74-3	1,2,3,7,8,9-HxCDD	U	1.57		pg/L	1.57	50.9
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	4.26		pg/L	3.01	50.9
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	95.6		pg/L	5.93	102
51207-31-9	2,3,7,8-TCDF	U	1.12		pg/L	1.12	10.2
57117-41-6	1,2,3,7,8-PeCDF	U	.926		pg/L	0.926	50.9
57117-31-4	2,3,4,7,8-PeCDF	U	.874		pg/L	0.874	50.9
70648-26-9	1,2,3,4,7,8-HxCDF	U	.593		pg/L	0.593	50.9
57117-44-9	1,2,3,6,7,8-HxCDF	U	.586		pg/L	0.586	50.9
60851-34-5	2,3,4,6,7,8-HxCDF	U	.593		pg/L	0.593	50.9
72918-21-9	1,2,3,7,8,9-HxCDF	U	.882		pg/L	0.882	50.9
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.627		pg/L	0.627	50.9
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	1.03		pg/L	1.03	50.9
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	2.44		pg/L	2.44	102
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.1		pg/L	1.10	10.2
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.916		pg/L	0.916	50.9
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	1.46		pg/L	1.46	50.9
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	10.3		pg/L	3.01	50.9
30402-14-3	Total Tetrachlorodibenzofuran	U	1.12		pg/L	1.12	10.2
30402-15-4	Total Pentachlorodibenzofuran	U	.751		pg/L	0.751	50.9
55684-94-1	Total Hexachlorodibenzofuran	U	.586		pg/L	0.586	50.9
38998-75-3	Total Heptachlorodibenzofuran	U	.627		pg/L	0.627	50.9
3333-30-0	TEQ WHO2005 ND=0		0.0712	0.0712	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		1.65	1.65	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1470	2040	pg/L	72.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		1650	2040	pg/L	80.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1560	2040	pg/L	76.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1550	2040	pg/L	76.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1740	2040	pg/L	85.4	(23%-140%)
13C-OCDD		3150	4070	pg/L	77.4	(17%-157%)
13C-2,3,7,8-TCDF		1620	2040	pg/L	79.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		1740	2040	pg/L	85.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		1770	2040	pg/L	87.0	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		1510	2040	pg/L	74.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		1590	2040	pg/L	78.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1610	2040	pg/L	79.0	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1490	2040	pg/L	73.4	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254004	Date Collected: 06/17/2014 10:20	Matrix: WATER
Client Sample: 1613B Water	Date Received: 06/18/2014 10:50	
Client ID: LFSW03		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 22:45	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_4-11		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 982.2 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			1630	2040	pg/L	80.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			1650	2040	pg/L	81.1	(26%-138%)
37Cl-2,3,7,8-TCDD			167	204	pg/L	82.2	(35%-197%)

Comments:
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254005	Date Collected: 06/17/2014 10:00	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 47.3
Client ID: LFS01		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/11/2014 03:22	Analyst: JTF	Instrument: HRP763
Data File: b09jul14a_5-6		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 19.41 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.371		pg/g	0.371	0.977
40321-76-4	1,2,3,7,8-PeCDD	U	.342		pg/g	0.342	4.89
39227-28-6	1,2,3,4,7,8-HxCDD	U	.688		pg/g	0.688	4.89
57653-85-7	1,2,3,6,7,8-HxCDD	U	.651		pg/g	0.651	4.89
19408-74-3	1,2,3,7,8,9-HxCDD	U	.706		pg/g	0.706	4.89
35822-46-9	1,2,3,4,6,7,8-HpCDD		12.2		pg/g	1.09	4.89
3268-87-9	1,2,3,4,6,7,8,9-OCDD		835		pg/g	4.53	9.77
51207-31-9	2,3,7,8-TCDF	U	.315		pg/g	0.315	0.977
57117-41-6	1,2,3,7,8-PeCDF	U	.252		pg/g	0.252	4.89
57117-31-4	2,3,4,7,8-PeCDF	U	.211		pg/g	0.211	4.89
70648-26-9	1,2,3,4,7,8-HxCDF	U	.233		pg/g	0.233	4.89
57117-44-9	1,2,3,6,7,8-HxCDF	U	.197		pg/g	0.197	4.89
60851-34-5	2,3,4,6,7,8-HxCDF	U	.225		pg/g	0.225	4.89
72918-21-9	1,2,3,7,8,9-HxCDF	U	.356		pg/g	0.356	4.89
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.485		pg/g	0.246	4.89
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.414		pg/g	0.414	4.89
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	1.22		pg/g	0.893	9.77
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.371		pg/g	0.371	0.977
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.788		pg/g	0.342	4.89
34465-46-8	Total Hexachlorodibenzo-p-dioxin		5.51		pg/g	0.651	4.89
37871-00-4	Total Heptachlorodibenzo-p-dioxin		41.4		pg/g	1.09	4.89
30402-14-3	Total Tetrachlorodibenzofuran	U	.315	0.397	pg/g	0.315	0.977
30402-15-4	Total Pentachlorodibenzofuran	U	.184	0.311	pg/g	0.184	4.89
55684-94-1	Total Hexachlorodibenzofuran	U	.197	0.389	pg/g	0.197	4.89
38998-75-3	Total Heptachlorodibenzofuran	J	0.979		pg/g	0.246	4.89
3333-30-0	TEQ WHO2005 ND=0		0.378	0.378	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.941	0.941	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		161	195	pg/g	82.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		176	195	pg/g	90.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		129	195	pg/g	66.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		150	195	pg/g	76.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		170	195	pg/g	86.9	(23%-140%)
13C-OCDD		296	391	pg/g	75.7	(17%-157%)
13C-2,3,7,8-TCDF		191	195	pg/g	97.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		184	195	pg/g	93.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		207	195	pg/g	106	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		145	195	pg/g	74.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		192	195	pg/g	98.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	195	pg/g	90.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		166	195	pg/g	85.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254005	Date Collected: 06/17/2014 10:00	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 47.3
Client ID: LFSD01		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/11/2014 03:22	Analyst: JTF	Instrument: HRP763
Data File: b09jul14a_5-6		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 19.41 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			177	195	pg/g	90.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			183	195	pg/g	93.5	(26%-138%)
37Cl-2,3,7,8-TCDD			18.7	19.5	pg/g	95.8	(35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254006	Date Collected: 06/17/2014 10:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 39.1
Client ID: LFS02		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/07/2014 21:21	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-9		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 16.44 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.377		pg/g	0.377	0.998
40321-76-4	1,2,3,7,8-PeCDD	U	.339		pg/g	0.339	4.99
39227-28-6	1,2,3,4,7,8-HxCDD	JK		0.611	pg/g	0.425	4.99
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.894		pg/g	0.449	4.99
19408-74-3	1,2,3,7,8,9-HxCDD	J	1.05		pg/g	0.465	4.99
35822-46-9	1,2,3,4,6,7,8-HpCDD		32.7		pg/g	0.888	4.99
3268-87-9	1,2,3,4,6,7,8,9-OCDD		1750		pg/g	2.04	9.98
51207-31-9	2,3,7,8-TCDF	J	0.401		pg/g	0.297	0.998
57117-41-6	1,2,3,7,8-PeCDF	J	0.188		pg/g	0.157	4.99
57117-31-4	2,3,4,7,8-PeCDF	U	.137		pg/g	0.137	4.99
70648-26-9	1,2,3,4,7,8-HxCDF	U	.238		pg/g	0.238	4.99
57117-44-9	1,2,3,6,7,8-HxCDF	U	.208		pg/g	0.208	4.99
60851-34-5	2,3,4,6,7,8-HxCDF	U	.23		pg/g	0.230	4.99
72918-21-9	1,2,3,7,8,9-HxCDF	U	.317		pg/g	0.317	4.99
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	1.00		pg/g	0.301	4.99
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.455		pg/g	0.455	4.99
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK		1.70	pg/g	0.595	9.98
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.377		pg/g	0.377	0.998
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.339	1.76	pg/g	0.339	4.99
34465-46-8	Total Hexachlorodibenzo-p-dioxin		14.7	15.3	pg/g	0.425	4.99
37871-00-4	Total Heptachlorodibenzo-p-dioxin		92.7		pg/g	0.888	4.99
30402-14-3	Total Tetrachlorodibenzofuran	J	0.401	0.803	pg/g	0.297	0.998
30402-15-4	Total Pentachlorodibenzofuran	J	0.188	1.16	pg/g	0.137	4.99
55684-94-1	Total Hexachlorodibenzofuran	J	0.309	1.26	pg/g	0.208	4.99
38998-75-3	Total Heptachlorodibenzofuran	J	1.69		pg/g	0.301	4.99
3333-30-0	TEQ WHO2005 ND=0		1.10	1.16	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		1.55	1.59	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		159	200	pg/g	79.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		169	200	pg/g	84.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	200	pg/g	83.0	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	200	pg/g	75.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		206	200	pg/g	103	(23%-140%)
13C-OCDD		418	399	pg/g	105	(17%-157%)
13C-2,3,7,8-TCDF		185	200	pg/g	92.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		173	200	pg/g	86.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		193	200	pg/g	96.7	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		182	200	pg/g	91.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		184	200	pg/g	92.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		184	200	pg/g	92.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		196	200	pg/g	98.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254006	Date Collected: 06/17/2014 10:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 39.1
Client ID: LFSD02		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/07/2014 21:21	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-9		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 16.44 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			195	200	pg/g	97.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			221	200	pg/g	111	(26%-138%)
37Cl-2,3,7,8-TCDD			18.5	20.0	pg/g	92.9	(35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254007	Date Collected: 06/17/2014 10:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 50.3
Client ID: LFS003		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/07/2014 20:33	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-8		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 20.4 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.286		pg/g	0.286	0.986
40321-76-4	1,2,3,7,8-PeCDD	J	0.424		pg/g	0.278	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	JK		0.889	pg/g	0.365	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	J	1.57		pg/g	0.355	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	J	2.35		pg/g	0.381	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD		60.3		pg/g	1.14	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD		3130		pg/g	2.52	9.86
51207-31-9	2,3,7,8-TCDF	J	0.418		pg/g	0.331	0.986
57117-41-6	1,2,3,7,8-PeCDF	JK		0.256	pg/g	0.229	4.93
57117-31-4	2,3,4,7,8-PeCDF	JK		0.272	pg/g	0.187	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	J	0.250		pg/g	0.221	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	JK		0.274	pg/g	0.203	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.317		pg/g	0.225	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.312		pg/g	0.312	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	2.21		pg/g	0.219	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.347		pg/g	0.347	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	J	3.00		pg/g	0.481	9.86
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.286		pg/g	0.286	0.986
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	2.04	3.41	pg/g	0.278	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin		17.2	26.6	pg/g	0.355	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin		182		pg/g	1.14	4.93
30402-14-3	Total Tetrachlorodibenzofuran		1.70	2.96	pg/g	0.331	0.986
30402-15-4	Total Pentachlorodibenzofuran	J	1.45	3.50	pg/g	0.106	4.93
55684-94-1	Total Hexachlorodibenzofuran	J	2.81	3.36	pg/g	0.203	4.93
38998-75-3	Total Heptachlorodibenzofuran	J	3.66		pg/g	0.219	4.93
3333-30-0	TEQ WHO2005 ND=0		2.48	2.69	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		2.70	2.85	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		165	197	pg/g	83.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		184	197	pg/g	93.5	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		159	197	pg/g	80.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		155	197	pg/g	78.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		186	197	pg/g	94.4	(23%-140%)
13C-OCDD		433	394	pg/g	110	(17%-157%)
13C-2,3,7,8-TCDF		193	197	pg/g	98.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		183	197	pg/g	92.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		206	197	pg/g	105	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		167	197	pg/g	84.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	197	pg/g	89.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	197	pg/g	89.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		182	197	pg/g	92.1	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254007	Date Collected: 06/17/2014 10:45	Matrix: SOLID
Client Sample: 1613B Soil	Date Received: 06/18/2014 10:50	%Moisture: 50.3
Client ID: LFSD03		Prep Basis: Dry Weight
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 07/07/2014 20:33	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-8		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 20.4 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			186	197	pg/g	94.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			208	197	pg/g	105	(26%-138%)
37Cl-2,3,7,8-TCDD			18.8	19.7	pg/g	95.5	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254008	Date Collected: 06/17/2014 13:35	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM01		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 23:46	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-13		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	19.7		pg/L	19.7	100
40321-76-4	1,2,3,7,8-PeCDD	U	9.92		pg/L	9.92	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	13.2		pg/L	13.2	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	12.7		pg/L	12.7	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	13.7		pg/L	13.7	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	23.6		pg/L	23.6	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	118		pg/L	44.2	1000
51207-31-9	2,3,7,8-TCDF	U	12.6		pg/L	12.6	100
57117-41-6	1,2,3,7,8-PeCDF	J	7.60		pg/L	7.08	500
57117-31-4	2,3,4,7,8-PeCDF	U	6.04		pg/L	6.04	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	8.52		pg/L	8.52	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	7.66		pg/L	7.66	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	8.66		pg/L	8.66	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	12.8		pg/L	12.8	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	9.28		pg/L	9.28	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	16.3		pg/L	16.3	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	53.2		pg/L	53.2	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	19.7		pg/L	19.7	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	9.92		pg/L	9.92	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	12.7		pg/L	12.7	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	23.6		pg/L	23.6	500
30402-14-3	Total Tetrachlorodibenzofuran	U	12.6		pg/L	12.6	100
30402-15-4	Total Pentachlorodibenzofuran	J	7.60		pg/L	6.04	500
55684-94-1	Total Hexachlorodibenzofuran	U	7.66		pg/L	7.66	500
38998-75-3	Total Heptachlorodibenzofuran	U	9.28		pg/L	9.28	500
3333-30-0	TEQ WHO2005 ND=0		0.263	0.263	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		20.7	20.7	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		16800	20000	pg/L	84.1	(25%-164%)
13C-1,2,3,7,8-PeCDD		19300	20000	pg/L	96.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		16800	20000	pg/L	84.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		17000	20000	pg/L	85.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		19300	20000	pg/L	96.5	(23%-140%)
13C-OCDD		35800	40000	pg/L	89.4	(17%-157%)
13C-2,3,7,8-TCDF		18100	20000	pg/L	90.6	(24%-169%)
13C-1,2,3,7,8-PeCDF		17800	20000	pg/L	89.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		20900	20000	pg/L	104	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		16400	20000	pg/L	81.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		17400	20000	pg/L	87.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		17200	20000	pg/L	86.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		16900	20000	pg/L	84.5	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254008	Date Collected: 06/17/2014 13:35	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM01		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 23:46	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-13		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			18700	20000	pg/L	93.4	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			19200	20000	pg/L	96.2	(26%-138%)
37Cl-2,3,7,8-TCDD			2070	2000	pg/L	104	(35%-197%)

Comments:

- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254009	Date Collected: 06/17/2014 13:40	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM02		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 18:58	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-6		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	71.2		pg/L	71.2	100
40321-76-4	1,2,3,7,8-PeCDD	U	38.8		pg/L	38.8	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	53.4		pg/L	53.4	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	51.8		pg/L	51.8	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	55.6		pg/L	55.6	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	58.2		pg/L	58.2	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	156		pg/L	82.8	1000
51207-31-9	2,3,7,8-TCDF	U	54.4		pg/L	54.4	100
57117-41-6	1,2,3,7,8-PeCDF	U	34.4		pg/L	34.4	500
57117-31-4	2,3,4,7,8-PeCDF	U	30		pg/L	30.0	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	34		pg/L	34.0	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	32.4		pg/L	32.4	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	35.2		pg/L	35.2	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	50.4		pg/L	50.4	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	32.8		pg/L	32.8	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	49.2		pg/L	49.2	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	114		pg/L	114	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	71.2		pg/L	71.2	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	38.8		pg/L	38.8	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	51.8		pg/L	51.8	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	58.2		pg/L	58.2	500
30402-14-3	Total Tetrachlorodibenzofuran	U	54.4		pg/L	54.4	100
30402-15-4	Total Pentachlorodibenzofuran	U	29		pg/L	29.0	500
55684-94-1	Total Hexachlorodibenzofuran	U	32.4		pg/L	32.4	500
38998-75-3	Total Heptachlorodibenzofuran	U	32.8		pg/L	32.8	500
3333-30-0	TEQ WHO2005 ND=0		0.0468	0.0468	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		79.1	79.1	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		7960	20000	pg/L	39.8	(25%-164%)
13C-1,2,3,7,8-PeCDD		8880	20000	pg/L	44.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		7840	20000	pg/L	39.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		8400	20000	pg/L	42.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		10400	20000	pg/L	52.2	(23%-140%)
13C-OCDD		20900	40000	pg/L	52.3	(17%-157%)
13C-2,3,7,8-TCDF		9090	20000	pg/L	45.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		8790	20000	pg/L	43.9	(24%-185%)
13C-2,3,4,7,8-PeCDF		10100	20000	pg/L	50.4	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		9110	20000	pg/L	45.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		9780	20000	pg/L	48.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		9480	20000	pg/L	47.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		9530	20000	pg/L	47.7	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254009	Date Collected: 06/17/2014 13:40	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM02		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 18:58	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-6		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			10500	20000	pg/L	52.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			11600	20000	pg/L	57.8	(26%-138%)
37Cl-2,3,7,8-TCDD			1740	2000	pg/L	87.1	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254010	Date Collected: 06/17/2014 13:45	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM03		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 19:46	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-7		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	46.8		pg/L	46.8	100
40321-76-4	1,2,3,7,8-PeCDD	U	25.2		pg/L	25.2	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	35.4		pg/L	35.4	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	34.4		pg/L	34.4	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	37		pg/L	37.0	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK		37.8	pg/L	34.4	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	123		pg/L	65.2	1000
51207-31-9	2,3,7,8-TCDF	U	35.2		pg/L	35.2	100
57117-41-6	1,2,3,7,8-PeCDF	U	23.8		pg/L	23.8	500
57117-31-4	2,3,4,7,8-PeCDF	U	21.4		pg/L	21.4	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	19.3		pg/L	19.3	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	18.3		pg/L	18.3	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	22.2		pg/L	22.2	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	26.6		pg/L	26.6	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	18.8		pg/L	18.8	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	29.8		pg/L	29.8	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	69.2		pg/L	69.2	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	46.8		pg/L	46.8	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	25.2		pg/L	25.2	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	34.4		pg/L	34.4	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	34.4	37.8	pg/L	34.4	500
30402-14-3	Total Tetrachlorodibenzofuran	U	35.2		pg/L	35.2	100
30402-15-4	Total Pentachlorodibenzofuran	U	21		pg/L	21.0	500
55684-94-1	Total Hexachlorodibenzofuran	U	18.3		pg/L	18.3	500
38998-75-3	Total Heptachlorodibenzofuran	U	18.8		pg/L	18.8	500
3333-30-0	TEQ WHO2005 ND=0		0.037	0.415	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		51.5	51.7	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		8480	20000	pg/L	42.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		9170	20000	pg/L	45.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		9220	20000	pg/L	46.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		9010	20000	pg/L	45.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		12100	20000	pg/L	60.5	(23%-140%)
13C-OCDD		22300	40000	pg/L	55.8	(17%-157%)
13C-2,3,7,8-TCDF		9490	20000	pg/L	47.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		9640	20000	pg/L	48.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		10600	20000	pg/L	52.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		10200	20000	pg/L	50.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		10800	20000	pg/L	54.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		10100	20000	pg/L	50.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		10400	20000	pg/L	52.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6254010	Date Collected: 06/17/2014 13:45	Matrix: MILK
Client Sample: 1613B Liquid	Date Received: 06/18/2014 10:50	
Client ID: JFM03		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 19:46	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-7		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			12200	20000	pg/L	61.1	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			12300	20000	pg/L	61.4	(26%-138%)
37Cl-2,3,7,8-TCDD			1860	2000	pg/L	93.1	(35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010820	LCS for batch 26305	13C-2,3,7,8-TCDD		36.7	(20%-175%)
		13C-1,2,3,7,8-PeCDD		47.3	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		51.0	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		49.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		64.0	(22%-166%)
		13C-OCDD		57.0	(13%-199%)
		13C-2,3,7,8-TCDF		41.9	(22%-152%)
		13C-1,2,3,7,8-PeCDF		45.6	(21%-192%)
		13C-2,3,4,7,8-PeCDF		54.4	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		56.6	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		56.1	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		56.7	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		59.3	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		63.8	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		65.4	(20%-186%)
		37Cl-2,3,7,8-TCDD		90.8	(31%-191%)
		12010821	LCSD for batch 26305	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				61.0	(21%-227%)
13C-1,2,3,4,7,8-HxCDD				61.6	(21%-193%)
13C-1,2,3,6,7,8-HxCDD				64.2	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD				74.8	(22%-166%)
13C-OCDD				74.6	(13%-199%)
13C-2,3,7,8-TCDF				55.5	(22%-152%)
13C-1,2,3,7,8-PeCDF				58.7	(21%-192%)
13C-2,3,4,7,8-PeCDF				71.6	(13%-328%)
13C-1,2,3,4,7,8-HxCDF				68.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF				69.6	(21%-159%)
13C-2,3,4,6,7,8-HxCDF				71.7	(22%-176%)
13C-1,2,3,7,8,9-HxCDF				71.7	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF				76.0	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF				80.1	(20%-186%)
37Cl-2,3,7,8-TCDD				83.0	(31%-191%)
12010819	MB for batch 26305			13C-2,3,7,8-TCDD	
		13C-1,2,3,7,8-PeCDD		43.6	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		39.7	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		43.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		50.7	(23%-140%)
		13C-OCDD		45.9	(17%-157%)
		13C-2,3,7,8-TCDF		48.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		43.2	(24%-185%)
		13C-2,3,4,7,8-PeCDF		49.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		45.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		47.7	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		48.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		48.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		48.8	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		54.1	(26%-138%)
		37Cl-2,3,7,8-TCDD		91.7	(35%-197%)
		6254009	JFM02	13C-2,3,7,8-TCDD	

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6254009	JFM02	13C-1,2,3,7,8-PeCDD		44.4	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		39.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		42.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		52.2	(23%-140%)
		13C-OCDD		52.3	(17%-157%)
		13C-2,3,7,8-TCDF		45.5	(24%-169%)
		13C-1,2,3,7,8-PeCDF		43.9	(24%-185%)
		13C-2,3,4,7,8-PeCDF		50.4	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		45.6	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		48.9	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		47.4	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		47.7	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		52.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		57.8	(26%-138%)
		37Cl-2,3,7,8-TCDD		87.1	(35%-197%)
6254010	JFM03	13C-2,3,7,8-TCDD		42.4	(25%-164%)
		13C-1,2,3,7,8-PeCDD		45.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		46.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		45.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		60.5	(23%-140%)
		13C-OCDD		55.8	(17%-157%)
		13C-2,3,7,8-TCDF		47.4	(24%-169%)
		13C-1,2,3,7,8-PeCDF		48.2	(24%-185%)
		13C-2,3,4,7,8-PeCDF		52.8	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		50.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		54.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		50.5	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		52.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		61.1	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		61.4	(26%-138%)
37Cl-2,3,7,8-TCDD		93.1	(35%-197%)		
12010926	LCS for batch 26417	13C-2,3,7,8-TCDD		94.0	(20%-175%)
		13C-1,2,3,7,8-PeCDD		109	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		96.9	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		89.8	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		105	(22%-166%)
		13C-OCDD		95.9	(13%-199%)
		13C-2,3,7,8-TCDF		101	(22%-152%)
		13C-1,2,3,7,8-PeCDF		105	(21%-192%)
		13C-2,3,4,7,8-PeCDF		117	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		92.1	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		95.5	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		95.7	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		97.3	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		102	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		106	(20%-186%)
37Cl-2,3,7,8-TCDD		104	(31%-191%)		
12010927	LCSD for batch 26417	13C-2,3,7,8-TCDD		86.6	(20%-175%)
		13C-1,2,3,7,8-PeCDD		103	(21%-227%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010927	LCSD for batch 26417	13C-1,2,3,4,7,8-HxCDD		87.3	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		88.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		101	(22%-166%)
		13C-OCDD		93.1	(13%-199%)
		13C-2,3,7,8-TCDF		92.4	(22%-152%)
		13C-1,2,3,7,8-PeCDF		99.4	(21%-192%)
		13C-2,3,4,7,8-PeCDF		112	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		85.9	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		93.3	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		90.7	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		94.4	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		95.5	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		104	(20%-186%)
		37Cl-2,3,7,8-TCDD		95.8	(31%-191%)
		12010925	MB for batch 26417	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				94.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD				82.9	(32%-141%)
13C-1,2,3,6,7,8-HxCDD				79.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD				91.2	(23%-140%)
13C-OCDD				82.8	(17%-157%)
13C-2,3,7,8-TCDF				88.2	(24%-169%)
13C-1,2,3,7,8-PeCDF				92.4	(24%-185%)
13C-2,3,4,7,8-PeCDF				102	(21%-178%)
13C-1,2,3,4,7,8-HxCDF				78.7	(26%-152%)
13C-1,2,3,6,7,8-HxCDF				84.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF				83.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF				86.6	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF				88.4	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF				89.8	(26%-138%)
37Cl-2,3,7,8-TCDD		86.8	(35%-197%)		
6254008	JFM01	13C-2,3,7,8-TCDD		84.1	(25%-164%)
		13C-1,2,3,7,8-PeCDD		96.7	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		84.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		85.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		96.5	(23%-140%)
		13C-OCDD		89.4	(17%-157%)
		13C-2,3,7,8-TCDF		90.6	(24%-169%)
		13C-1,2,3,7,8-PeCDF		89.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		104	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		81.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		87.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		86.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		84.5	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		93.4	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		96.2	(26%-138%)
37Cl-2,3,7,8-TCDD		104	(35%-197%)		

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
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* Recovery outside Acceptance Limits
Column to be used to flag recovery values
D Sample Diluted

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010725	LCS for batch 26220	13C-2,3,7,8-TCDD		85.1	(20%-175%)
		13C-1,2,3,7,8-PeCDD		88.6	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		83.6	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		94.3	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		68.9	(22%-166%)
		13C-OCDD		29.6	(13%-199%)
		13C-2,3,7,8-TCDF		97.2	(22%-152%)
		13C-1,2,3,7,8-PeCDF		96.4	(21%-192%)
		13C-2,3,4,7,8-PeCDF		93.1	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		92.8	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		94.9	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		91.8	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		73.8	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		80.6	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		57.7	(20%-186%)
		37Cl-2,3,7,8-TCDD		102	(31%-191%)
12010726	LCSD for batch 26220	13C-2,3,7,8-TCDD		87.0	(20%-175%)
		13C-1,2,3,7,8-PeCDD		89.2	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		86.1	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		94.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		65.0	(22%-166%)
		13C-OCDD		43.9	(13%-199%)
		13C-2,3,7,8-TCDF		101	(22%-152%)
		13C-1,2,3,7,8-PeCDF		93.5	(21%-192%)
		13C-2,3,4,7,8-PeCDF		91.3	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		94.9	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		98.1	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		90.2	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		70.5	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		67.3	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		56.5	(20%-186%)
		37Cl-2,3,7,8-TCDD		96.2	(31%-191%)
12010724	MB for batch 26220	13C-2,3,7,8-TCDD		86.2	(25%-164%)
		13C-1,2,3,7,8-PeCDD		82.1	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		83.5	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		90.9	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		93.3	(23%-140%)
		13C-OCDD		57.9	(17%-157%)
		13C-2,3,7,8-TCDF		98.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		91.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		87.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		111	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		106	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		89.2	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		77.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		79.6	(26%-138%)
		37Cl-2,3,7,8-TCDD		100	(35%-197%)
6254001	EB01	13C-2,3,7,8-TCDD		80.5	(25%-164%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6254001	EB01	13C-1,2,3,7,8-PeCDD		90.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		81.7	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		79.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		83.0	(23%-140%)
		13C-OCDD		79.0	(17%-157%)
		13C-2,3,7,8-TCDF		88.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		94.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		92.8	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		78.7	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		81.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		83.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		77.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		83.7	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		76.3	(26%-138%)
		37Cl-2,3,7,8-TCDD		95.1	(35%-197%)
6254004	LFSW03	13C-2,3,7,8-TCDD		72.0	(25%-164%)
		13C-1,2,3,7,8-PeCDD		80.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		76.4	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		76.3	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		85.4	(23%-140%)
		13C-OCDD		77.4	(17%-157%)
		13C-2,3,7,8-TCDF		79.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		85.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		87.0	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		74.3	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		78.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		79.0	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		73.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		80.0	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		81.1	(26%-138%)
37Cl-2,3,7,8-TCDD		82.2	(35%-197%)		
6254002	LFSW01	13C-2,3,7,8-TCDD		81.6	(25%-164%)
		13C-1,2,3,7,8-PeCDD		91.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		74.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		79.5	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		83.6	(23%-140%)
		13C-OCDD		79.4	(17%-157%)
		13C-2,3,7,8-TCDF		86.0	(24%-169%)
		13C-1,2,3,7,8-PeCDF		94.2	(24%-185%)
		13C-2,3,4,7,8-PeCDF		92.5	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		77.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		79.3	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		78.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		72.6	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		74.8	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		82.2	(26%-138%)
37Cl-2,3,7,8-TCDD		98.9	(35%-197%)		
6254003	LFSW02	13C-2,3,7,8-TCDD		80.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		84.9	(25%-181%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6254003	LFSW02	13C-1,2,3,4,7,8-HxCDD		77.9	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		77.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		87.7	(23%-140%)
		13C-OCDD		84.4	(17%-157%)
		13C-2,3,7,8-TCDF		89.4	(24%-169%)
		13C-1,2,3,7,8-PeCDF		90.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		86.6	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		75.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		78.3	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		79.7	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		77.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		83.1	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		87.4	(26%-138%)
		37Cl-2,3,7,8-TCDD		95.5	(35%-197%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6254

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010757	LCS for batch 26253	13C-2,3,7,8-TCDD		85.1	(20%-175%)
		13C-1,2,3,7,8-PeCDD		81.4	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		95.7	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		83.9	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		93.8	(22%-166%)
		13C-OCDD		79.9	(13%-199%)
		13C-2,3,7,8-TCDF		90.6	(22%-152%)
		13C-1,2,3,7,8-PeCDF		83.7	(21%-192%)
		13C-2,3,4,7,8-PeCDF		90.3	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		96.7	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		92.9	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		93.4	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		88.3	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		92.4	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		88.8	(20%-186%)
		37Cl-2,3,7,8-TCDD		97.0	(31%-191%)
12010758	LCSD for batch 26253	13C-2,3,7,8-TCDD		84.5	(20%-175%)
		13C-1,2,3,7,8-PeCDD		82.4	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		89.4	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		87.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		87.1	(22%-166%)
		13C-OCDD		74.8	(13%-199%)
		13C-2,3,7,8-TCDF		90.8	(22%-152%)
		13C-1,2,3,7,8-PeCDF		83.2	(21%-192%)
		13C-2,3,4,7,8-PeCDF		91.2	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		95.7	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		91.6	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		91.3	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		84.4	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		89.7	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		81.2	(20%-186%)
		37Cl-2,3,7,8-TCDD		98.1	(31%-191%)
12010756	MB for batch 26253	13C-2,3,7,8-TCDD		77.8	(25%-164%)
		13C-1,2,3,7,8-PeCDD		80.0	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		87.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		75.4	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		89.0	(23%-140%)
		13C-OCDD		80.8	(17%-157%)
		13C-2,3,7,8-TCDF		83.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		81.1	(24%-185%)
		13C-2,3,4,7,8-PeCDF		88.7	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		85.5	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		82.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		84.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		86.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		86.3	(26%-138%)
		37Cl-2,3,7,8-TCDD		96.8	(35%-197%)
6254007	LFSD03	13C-2,3,7,8-TCDD		83.6	(25%-164%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6254007	LFSD03	13C-1,2,3,7,8-PeCDD		93.5	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		80.6	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		78.7	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		94.4	(23%-140%)
		13C-OCDD		110	(17%-157%)
		13C-2,3,7,8-TCDF		98.1	(24%-169%)
		13C-1,2,3,7,8-PeCDF		92.7	(24%-185%)
		13C-2,3,4,7,8-PeCDF		105	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.6	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		89.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		89.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		92.1	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		94.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		105	(26%-138%)
		37Cl-2,3,7,8-TCDD		95.5	(35%-197%)
6254006	LFSD02	13C-2,3,7,8-TCDD		79.7	(25%-164%)
		13C-1,2,3,7,8-PeCDD		84.4	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		83.0	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		75.8	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		103	(23%-140%)
		13C-OCDD		105	(17%-157%)
		13C-2,3,7,8-TCDF		92.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		86.7	(24%-185%)
		13C-2,3,4,7,8-PeCDF		96.7	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		91.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		92.0	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		92.3	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		98.1	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		111	(26%-138%)
37Cl-2,3,7,8-TCDD		92.9	(35%-197%)		
6254005	LFSD01	13C-2,3,7,8-TCDD		82.5	(25%-164%)
		13C-1,2,3,7,8-PeCDD		90.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		66.3	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		76.9	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		86.9	(23%-140%)
		13C-OCDD		75.7	(17%-157%)
		13C-2,3,7,8-TCDF		97.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		93.9	(24%-185%)
		13C-2,3,4,7,8-PeCDF		106	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		74.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		98.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		90.5	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		85.1	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		90.8	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		93.5	(26%-138%)
37Cl-2,3,7,8-TCDD		95.8	(35%-197%)		

* Recovery outside Acceptance Limits

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6254

Matrix Type: SOLID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
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* Recovery outside Acceptance Limits
Column to be used to flag recovery values
D Sample Diluted

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254
Client ID: LCS for batch 26220
Lab Sample ID: 12010725
Instrument: HRP750
Analyst: JTF

Sample Type: Laboratory Control Sample
Matrix: WATER
Analysis Date: 06/24/2014 04:44
Prep Batch ID: 26220
Batch ID: 26223
Dilution: 1

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	200	217	109	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	1000	1040	104	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	1000	1020	102	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	1000	1050	105	74-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	1000	1030	103	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	1000	1030	103	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	2000	2120	106	78-144
51207-31-9	LCS 2,3,7,8-TCDF	200	188	93.9	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	1000	999	99.9	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	1000	1000	100	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	1000	1030	103	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	1000	1040	104	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	1000	1030	103	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	1000	1050	105	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	1000	993	99.3	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	1000	1030	103	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	2000	2080	104	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254 **Sample Type:** Laboratory Control Sample Duplicate
Client ID: LCSD for batch 26220 **Matrix:** WATER
Lab Sample ID: 12010726
Instrument: HRP750 **Analysis Date:** 06/24/2014 05:32 **Dilution:** 1
Analyst: JTF **Prep Batch ID:** 26220
Batch ID: 26223

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	200	213	106	67-158	2.20	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	1000	1010	101	70-142	2.50	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	1000	1020	102	70-164	0.0216	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	1000	1020	102	74-134	2.62	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	1000	1010	101	64-162	1.51	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	1000	994	99.4	70-140	4.00	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	2000	2080	104	78-144	2.08	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	200	185	92.7	75-158	1.35	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	1000	1040	104	80-134	3.88	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	1000	1040	104	68-160	3.17	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	1000	1050	105	72-134	2.22	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	1000	1060	106	84-130	1.74	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	1000	1060	106	70-156	2.52	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	1000	1110	111	78-130	5.62	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	1000	1030	103	82-122	3.25	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	1000	1040	104	78-138	0.527	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	2000	1930	96.7	63-170	7.06	0-20

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 26253

Matrix: SOLID

Lab Sample ID: 12010757

Instrument: HRP763

Analysis Date: 06/27/2014 15:12

Dilution: 1

Analyst: JTF

Prep Batch ID: 26253

Batch ID: 26255

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	20.0	21.9	109	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	100	108	108	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	100	109	109	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	100	110	110	76-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	100	107	107	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	100	103	103	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	200	202	101	78-144
51207-31-9	LCS 2,3,7,8-TCDF	20.0	20.9	104	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	100	106	106	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	100	104	104	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	100	109	109	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	100	109	109	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	100	111	111	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	100	115	115	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	100	108	108	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	100	107	107	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	200	216	108	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 26253

Matrix: SOLID

Lab Sample ID: 12010758

Instrument: HRP763

Analysis Date: 06/27/2014 15:59

Dilution: 1

Analyst: JTF

Prep Batch ID: 26253

Batch ID: 26255

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	20.0	21.8	109	67-158	0.422	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	100	107	107	70-142	0.504	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	100	109	109	70-164	0.308	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	100	108	108	76-134	1.44	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	100	109	109	64-162	1.98	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	100	104	104	70-140	0.623	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	200	209	105	78-144	3.41	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	20.0	21.1	105	75-158	1.15	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	100	109	109	80-134	2.78	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	100	106	106	68-160	1.50	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	100	109	109	72-134	0.224	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	100	108	108	84-130	0.411	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	100	110	110	70-156	0.796	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	100	113	113	78-130	2.47	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	100	108	108	82-122	0.410	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	100	111	111	78-138	3.24	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	200	213	107	63-170	1.21	0-20

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 26305

Matrix: MILK

Lab Sample ID: 12010820

Instrument: HRP763

Analysis Date: 07/07/2014 15:47

Dilution: 1

Analyst: JTF

Prep Batch ID: 26305

Batch ID: 26307

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	2000	2070	103	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	10000	10100	101	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	10000	10200	102	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	10000	10700	107	74-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	10000	11600	116	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	10000	9690	96.9	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	20000	19800	98.9	78-144
51207-31-9	LCS 2,3,7,8-TCDF	2000	2090	105	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	10000	10700	107	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	10000	10200	102	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	10000	10900	109	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	10000	10900	109	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	10000	11400	114	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	10000	11600	116	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	10000	10800	108	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	10000	11100	111	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	20000	24000	120	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 26305

Matrix: MILK

Lab Sample ID: 12010821

Instrument: HRP763

Analysis Date: 07/07/2014 16:35

Dilution: 1

Analyst: JTF

Prep Batch ID: 26305

Batch ID: 26307

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	2000	2060	103	67-158	0.126	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	10000	10400	104	70-142	3.20	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	10000	10600	106	70-164	3.99	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	10000	10500	105	74-134	2.07	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	10000	11700	117	64-162	0.669	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	10000	9840	98.4	70-140	1.53	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	20000	20100	101	78-144	1.63	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	2000	2130	106	75-158	1.72	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	10000	11000	110	80-134	1.94	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	10000	10300	103	68-160	1.45	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	10000	11100	111	72-134	2.05	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	10000	11200	112	84-130	2.77	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	10000	11200	112	70-156	2.54	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	10000	12000	120	78-130	3.20	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	10000	11000	110	82-122	1.87	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	10000	11300	113	78-138	1.49	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	20000	23600	118	63-170	1.65	0-20

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 26417

Matrix: MILK

Lab Sample ID: 12010926

Instrument: HRP763

Analysis Date: 07/18/2014 21:23

Dilution: 1

Analyst: JTF

Prep Batch ID: 26417

Batch ID: 26419

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	2000	2120	106	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	10000	10400	104	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	10000	10000	100	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	10000	10300	103	74-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	10000	11000	110	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	10000	10000	100	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	20000	20400	102	78-144
51207-31-9	LCS 2,3,7,8-TCDF	2000	2030	102	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	10000	10900	109	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	10000	10400	104	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	10000	11300	113	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	10000	11500	115	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	10000	11300	113	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	10000	11900	119	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	10000	10600	106	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	10000	11000	110	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	20000	23200	116	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6254

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 26417

Matrix: MILK

Lab Sample ID: 12010927

Instrument: HRP763

Analysis Date: 07/18/2014 22:11

Dilution: 1

Analyst: JTF

Prep Batch ID: 26417

Batch ID: 26419

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	2000	2090	105	67-158	1.26	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	10000	10500	105	70-142	0.777	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	10000	10300	103	70-164	2.39	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	10000	10400	104	74-134	0.919	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	10000	11600	116	64-162	4.63	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	10000	10200	102	70-140	2.20	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	20000	20400	102	78-144	0.223	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	2000	2070	103	75-158	1.84	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	10000	10900	109	80-134	0.231	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	10000	10900	109	68-160	3.95	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	10000	11800	118	72-134	5.08	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	10000	10900	109	84-130	5.60	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	10000	11300	113	70-156	0.663	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	10000	12000	120	78-130	1.32	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	10000	11100	111	82-122	4.62	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	10000	11200	112	78-138	1.21	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	20000	23200	116	63-170	0.00345	0-20

Method Blank Summary

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SDG Number: 6254
Client ID: MB for batch 26253
Lab Sample ID: 12010756
Column:

Client: TRCC001
Instrument ID: HRP763
Prep Date: 24-JUN-14

Matrix: SOLID
Data File: b27jun14a-4
Analyzed: 06/27/14 16:47

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26253	12010757	b27jun14a-2	06/27/14	1512
02 LCSD for batch 26253	12010758	b27jun14a-3	06/27/14	1559
03 LFSD03	6254007	b07jul14a-8	07/07/14	2033
04 LFSD02	6254006	b07jul14a-9	07/07/14	2121
05 LFSD01	6254005	b09jul14a_5-6	07/11/14	0322

Method Blank Summary

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SDG Number: 6254
Client ID: MB for batch 26305
Lab Sample ID: 12010819
Column:

Client: TRCC001
Instrument ID: HRP763
Prep Date: 30-JUN-14

Matrix: MILK
Data File: b07jul14a-4
Analyzed: 07/07/14 17:22

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26305	12010820	b07jul14a-2	07/07/14	1547
02 LCSD for batch 26305	12010821	b07jul14a-3	07/07/14	1635
03 JFM02	6254009	b07jul14a-6	07/07/14	1858
04 JFM03	6254010	b07jul14a-7	07/07/14	1946

Method Blank Summary

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SDG Number: 6254
Client ID: MB for batch 26417
Lab Sample ID: 12010925
Column:

Client: TRCC001
Instrument ID: HRP763
Prep Date: 16-JUL-14

Matrix: MILK
Data File: b18jul14a-12
Analyzed: 07/18/14 22:59

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26417	12010926	b18jul14a-10	07/18/14	2123
02 LCSD for batch 26417	12010927	b18jul14a-11	07/18/14	2211
03 JFM01	6254008	b18jul14a-13	07/18/14	2346

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010724		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: MB for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 06:20	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-3		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.87		pg/L	0.870	10.0
40321-76-4	1,2,3,7,8-PeCDD	JK		1.84	pg/L	0.900	50.0
39227-28-6	1,2,3,4,7,8-HxCDD	U	2.46		pg/L	2.46	50.0
57653-85-7	1,2,3,6,7,8-HxCDD	JK		3.90	pg/L	2.42	50.0
19408-74-3	1,2,3,7,8,9-HxCDD	J	3.64		pg/L	2.60	50.0
35822-46-9	1,2,3,4,6,7,8-HpCDD	JK		3.78	pg/L	2.52	50.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	12.5		pg/L	9.50	100
51207-31-9	2,3,7,8-TCDF	U	.812		pg/L	0.812	10.0
57117-41-6	1,2,3,7,8-PeCDF	J	2.02		pg/L	0.958	50.0
57117-31-4	2,3,4,7,8-PeCDF	J	2.34		pg/L	0.992	50.0
70648-26-9	1,2,3,4,7,8-HxCDF	JK		2.90	pg/L	1.20	50.0
57117-44-9	1,2,3,6,7,8-HxCDF	J	2.50		pg/L	1.33	50.0
60851-34-5	2,3,4,6,7,8-HxCDF	J	3.78		pg/L	1.64	50.0
72918-21-9	1,2,3,7,8,9-HxCDF	JK		4.16	pg/L	2.60	50.0
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		3.10	pg/L	2.02	50.0
55673-89-7	1,2,3,4,7,8,9-HpCDF	JK		5.80	pg/L	3.82	50.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK		8.86	pg/L	8.74	100
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.87		pg/L	0.870	10.0
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.9	1.84	pg/L	0.900	50.0
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	3.64	7.54	pg/L	2.42	50.0
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	2.52	3.78	pg/L	2.52	50.0
30402-14-3	Total Tetrachlorodibenzofuran	U	.812		pg/L	0.812	10.0
30402-15-4	Total Pentachlorodibenzofuran	J	4.36		pg/L	0.688	50.0
55684-94-1	Total Hexachlorodibenzofuran	J	6.28	13.3	pg/L	1.20	50.0
38998-75-3	Total Heptachlorodibenzofuran	U	2.02	8.90	pg/L	2.02	50.0
3333-30-0	TEQ WHO2005 ND=0		1.76	4.82	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		3.16	5.42	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1720	2000	pg/L	86.2	(25%-164%)
13C-1,2,3,7,8-PeCDD		1640	2000	pg/L	82.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		1670	2000	pg/L	83.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		1820	2000	pg/L	90.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		1870	2000	pg/L	93.3	(23%-140%)
13C-OCDD		2310	4000	pg/L	57.9	(17%-157%)
13C-2,3,7,8-TCDF		1970	2000	pg/L	98.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		1830	2000	pg/L	91.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		1740	2000	pg/L	87.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		2230	2000	pg/L	111	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		2110	2000	pg/L	106	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		1780	2000	pg/L	89.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		1540	2000	pg/L	77.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010724		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: MB for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 06:20	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-3		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
	13C-1,2,3,4,6,7,8-HpCDF		1950	2000	pg/L	97.3	(28%-143%)
	13C-1,2,3,4,7,8,9-HpCDF		1590	2000	pg/L	79.6	(26%-138%)
	37Cl-2,3,7,8-TCDD		200	200	pg/L	100	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010725		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: LCS for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 04:44	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-1		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		217		pg/L	1.60	10.0
40321-76-4	1,2,3,7,8-PeCDD		1040		pg/L	3.28	50.0
39227-28-6	1,2,3,4,7,8-HxCDD		1020		pg/L	6.42	50.0
57653-85-7	1,2,3,6,7,8-HxCDD		1050		pg/L	6.64	50.0
19408-74-3	1,2,3,7,8,9-HxCDD		1030		pg/L	6.92	50.0
35822-46-9	1,2,3,4,6,7,8-HpCDD		1030		pg/L	8.78	50.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD		2120		pg/L	37.0	100
51207-31-9	2,3,7,8-TCDF		188		pg/L	1.42	10.0
57117-41-6	1,2,3,7,8-PeCDF		999		pg/L	3.10	50.0
57117-31-4	2,3,4,7,8-PeCDF		1000		pg/L	3.04	50.0
70648-26-9	1,2,3,4,7,8-HxCDF		1030		pg/L	6.62	50.0
57117-44-9	1,2,3,6,7,8-HxCDF		1040		pg/L	7.04	50.0
60851-34-5	2,3,4,6,7,8-HxCDF		1030		pg/L	7.34	50.0
72918-21-9	1,2,3,7,8,9-HxCDF		1050		pg/L	12.3	50.0
67562-39-4	1,2,3,4,6,7,8-HpCDF		993		pg/L	4.94	50.0
55673-89-7	1,2,3,4,7,8,9-HpCDF		1030		pg/L	11.6	50.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF		2080		pg/L	55.0	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1700	2000	pg/L	85.1	(20%-175%)
13C-1,2,3,7,8-PeCDD		1770	2000	pg/L	88.6	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		1670	2000	pg/L	83.6	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		1890	2000	pg/L	94.3	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		1380	2000	pg/L	68.9	(22%-166%)
13C-OCDD		1190	4000	pg/L	29.6	(13%-199%)
13C-2,3,7,8-TCDF		1940	2000	pg/L	97.2	(22%-152%)
13C-1,2,3,7,8-PeCDF		1930	2000	pg/L	96.4	(21%-192%)
13C-2,3,4,7,8-PeCDF		1860	2000	pg/L	93.1	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		1860	2000	pg/L	92.8	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		1900	2000	pg/L	94.9	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		1840	2000	pg/L	91.8	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		1480	2000	pg/L	73.8	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		1610	2000	pg/L	80.6	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		1150	2000	pg/L	57.7	(20%-186%)
37Cl-2,3,7,8-TCDD		204	200	pg/L	102	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010726		Matrix: WATER
Client Sample: QC for batch 26220		
Client ID: LCSD for batch 26220		Prep Basis: As Received
Batch ID: 26223	Method: EPA Method 1613B	
Run Date: 06/24/2014 05:32	Analyst: JTF	Instrument: HRP750
Data File: A23JUN14A_3-2		Dilution: 1
Prep Batch: 26220	Prep Method: SW846 3520C	
Prep Date: 20-JUN-14	Prep Aliquot: 1000 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		213		pg/L	1.12	10.0
40321-76-4	1,2,3,7,8-PeCDD		1010		pg/L	3.16	50.0
39227-28-6	1,2,3,4,7,8-HxCDD		1020		pg/L	6.26	50.0
57653-85-7	1,2,3,6,7,8-HxCDD		1020		pg/L	6.12	50.0
19408-74-3	1,2,3,7,8,9-HxCDD		1010		pg/L	6.56	50.0
35822-46-9	1,2,3,4,6,7,8-HpCDD		994		pg/L	10.5	50.0
3268-87-9	1,2,3,4,6,7,8,9-OCDD		2080		pg/L	29.6	100
51207-31-9	2,3,7,8-TCDF		185		pg/L	1.34	10.0
57117-41-6	1,2,3,7,8-PeCDF		1040		pg/L	3.00	50.0
57117-31-4	2,3,4,7,8-PeCDF		1040		pg/L	2.90	50.0
70648-26-9	1,2,3,4,7,8-HxCDF		1050		pg/L	6.90	50.0
57117-44-9	1,2,3,6,7,8-HxCDF		1060		pg/L	6.64	50.0
60851-34-5	2,3,4,6,7,8-HxCDF		1060		pg/L	7.90	50.0
72918-21-9	1,2,3,7,8,9-HxCDF		1110		pg/L	14.5	50.0
67562-39-4	1,2,3,4,6,7,8-HpCDF		1030		pg/L	7.44	50.0
55673-89-7	1,2,3,4,7,8,9-HpCDF		1040		pg/L	14.3	50.0
39001-02-0	1,2,3,4,6,7,8,9-OCDF		1930		pg/L	60.2	100

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1740	2000	pg/L	87.0	(20%-175%)
13C-1,2,3,7,8-PeCDD		1780	2000	pg/L	89.2	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		1720	2000	pg/L	86.1	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		1890	2000	pg/L	94.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		1300	2000	pg/L	65.0	(22%-166%)
13C-OCDD		1760	4000	pg/L	43.9	(13%-199%)
13C-2,3,7,8-TCDF		2010	2000	pg/L	101	(22%-152%)
13C-1,2,3,7,8-PeCDF		1870	2000	pg/L	93.5	(21%-192%)
13C-2,3,4,7,8-PeCDF		1830	2000	pg/L	91.3	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		1900	2000	pg/L	94.9	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		1960	2000	pg/L	98.1	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		1800	2000	pg/L	90.2	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		1410	2000	pg/L	70.5	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		1350	2000	pg/L	67.3	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		1130	2000	pg/L	56.5	(20%-186%)
37Cl-2,3,7,8-TCDD		192	200	pg/L	96.2	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010756		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: MB for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 16:47	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-4		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.0994		pg/g	0.0994	1.00
40321-76-4	1,2,3,7,8-PeCDD	J	0.198		pg/g	0.0714	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	JK		0.198	pg/g	0.0966	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	J	0.208		pg/g	0.103	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	JK		0.210	pg/g	0.106	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.380		pg/g	0.140	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	2.09		pg/g	0.220	10.0
51207-31-9	2,3,7,8-TCDF	U	.0668		pg/g	0.0668	1.00
57117-41-6	1,2,3,7,8-PeCDF	J	0.242		pg/g	0.0432	5.00
57117-31-4	2,3,4,7,8-PeCDF	J	0.176		pg/g	0.040	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	JK		0.188	pg/g	0.069	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	JK		0.176	pg/g	0.0654	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	J	0.180		pg/g	0.0704	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	J	0.322		pg/g	0.096	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.220	pg/g	0.0656	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	J	0.194		pg/g	0.108	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	JK		0.396	pg/g	0.234	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.0994		pg/g	0.0994	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	0.198		pg/g	0.0714	5.00
34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	0.208	0.616	pg/g	0.0966	5.00
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.704		pg/g	0.140	5.00
30402-14-3	Total Tetrachlorodibenzofuran	U	.0668		pg/g	0.0668	1.00
30402-15-4	Total Pentachlorodibenzofuran	J	0.528	0.670	pg/g	0.033	5.00
55684-94-1	Total Hexachlorodibenzofuran	J	1.07	1.43	pg/g	0.0654	5.00
38998-75-3	Total Heptachlorodibenzofuran	J	0.336	0.556	pg/g	0.0656	5.00
3333-30-0	TEQ WHO2005 ND=0		0.335	0.415	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.406	0.468	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		156	200	pg/g	77.8	(25%-164%)
13C-1,2,3,7,8-PeCDD		160	200	pg/g	80.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		174	200	pg/g	87.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	200	pg/g	75.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		178	200	pg/g	89.0	(23%-140%)
13C-OCDD		323	400	pg/g	80.8	(17%-157%)
13C-2,3,7,8-TCDF		168	200	pg/g	83.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		162	200	pg/g	81.1	(24%-185%)
13C-2,3,4,7,8-PeCDF		177	200	pg/g	88.7	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		171	200	pg/g	85.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		164	200	pg/g	82.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		170	200	pg/g	84.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		174	200	pg/g	87.2	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010756		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: MB for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 16:47	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-4		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			173	200	pg/g	86.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			173	200	pg/g	86.3	(26%-138%)
37Cl-2,3,7,8-TCDD			19.4	20.0	pg/g	96.8	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010757		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: LCS for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 15:12	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-2		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.9		pg/g	0.161	1.00
40321-76-4	1,2,3,7,8-PeCDD		108		pg/g	0.168	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		109		pg/g	0.244	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		110		pg/g	0.258	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		107		pg/g	0.266	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		103		pg/g	0.344	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		202		pg/g	0.520	10.0
51207-31-9	2,3,7,8-TCDF		20.9		pg/g	0.0984	1.00
57117-41-6	1,2,3,7,8-PeCDF		106		pg/g	0.228	5.00
57117-31-4	2,3,4,7,8-PeCDF		104		pg/g	0.210	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		109		pg/g	0.364	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		109		pg/g	0.372	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		111		pg/g	0.374	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		115		pg/g	0.572	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.292	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		107		pg/g	0.514	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		216		pg/g	0.600	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	200	pg/g	85.1	(20%-175%)
13C-1,2,3,7,8-PeCDD		163	200	pg/g	81.4	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		191	200	pg/g	95.7	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		168	200	pg/g	83.9	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		188	200	pg/g	93.8	(22%-166%)
13C-OCDD		320	400	pg/g	79.9	(13%-199%)
13C-2,3,7,8-TCDF		181	200	pg/g	90.6	(22%-152%)
13C-1,2,3,7,8-PeCDF		167	200	pg/g	83.7	(21%-192%)
13C-2,3,4,7,8-PeCDF		181	200	pg/g	90.3	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		193	200	pg/g	96.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		186	200	pg/g	92.9	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		187	200	pg/g	93.4	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		177	200	pg/g	88.3	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		185	200	pg/g	92.4	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		178	200	pg/g	88.8	(20%-186%)
37Cl-2,3,7,8-TCDD		19.4	20.0	pg/g	97.0	(31%-191%)

Comments:**K Estimated Maximum Possible Concentration**

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010758		Matrix: SOLID
Client Sample: QC for batch 26253		
Client ID: LCSD for batch 26253		Prep Basis: As Received
Batch ID: 26255	Method: EPA Method 1613B	
Run Date: 06/27/2014 15:59	Analyst: JTF	Instrument: HRP763
Data File: b27jun14a-3		Dilution: 1
Prep Batch: 26253	Prep Method: SW846 3540C	
Prep Date: 24-JUN-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.8		pg/g	0.156	1.00
40321-76-4	1,2,3,7,8-PeCDD		107		pg/g	0.121	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		109		pg/g	0.180	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		108		pg/g	0.186	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		109		pg/g	0.194	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		104		pg/g	0.354	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		209		pg/g	0.594	10.0
51207-31-9	2,3,7,8-TCDF		21.1		pg/g	0.0828	1.00
57117-41-6	1,2,3,7,8-PeCDF		109		pg/g	0.150	5.00
57117-31-4	2,3,4,7,8-PeCDF		106		pg/g	0.133	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		109		pg/g	0.322	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		108		pg/g	0.314	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		110		pg/g	0.354	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		113		pg/g	0.538	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.338	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		111		pg/g	0.612	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		213		pg/g	0.682	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	200	pg/g	84.5	(20%-175%)
13C-1,2,3,7,8-PeCDD		165	200	pg/g	82.4	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		179	200	pg/g	89.4	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		175	200	pg/g	87.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		174	200	pg/g	87.1	(22%-166%)
13C-OCDD		299	400	pg/g	74.8	(13%-199%)
13C-2,3,7,8-TCDF		182	200	pg/g	90.8	(22%-152%)
13C-1,2,3,7,8-PeCDF		166	200	pg/g	83.2	(21%-192%)
13C-2,3,4,7,8-PeCDF		182	200	pg/g	91.2	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		191	200	pg/g	95.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		183	200	pg/g	91.6	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		183	200	pg/g	91.3	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		169	200	pg/g	84.4	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		179	200	pg/g	89.7	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		162	200	pg/g	81.2	(20%-186%)
37Cl-2,3,7,8-TCDD		19.6	20.0	pg/g	98.1	(31%-191%)

Comments:**K Estimated Maximum Possible Concentration**

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010819		Matrix: MILK
Client Sample: QC for batch 26305		
Client ID: MB for batch 26305		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 17:22	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-4		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	79		pg/L	79.0	100
40321-76-4	1,2,3,7,8-PeCDD	U	42		pg/L	42.0	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	58		pg/L	58.0	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	58.2		pg/L	58.2	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	61.6		pg/L	61.6	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	69.6		pg/L	69.6	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	497		pg/L	129	1000
51207-31-9	2,3,7,8-TCDF	U	55.8		pg/L	55.8	100
57117-41-6	1,2,3,7,8-PeCDF	U	38.6		pg/L	38.6	500
57117-31-4	2,3,4,7,8-PeCDF	U	34		pg/L	34.0	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	32.2		pg/L	32.2	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	31.6		pg/L	31.6	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	34.6		pg/L	34.6	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	49.8		pg/L	49.8	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	42.8		pg/L	42.8	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	62.2		pg/L	62.2	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	149		pg/L	149	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	79		pg/L	79.0	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	42		pg/L	42.0	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	58		pg/L	58.0	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	69.6		pg/L	69.6	500
30402-14-3	Total Tetrachlorodibenzofuran	U	55.8		pg/L	55.8	100
30402-15-4	Total Pentachlorodibenzofuran	U	32.2		pg/L	32.2	500
55684-94-1	Total Hexachlorodibenzofuran	U	31.6		pg/L	31.6	500
38998-75-3	Total Heptachlorodibenzofuran	U	42.8		pg/L	42.8	500
3333-30-0	TEQ WHO2005 ND=0		0.149	0.149	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		86.3	86.3	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		7800	20000	pg/L	39.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		8720	20000	pg/L	43.6	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		7930	20000	pg/L	39.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		8620	20000	pg/L	43.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		10100	20000	pg/L	50.7	(23%-140%)
13C-OCDD		18400	40000	pg/L	45.9	(17%-157%)
13C-2,3,7,8-TCDF		9760	20000	pg/L	48.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		8640	20000	pg/L	43.2	(24%-185%)
13C-2,3,4,7,8-PeCDF		9850	20000	pg/L	49.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		9050	20000	pg/L	45.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		9530	20000	pg/L	47.7	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		9730	20000	pg/L	48.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		9640	20000	pg/L	48.2	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010819		Matrix: MILK
Client Sample: QC for batch 26305		
Client ID: MB for batch 26305		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 17:22	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-4		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			9760	20000	pg/L	48.8	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			10800	20000	pg/L	54.1	(26%-138%)
37Cl-2,3,7,8-TCDD			1830	2000	pg/L	91.7	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010820		Matrix: MILK
Client Sample: QC for batch 26305		
Client ID: LCS for batch 26305		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 15:47	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-2		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		2070		pg/L	109	100
40321-76-4	1,2,3,7,8-PeCDD		10100		pg/L	70.0	500
39227-28-6	1,2,3,4,7,8-HxCDD		10200		pg/L	128	500
57653-85-7	1,2,3,6,7,8-HxCDD		10700		pg/L	128	500
19408-74-3	1,2,3,7,8,9-HxCDD		11600		pg/L	136	500
35822-46-9	1,2,3,4,6,7,8-HpCDD		9690		pg/L	97.4	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD		19800		pg/L	216	1000
51207-31-9	2,3,7,8-TCDF		2090		pg/L	71.6	100
57117-41-6	1,2,3,7,8-PeCDF		10700		pg/L	81.4	500
57117-31-4	2,3,4,7,8-PeCDF		10200		pg/L	67.8	500
70648-26-9	1,2,3,4,7,8-HxCDF		10900		pg/L	115	500
57117-44-9	1,2,3,6,7,8-HxCDF		10900		pg/L	108	500
60851-34-5	2,3,4,6,7,8-HxCDF		11400		pg/L	108	500
72918-21-9	1,2,3,7,8,9-HxCDF		11600		pg/L	160	500
67562-39-4	1,2,3,4,6,7,8-HpCDF		10800		pg/L	124	500
55673-89-7	1,2,3,4,7,8,9-HpCDF		11100		pg/L	194	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF		24000		pg/L	614	1000

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		7340	20000	pg/L	36.7	(20%-175%)
13C-1,2,3,7,8-PeCDD		9460	20000	pg/L	47.3	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		10200	20000	pg/L	51.0	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		9880	20000	pg/L	49.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		12800	20000	pg/L	64.0	(22%-166%)
13C-OCDD		22800	40000	pg/L	57.0	(13%-199%)
13C-2,3,7,8-TCDF		8370	20000	pg/L	41.9	(22%-152%)
13C-1,2,3,7,8-PeCDF		9120	20000	pg/L	45.6	(21%-192%)
13C-2,3,4,7,8-PeCDF		10900	20000	pg/L	54.4	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		11300	20000	pg/L	56.6	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		11200	20000	pg/L	56.1	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		11300	20000	pg/L	56.7	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		11900	20000	pg/L	59.3	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		12800	20000	pg/L	63.8	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		13100	20000	pg/L	65.4	(20%-186%)
37Cl-2,3,7,8-TCDD		1820	2000	pg/L	90.8	(31%-191%)

Comments:**K Estimated Maximum Possible Concentration**

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010821		Matrix: MILK
Client Sample: QC for batch 26305		
Client ID: LCSD for batch 26305		Prep Basis: As Received
Batch ID: 26307	Method: EPA Method 1613B	
Run Date: 07/07/2014 16:35	Analyst: JTF	Instrument: HRP763
Data File: b07jul14a-3		Dilution: 1
Prep Batch: 26305	Prep Method: SW846 3520C	
Prep Date: 30-JUN-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		2060		pg/L	81.0	100
40321-76-4	1,2,3,7,8-PeCDD		10400		pg/L	55.2	500
39227-28-6	1,2,3,4,7,8-HxCDD		10600		pg/L	89.2	500
57653-85-7	1,2,3,6,7,8-HxCDD		10500		pg/L	86.2	500
19408-74-3	1,2,3,7,8,9-HxCDD		11700		pg/L	92.8	500
35822-46-9	1,2,3,4,6,7,8-HpCDD		9840		pg/L	108	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD		20100		pg/L	182	1000
51207-31-9	2,3,7,8-TCDF		2130		pg/L	62.8	100
57117-41-6	1,2,3,7,8-PeCDF		11000		pg/L	87.0	500
57117-31-4	2,3,4,7,8-PeCDF		10300		pg/L	68.2	500
70648-26-9	1,2,3,4,7,8-HxCDF		11100		pg/L	117	500
57117-44-9	1,2,3,6,7,8-HxCDF		11200		pg/L	113	500
60851-34-5	2,3,4,6,7,8-HxCDF		11200		pg/L	119	500
72918-21-9	1,2,3,7,8,9-HxCDF		12000		pg/L	162	500
67562-39-4	1,2,3,4,6,7,8-HpCDF		11000		pg/L	128	500
55673-89-7	1,2,3,4,7,8,9-HpCDF		11300		pg/L	192	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF		23600		pg/L	187	1000

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		9500	20000	pg/L	47.5	(20%-175%)
13C-1,2,3,7,8-PeCDD		12200	20000	pg/L	61.0	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		12300	20000	pg/L	61.6	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		12800	20000	pg/L	64.2	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		15000	20000	pg/L	74.8	(22%-166%)
13C-OCDD		29800	40000	pg/L	74.6	(13%-199%)
13C-2,3,7,8-TCDF		11100	20000	pg/L	55.5	(22%-152%)
13C-1,2,3,7,8-PeCDF		11700	20000	pg/L	58.7	(21%-192%)
13C-2,3,4,7,8-PeCDF		14300	20000	pg/L	71.6	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		13700	20000	pg/L	68.7	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		13900	20000	pg/L	69.6	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		14300	20000	pg/L	71.7	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		14300	20000	pg/L	71.7	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		15200	20000	pg/L	76.0	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		16000	20000	pg/L	80.1	(20%-186%)
37Cl-2,3,7,8-TCDD		1660	2000	pg/L	83.0	(31%-191%)

Comments:**K Estimated Maximum Possible Concentration**

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010925		Matrix: MILK
Client Sample: QC for batch 26417		
Client ID: MB for batch 26417		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 22:59	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-12		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	18.7		pg/L	18.7	100
40321-76-4	1,2,3,7,8-PeCDD	U	9.7		pg/L	9.70	500
39227-28-6	1,2,3,4,7,8-HxCDD	U	12.7		pg/L	12.7	500
57653-85-7	1,2,3,6,7,8-HxCDD	U	12.9		pg/L	12.9	500
19408-74-3	1,2,3,7,8,9-HxCDD	U	13.6		pg/L	13.6	500
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	24.6		pg/L	24.6	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		72.8	pg/L	44.0	1000
51207-31-9	2,3,7,8-TCDF	U	13.9		pg/L	13.9	100
57117-41-6	1,2,3,7,8-PeCDF	U	9.26		pg/L	9.26	500
57117-31-4	2,3,4,7,8-PeCDF	U	7.78		pg/L	7.78	500
70648-26-9	1,2,3,4,7,8-HxCDF	U	10.5		pg/L	10.5	500
57117-44-9	1,2,3,6,7,8-HxCDF	U	10.4		pg/L	10.4	500
60851-34-5	2,3,4,6,7,8-HxCDF	U	10.6		pg/L	10.6	500
72918-21-9	1,2,3,7,8,9-HxCDF	U	16		pg/L	16.0	500
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	11.9		pg/L	11.9	500
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	20.4		pg/L	20.4	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	54.4		pg/L	54.4	1000
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	18.7		pg/L	18.7	100
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	9.7		pg/L	9.70	500
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	12.7		pg/L	12.7	500
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	24.6		pg/L	24.6	500
30402-14-3	Total Tetrachlorodibenzofuran	U	13.9		pg/L	13.9	100
30402-15-4	Total Pentachlorodibenzofuran	U	6.1		pg/L	6.10	500
55684-94-1	Total Hexachlorodibenzofuran	U	10.4		pg/L	10.4	500
38998-75-3	Total Heptachlorodibenzofuran	U	11.9		pg/L	11.9	500
3333-30-0	TEQ WHO2005 ND=0		0.00	0.0218	pg/L		
3333-30-1	TEQ WHO2005 ND=0.5		20.8	20.8	pg/L		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		16600	20000	pg/L	83.2	(25%-164%)
13C-1,2,3,7,8-PeCDD		18900	20000	pg/L	94.4	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		16600	20000	pg/L	82.9	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		15800	20000	pg/L	79.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		18200	20000	pg/L	91.2	(23%-140%)
13C-OCDD		33100	40000	pg/L	82.8	(17%-157%)
13C-2,3,7,8-TCDF		17600	20000	pg/L	88.2	(24%-169%)
13C-1,2,3,7,8-PeCDF		18500	20000	pg/L	92.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		20400	20000	pg/L	102	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		15700	20000	pg/L	78.7	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		16900	20000	pg/L	84.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		16600	20000	pg/L	83.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		17300	20000	pg/L	86.6	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010925		Matrix: MILK
Client Sample: QC for batch 26417		
Client ID: MB for batch 26417		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 22:59	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-12		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
	13C-1,2,3,4,6,7,8-HpCDF		17700	20000	pg/L	88.4	(28%-143%)
	13C-1,2,3,4,7,8,9-HpCDF		18000	20000	pg/L	89.8	(26%-138%)
	37Cl-2,3,7,8-TCDD		1740	2000	pg/L	86.8	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010926		Matrix: MILK
Client Sample: QC for batch 26417		
Client ID: LCS for batch 26417		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 21:23	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-10		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		2120		pg/L	24.2	100
40321-76-4	1,2,3,7,8-PeCDD		10400		pg/L	22.6	500
39227-28-6	1,2,3,4,7,8-HxCDD		10000		pg/L	36.4	500
57653-85-7	1,2,3,6,7,8-HxCDD		10300		pg/L	36.2	500
19408-74-3	1,2,3,7,8,9-HxCDD		11000		pg/L	38.4	500
35822-46-9	1,2,3,4,6,7,8-HpCDD		10000		pg/L	60.6	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD		20400		pg/L	89.6	1000
51207-31-9	2,3,7,8-TCDF		2030		pg/L	15.2	100
57117-41-6	1,2,3,7,8-PeCDF		10900		pg/L	33.0	500
57117-31-4	2,3,4,7,8-PeCDF		10400		pg/L	29.2	500
70648-26-9	1,2,3,4,7,8-HxCDF		11300		pg/L	49.6	500
57117-44-9	1,2,3,6,7,8-HxCDF		11500		pg/L	49.2	500
60851-34-5	2,3,4,6,7,8-HxCDF		11300		pg/L	52.2	500
72918-21-9	1,2,3,7,8,9-HxCDF		11900		pg/L	79.8	500
67562-39-4	1,2,3,4,6,7,8-HpCDF		10600		pg/L	48.0	500
55673-89-7	1,2,3,4,7,8,9-HpCDF		11000		pg/L	78.0	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF		23200		pg/L	93.0	1000

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		18800	20000	pg/L	94.0	(20%-175%)
13C-1,2,3,7,8-PeCDD		21800	20000	pg/L	109	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		19400	20000	pg/L	96.9	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		18000	20000	pg/L	89.8	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		21000	20000	pg/L	105	(22%-166%)
13C-OCDD		38400	40000	pg/L	95.9	(13%-199%)
13C-2,3,7,8-TCDF		20100	20000	pg/L	101	(22%-152%)
13C-1,2,3,7,8-PeCDF		21000	20000	pg/L	105	(21%-192%)
13C-2,3,4,7,8-PeCDF		23500	20000	pg/L	117	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		18400	20000	pg/L	92.1	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		19100	20000	pg/L	95.5	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		19100	20000	pg/L	95.7	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		19500	20000	pg/L	97.3	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		20400	20000	pg/L	102	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		21100	20000	pg/L	106	(20%-186%)
37Cl-2,3,7,8-TCDD		2080	2000	pg/L	104	(31%-191%)

Comments:

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

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Sample Summary**

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SDG Number: 6254	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010927		Matrix: MILK
Client Sample: QC for batch 26417		
Client ID: LCSD for batch 26417		Prep Basis: As Received
Batch ID: 26419	Method: EPA Method 1613B	
Run Date: 07/18/2014 22:11	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a-11		Dilution: 1
Prep Batch: 26417	Prep Method: SW846 3520C	
Prep Date: 16-JUL-14	Prep Aliquot: 100 mL	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		2090		pg/L	26.6	100
40321-76-4	1,2,3,7,8-PeCDD		10500		pg/L	15.5	500
39227-28-6	1,2,3,4,7,8-HxCDD		10300		pg/L	37.2	500
57653-85-7	1,2,3,6,7,8-HxCDD		10400		pg/L	36.0	500
19408-74-3	1,2,3,7,8,9-HxCDD		11600		pg/L	38.8	500
35822-46-9	1,2,3,4,6,7,8-HpCDD		10200		pg/L	58.6	500
3268-87-9	1,2,3,4,6,7,8,9-OCDD		20400		pg/L	95.0	1000
51207-31-9	2,3,7,8-TCDF		2070		pg/L	18.0	100
57117-41-6	1,2,3,7,8-PeCDF		10900		pg/L	64.0	500
57117-31-4	2,3,4,7,8-PeCDF		10900		pg/L	54.6	500
70648-26-9	1,2,3,4,7,8-HxCDF		11800		pg/L	40.0	500
57117-44-9	1,2,3,6,7,8-HxCDF		10900		pg/L	39.8	500
60851-34-5	2,3,4,6,7,8-HxCDF		11300		pg/L	43.8	500
72918-21-9	1,2,3,7,8,9-HxCDF		12000		pg/L	61.6	500
67562-39-4	1,2,3,4,6,7,8-HpCDF		11100		pg/L	40.4	500
55673-89-7	1,2,3,4,7,8,9-HpCDF		11200		pg/L	66.4	500
39001-02-0	1,2,3,4,6,7,8,9-OCDF		23200		pg/L	124	1000

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		17300	20000	pg/L	86.6	(20%-175%)
13C-1,2,3,7,8-PeCDD		20500	20000	pg/L	103	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		17500	20000	pg/L	87.3	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		17700	20000	pg/L	88.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		20200	20000	pg/L	101	(22%-166%)
13C-OCDD		37200	40000	pg/L	93.1	(13%-199%)
13C-2,3,7,8-TCDF		18500	20000	pg/L	92.4	(22%-152%)
13C-1,2,3,7,8-PeCDF		19900	20000	pg/L	99.4	(21%-192%)
13C-2,3,4,7,8-PeCDF		22300	20000	pg/L	112	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		17200	20000	pg/L	85.9	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		18700	20000	pg/L	93.3	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		18100	20000	pg/L	90.7	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		18900	20000	pg/L	94.4	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		19100	20000	pg/L	95.5	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		20800	20000	pg/L	104	(20%-186%)
37Cl-2,3,7,8-TCDD		1920	2000	pg/L	95.8	(31%-191%)

Comments:

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

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VTE'Eqo r cplgu 'kpeqr qtevgf ""

Y cppenpek'O kmu""

872'UwhqmiUtggvUwkg'422'"

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Y qtnlQtf gt<8546'"

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*****Ecr g'Hgct'Cpcn{ vlecnNNE"EHC+#cr r tgeicvuj'g'qr r qtwpk{ 'vq'r tqxkf g'vj g'gpenqugf 'cpcn{ vlecnlgumnu'hqt'vj g'uco r rg'u+y g'tgegkxgf qp'Lwn{ '32.'42360Vj ku'qtki kpcn{ c'c'tgr qt vj cu'dggp'r tgr ctgf 'cpf 'tgxly gf 'lp'ceeqtf cpeg'y kj 'EHCu'ucpf ctf 'qr gtcvpi 'r tqegf wtgu0'

*****Qw'r qnk{ 'ku'vq'r tqxkf g'j ki j 's wcnk{ .r gtuqpcrk gf 'cpcn{ vlecnlgtxlegu'vq'gpcdn{ { qw'vq'o ggv' { qw'cpcn{ vlecnlpggf u'qp'vko g'gxgt { 'vko g0 Y g'tvuv'vj cv' { qw'y knhkp' 'gxgt { vj kpi 'lp'qtf gt 'cpf 'vq' { qw'ucvutcevkp0k' { qw'j cxg'cp { 's wgnvqpu.'r ngcug't q'pqv'j gukscv'vq'ecni'o g'cv ; 32/9; 7/26430"

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TRCC

CFA WO #6324

CHAIN OF CUSTODY



Westborough, MA
Mansfield, MA
TEL: 508-898-9220 TEL: 508-822-9300
FAX: 508-898-9193 FAX: 508-822-3288

Client Information

Client: TRC Environmental Corp.
Address: Wannalancit Mills
650 Suffolk St Lowell, MA 01854
Phone: 978-656-3577

Fax: Standard Rush (ONLY IF PRE-APPROVED)

Email: edently@trcsolutions.com

These samples have been previously analyzed by Alpha

Due Date: _____ Time: _____

Other Project Specific Requirements/Comments/Detection Limits:

Project Information

Project Name: Montgomery County RRF

Project Location: Dickerson, MD

Project #:

Project Manager: Liz Denly

ALPHA Quote #:

Turn-Around Time

Date Rec'd in Lab

ALPHA Job #:

Report Information

FAX EMAIL Same as Client info

ADEX Add'l Deliverables

PO #:

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

SAMPLE HANDLING Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not Needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)	T O T A L # B O T T L E S											
	Per	TRC	DU									
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L1413508-17	1
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L1413508-19	1
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L1413508-23	1
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L1413508-25	1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L1413508-26	1

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms

PLEASE ANSWER QUESTIONS ABOVE!

Relinquished By: *[Signature]*
WPS

Received By: *[Signature]*
WPS

Date/Time: 7/9/14 15:35

Date/Time: 10JUL14 0915

temp. = 1.80C

High Resolution Dioxins and Furans Analysis

Case Narrative

**HDOX Case Narrative
TRC Environmental Corporation (TRCC)
SDG 6324**

Method/Analysis Information

Product: Dioxins/Furans by EPA Method 1613B in Tissues
Analytical Method: EPA Method 1613B
Extraction Method: SW846 3540C
Analytical Batch Number: 26413, 26440
Clean Up Batch Number: 26412, 26439
Extraction Batch Number: 26411, 26438

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA Method 1613B:

Sample ID	Client ID
6324001	LFBG01
6324002	LFBG02
6324003	LFBG02 Dup
6324004	LFLMB01
6324005	YFBG01
6324006	YFBG02
6324007	CPBG01
6324008	CPBG02
6324009	CPLMB01
6324010	CPLMB02
6324011	CPLMB02 Dup
6324012	LFLMB02
6324013	LFBG01-F
6324014	LFBG02-F
6324015	LFBG02-F Dup
6324016	LFLMB01-F
6324017	YFBG01-F / YFBG02-F
6324018	CPBG01-F
6324019	CPBG02-F
6324020	CPLMB01-F
6324021	CPLMB02-F
6324022	CPLMB02-F Dup

6324023	LFLMB02-F
12010919	Method Blank (MB)
12010920	Laboratory Control Sample (LCS)
12010921	Laboratory Control Sample Duplicate (LCSD)
12010947	Method Blank (MB)
12010948	Laboratory Control Sample (LCS)
12010949	Laboratory Control Sample Duplicate (LCSD)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 13.

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

Calibration Information

Initial Calibration

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

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement

The test results presented in this document are certified to meet all requirements of the 2003 NELAC Standard.

Method Blank (MB) Statement

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

Surrogate Recoveries

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

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery

The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement

The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation

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

Technical Information

Holding Time Specifications

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

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation

A NCR was not required for this SDG.

Manual Integrations

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

System Configuration

This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP763_1	High-Resolution GC/MS System	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional

packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC

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

Qualifier Definition Report for

VTEE223"VTE"Gpxkqpo gpvnrEqtr qtcvkqp
ErkpvUFI <8546"EHC"Y qtnlQtf gt<8546

The Qualifiers in this report are defined as follows:

, ""C"s wcrk\ 'eqpvtqn\cpcn\ vg'tgeqxt { 'ku'qwukf g'qh'ur gekhgf "ceegr vcpge'etkgtk
, , ""Cpcn\ vg'ku'c'lwttqi cvg'eqo r qwpf
L""Xcwg'ku'guko cvgf
M""Guko cvgf 'O czko wo 'Rqukdrg'Eqpepvtcvkqp
W""Cpcn\ vg'y cu'cpcn\ | gf 'hqt.'dw'pqvf gvevfg 'cdqxs'vj g'ur gekhgf 'f gvevqp'iko k0
FN""Kpf lecvgu'vj cv'uco r ng'ku'f kwgf 0""
TC""Kpf lecvgu'vj cv'uco r ng'ku'tg/cpcn\ | gf 'y kj qwtg/gzvtcvkqp 0""
TG""Kpf lecvgu'vj cv'uco r ng'ku'tg/gzvtcvgf 0"

Review/Validation

Ecr g'Hgct'Cpcn\ vcrntgs wktgu'cm\cpcn\ vcrnlf cvc'vq'dg'xgtkhgf "d { "c"s wcrk\gf 'f cvc'tgxky gt0
Vj g'hqmy lpi 'f cvc'xcnlf cvqt'xgtkhgf 'vj g'lpqto cvkqp'r tguvpgf 'lp'vj ku'ecug'pcttcvkxg<

Signature: 

Name: Heather Patterson

Date: 30 JUL 2014

Title: Data Validator

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324001	Date Collected: 06/17/2014 11:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 04:40	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-4		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.53 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.17		pg/g	0.170	0.950
40321-76-4	1,2,3,7,8-PeCDD	U	.0826		pg/g	0.0826	4.75
39227-28-6	1,2,3,4,7,8-HxCDD	U	.134		pg/g	0.134	4.75
57653-85-7	1,2,3,6,7,8-HxCDD	U	.126		pg/g	0.126	4.75
19408-74-3	1,2,3,7,8,9-HxCDD	U	.138		pg/g	0.138	4.75
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.270		pg/g	0.220	4.75
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	4.57		pg/g	0.545	9.50
51207-31-9	2,3,7,8-TCDF	J	0.313		pg/g	0.155	0.950
57117-41-6	1,2,3,7,8-PeCDF	U	.08		pg/g	0.080	4.75
57117-31-4	2,3,4,7,8-PeCDF	U	.0735		pg/g	0.0735	4.75
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0944		pg/g	0.0944	4.75
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0864		pg/g	0.0864	4.75
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0976		pg/g	0.0976	4.75
72918-21-9	1,2,3,7,8,9-HxCDF	U	.142		pg/g	0.142	4.75
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0988		pg/g	0.0988	4.75
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.161		pg/g	0.161	4.75
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.367		pg/g	0.367	9.50
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.17		pg/g	0.170	0.950
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0826		pg/g	0.0826	4.75
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.126		pg/g	0.126	4.75
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.270	0.570	pg/g	0.220	4.75
30402-14-3	Total Tetrachlorodibenzofuran	J	0.513		pg/g	0.155	0.950
30402-15-4	Total Pentachlorodibenzofuran	U	.0539		pg/g	0.0539	4.75
55684-94-1	Total Hexachlorodibenzofuran	U	.0864		pg/g	0.0864	4.75
38998-75-3	Total Heptachlorodibenzofuran	U	.0988		pg/g	0.0988	4.75
3333-30-0	TEQ WHO2005 ND=0		0.0354	0.0354	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.216	0.216	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		181	190	pg/g	95.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		208	190	pg/g	109	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	190	pg/g	87.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	190	pg/g	93.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		195	190	pg/g	103	(23%-140%)
13C-OCDD		360	380	pg/g	94.8	(17%-157%)
13C-2,3,7,8-TCDF		195	190	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		197	190	pg/g	104	(24%-185%)
13C-2,3,4,7,8-PeCDF		214	190	pg/g	113	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		173	190	pg/g	91.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		180	190	pg/g	94.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		182	190	pg/g	95.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		179	190	pg/g	94.2	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324001	Date Collected: 06/17/2014 11:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 04:40	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-4		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.53 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			187	190	pg/g	98.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			201	190	pg/g	106	(26%-138%)
37Cl-2,3,7,8-TCDD			20.2	19.0	pg/g	106	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 2

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324002	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 05:28	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-5		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.53 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.213		pg/g	0.213	0.950
40321-76-4	1,2,3,7,8-PeCDD	U	.118		pg/g	0.118	4.75
39227-28-6	1,2,3,4,7,8-HxCDD	U	.131		pg/g	0.131	4.75
57653-85-7	1,2,3,6,7,8-HxCDD	U	.134		pg/g	0.134	4.75
19408-74-3	1,2,3,7,8,9-HxCDD	U	.141		pg/g	0.141	4.75
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.475		pg/g	0.291	4.75
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.12		pg/g	0.577	9.50
51207-31-9	2,3,7,8-TCDF	J	0.291		pg/g	0.174	0.950
57117-41-6	1,2,3,7,8-PeCDF	U	.0999		pg/g	0.0999	4.75
57117-31-4	2,3,4,7,8-PeCDF	U	.0887		pg/g	0.0887	4.75
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0965		pg/g	0.0965	4.75
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0942		pg/g	0.0942	4.75
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0972		pg/g	0.0972	4.75
72918-21-9	1,2,3,7,8,9-HxCDF	U	.153		pg/g	0.153	4.75
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.131		pg/g	0.109	4.75
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.182		pg/g	0.182	4.75
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.475		pg/g	0.475	9.50
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.213		pg/g	0.213	0.950
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.118		pg/g	0.118	4.75
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.131		pg/g	0.131	4.75
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.475		pg/g	0.291	4.75
30402-14-3	Total Tetrachlorodibenzofuran	J	0.291		pg/g	0.174	0.950
30402-15-4	Total Pentachlorodibenzofuran	U	.0659		pg/g	0.0659	4.75
55684-94-1	Total Hexachlorodibenzofuran	U	.0942		pg/g	0.0942	4.75
38998-75-3	Total Heptachlorodibenzofuran	J	0.131		pg/g	0.109	4.75
3333-30-0	TEQ WHO2005 ND=0		0.0367	0.0367	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.260	0.260	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		185	190	pg/g	97.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		211	190	pg/g	111	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		180	190	pg/g	94.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		174	190	pg/g	91.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		205	190	pg/g	108	(23%-140%)
13C-OCDD		382	380	pg/g	101	(17%-157%)
13C-2,3,7,8-TCDF		193	190	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		206	190	pg/g	108	(24%-185%)
13C-2,3,4,7,8-PeCDF		219	190	pg/g	115	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		177	190	pg/g	93.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		188	190	pg/g	98.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		189	190	pg/g	99.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		181	190	pg/g	95.4	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324002	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 05:28	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-5		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.53 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			195	190	pg/g	103	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			209	190	pg/g	110	(26%-138%)
37Cl-2,3,7,8-TCDD			20.7	19.0	pg/g	109	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324003	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02 Dup		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 06:16	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.38 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.316		pg/g	0.316	0.963
40321-76-4	1,2,3,7,8-PeCDD	U	.148		pg/g	0.148	4.82
39227-28-6	1,2,3,4,7,8-HxCDD	U	.198		pg/g	0.198	4.82
57653-85-7	1,2,3,6,7,8-HxCDD	U	.197		pg/g	0.197	4.82
19408-74-3	1,2,3,7,8,9-HxCDD	U	.208		pg/g	0.208	4.82
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.522		pg/g	0.449	4.82
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.69		pg/g	0.865	9.63
51207-31-9	2,3,7,8-TCDF	J	0.287		pg/g	0.225	0.963
57117-41-6	1,2,3,7,8-PeCDF	U	.13		pg/g	0.130	4.82
57117-31-4	2,3,4,7,8-PeCDF	U	.118		pg/g	0.118	4.82
70648-26-9	1,2,3,4,7,8-HxCDF	U	.121		pg/g	0.121	4.82
57117-44-9	1,2,3,6,7,8-HxCDF	U	.117		pg/g	0.117	4.82
60851-34-5	2,3,4,6,7,8-HxCDF	U	.128		pg/g	0.128	4.82
72918-21-9	1,2,3,7,8,9-HxCDF	U	.2		pg/g	0.200	4.82
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.146		pg/g	0.146	4.82
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.231		pg/g	0.231	4.82
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.711		pg/g	0.711	9.63
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.316		pg/g	0.316	0.963
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.148		pg/g	0.148	4.82
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.197		pg/g	0.197	4.82
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.522		pg/g	0.449	4.82
30402-14-3	Total Tetrachlorodibenzofuran	J	0.287		pg/g	0.225	0.963
30402-15-4	Total Pentachlorodibenzofuran	U	.118		pg/g	0.118	4.82
55684-94-1	Total Hexachlorodibenzofuran	U	.117		pg/g	0.117	4.82
38998-75-3	Total Heptachlorodibenzofuran	U	.146		pg/g	0.146	4.82
3333-30-0	TEQ WHO2005 ND=0		0.0356	0.0356	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.348	0.348	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		176	193	pg/g	91.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		202	193	pg/g	105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		172	193	pg/g	89.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	193	pg/g	91.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		203	193	pg/g	106	(23%-140%)
13C-OCDD		379	385	pg/g	98.4	(17%-157%)
13C-2,3,7,8-TCDF		191	193	pg/g	99.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		198	193	pg/g	103	(24%-185%)
13C-2,3,4,7,8-PeCDF		217	193	pg/g	113	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		182	193	pg/g	94.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		185	193	pg/g	95.8	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		187	193	pg/g	97.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	193	pg/g	92.2	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324003	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02 Dup		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 06:16	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.38 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			196	193	pg/g	102	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			205	193	pg/g	107	(26%-138%)
37Cl-2,3,7,8-TCDD			20.3	19.3	pg/g	105	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324004	Date Collected: 06/17/2014 08:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 07:04	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-7		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.15 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.203		pg/g	0.203	0.985
40321-76-4	1,2,3,7,8-PeCDD	U	.128		pg/g	0.128	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	U	.151		pg/g	0.151	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	U	.149		pg/g	0.149	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	U	.159		pg/g	0.159	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.349		pg/g	0.292	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.58		pg/g	0.573	9.85
51207-31-9	2,3,7,8-TCDF	J	0.384		pg/g	0.205	0.985
57117-41-6	1,2,3,7,8-PeCDF	U	.0971		pg/g	0.0971	4.93
57117-31-4	2,3,4,7,8-PeCDF	U	.09		pg/g	0.090	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	U	.106		pg/g	0.106	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	U	.102		pg/g	0.102	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	U	.11		pg/g	0.110	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.16		pg/g	0.160	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.117		pg/g	0.117	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.191		pg/g	0.191	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.487		pg/g	0.487	9.85
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.203		pg/g	0.203	0.985
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.128		pg/g	0.128	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.149		pg/g	0.149	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.349		pg/g	0.292	4.93
30402-14-3	Total Tetrachlorodibenzofuran	J	0.384		pg/g	0.205	0.985
30402-15-4	Total Pentachlorodibenzofuran	U	.0804		pg/g	0.0804	4.93
55684-94-1	Total Hexachlorodibenzofuran	U	.102		pg/g	0.102	4.93
38998-75-3	Total Heptachlorodibenzofuran	U	.117		pg/g	0.117	4.93
3333-30-0	TEQ WHO2005 ND=0		0.0424	0.0424	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.271	0.271	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	197	pg/g	87.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		203	197	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		171	197	pg/g	86.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		175	197	pg/g	88.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		209	197	pg/g	106	(23%-140%)
13C-OCDD		385	394	pg/g	97.7	(17%-157%)
13C-2,3,7,8-TCDF		195	197	pg/g	99.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		204	197	pg/g	103	(24%-185%)
13C-2,3,4,7,8-PeCDF		216	197	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		175	197	pg/g	89.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	197	pg/g	89.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		181	197	pg/g	91.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	197	pg/g	90.5	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324004	Date Collected: 06/17/2014 08:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 07:04	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-7		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.15 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			192	197	pg/g	97.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			207	197	pg/g	105	(26%-138%)
37Cl-2,3,7,8-TCDD			20.3	19.7	pg/g	103	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324005	Date Collected: 06/17/2014 13:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: YFBG01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 07:51	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-8		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.48 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.176		pg/g	0.176	0.954
40321-76-4	1,2,3,7,8-PeCDD	U	.106		pg/g	0.106	4.77
39227-28-6	1,2,3,4,7,8-HxCDD	U	.127		pg/g	0.127	4.77
57653-85-7	1,2,3,6,7,8-HxCDD	U	.116		pg/g	0.116	4.77
19408-74-3	1,2,3,7,8,9-HxCDD	U	.128		pg/g	0.128	4.77
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.460		pg/g	0.279	4.77
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	5.27		pg/g	0.454	9.54
51207-31-9	2,3,7,8-TCDF	J	0.271		pg/g	0.160	0.954
57117-41-6	1,2,3,7,8-PeCDF	U	.0931		pg/g	0.0931	4.77
57117-31-4	2,3,4,7,8-PeCDF	U	.0847		pg/g	0.0847	4.77
70648-26-9	1,2,3,4,7,8-HxCDF	U	.109		pg/g	0.109	4.77
57117-44-9	1,2,3,6,7,8-HxCDF	U	.104		pg/g	0.104	4.77
60851-34-5	2,3,4,6,7,8-HxCDF	U	.116		pg/g	0.116	4.77
72918-21-9	1,2,3,7,8,9-HxCDF	U	.171		pg/g	0.171	4.77
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.235		pg/g	0.125	4.77
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.208		pg/g	0.208	4.77
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.511		pg/g	0.511	9.54
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.176		pg/g	0.176	0.954
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.106		pg/g	0.106	4.77
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.116		pg/g	0.116	4.77
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.460		pg/g	0.279	4.77
30402-14-3	Total Tetrachlorodibenzofuran	J	0.481		pg/g	0.160	0.954
30402-15-4	Total Pentachlorodibenzofuran	U	.0588		pg/g	0.0588	4.77
55684-94-1	Total Hexachlorodibenzofuran	U	.104	0.147	pg/g	0.104	4.77
38998-75-3	Total Heptachlorodibenzofuran	J	0.235		pg/g	0.125	4.77
3333-30-0	TEQ WHO2005 ND=0		0.0356	0.0356	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.236	0.236	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	191	pg/g	89.0	(25%-164%)
13C-1,2,3,7,8-PeCDD		204	191	pg/g	107	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	191	pg/g	86.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		169	191	pg/g	88.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		197	191	pg/g	103	(23%-140%)
13C-OCDD		346	382	pg/g	90.6	(17%-157%)
13C-2,3,7,8-TCDF		194	191	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		201	191	pg/g	105	(24%-185%)
13C-2,3,4,7,8-PeCDF		212	191	pg/g	111	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		168	191	pg/g	87.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		181	191	pg/g	95.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		177	191	pg/g	92.5	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		175	191	pg/g	91.9	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324005	Date Collected: 06/17/2014 13:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: YFBG01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 07:51	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-8		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.48 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			181	191	pg/g	94.9	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			196	191	pg/g	103	(26%-138%)
37Cl-2,3,7,8-TCDD			19.4	19.1	pg/g	102	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324006	Date Collected: 06/17/2014 13:55	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: YFBG02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 08:39	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-9		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.62 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.18		pg/g	0.180	0.942
40321-76-4	1,2,3,7,8-PeCDD	U	.0985		pg/g	0.0985	4.71
39227-28-6	1,2,3,4,7,8-HxCDD	U	.146		pg/g	0.146	4.71
57653-85-7	1,2,3,6,7,8-HxCDD	U	.144		pg/g	0.144	4.71
19408-74-3	1,2,3,7,8,9-HxCDD	U	.154		pg/g	0.154	4.71
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.311		pg/g	0.249	4.71
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	9.31		pg/g	0.691	9.42
51207-31-9	2,3,7,8-TCDF	J	0.292		pg/g	0.154	0.942
57117-41-6	1,2,3,7,8-PeCDF	U	.0893		pg/g	0.0893	4.71
57117-31-4	2,3,4,7,8-PeCDF	U	.084		pg/g	0.084	4.71
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0991		pg/g	0.0991	4.71
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0945		pg/g	0.0945	4.71
60851-34-5	2,3,4,6,7,8-HxCDF	U	.1		pg/g	0.100	4.71
72918-21-9	1,2,3,7,8,9-HxCDF	U	.151		pg/g	0.151	4.71
67562-39-4	1,2,3,4,6,7,8-HpCDF	JK		0.134	pg/g	0.110	4.71
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.182		pg/g	0.182	4.71
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.411		pg/g	0.411	9.42
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.18		pg/g	0.180	0.942
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0985		pg/g	0.0985	4.71
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.144		pg/g	0.144	4.71
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.311		pg/g	0.249	4.71
30402-14-3	Total Tetrachlorodibenzofuran	J	0.292		pg/g	0.154	0.942
30402-15-4	Total Pentachlorodibenzofuran	U	.0601		pg/g	0.0601	4.71
55684-94-1	Total Hexachlorodibenzofuran	U	.0945		pg/g	0.0945	4.71
38998-75-3	Total Heptachlorodibenzofuran	U	.11	0.134	pg/g	0.110	4.71
3333-30-0	TEQ WHO2005 ND=0		0.0351	0.0364	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.234	0.235	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		161	188	pg/g	85.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		182	188	pg/g	96.9	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		157	188	pg/g	83.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		156	188	pg/g	83.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		182	188	pg/g	96.9	(23%-140%)
13C-OCDD		325	377	pg/g	86.3	(17%-157%)
13C-2,3,7,8-TCDF		178	188	pg/g	94.3	(24%-169%)
13C-1,2,3,7,8-PeCDF		184	188	pg/g	97.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		196	188	pg/g	104	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		156	188	pg/g	82.7	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		171	188	pg/g	90.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		166	188	pg/g	88.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		164	188	pg/g	87.3	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324006	Date Collected: 06/17/2014 13:55	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: YFBG02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 08:39	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-9		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.62 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			179	188	pg/g	95.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			187	188	pg/g	99.0	(26%-138%)
37Cl-2,3,7,8-TCDD			18.6	18.8	pg/g	98.6	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324007	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 09:27	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-10		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.26 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.166		pg/g	0.166	0.975
40321-76-4	1,2,3,7,8-PeCDD	U	.102		pg/g	0.102	4.87
39227-28-6	1,2,3,4,7,8-HxCDD	U	.12		pg/g	0.120	4.87
57653-85-7	1,2,3,6,7,8-HxCDD	U	.114		pg/g	0.114	4.87
19408-74-3	1,2,3,7,8,9-HxCDD	U	.124		pg/g	0.124	4.87
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.228		pg/g	0.228	4.87
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	2.04		pg/g	0.596	9.75
51207-31-9	2,3,7,8-TCDF	J	0.302		pg/g	0.137	0.975
57117-41-6	1,2,3,7,8-PeCDF	U	.0758		pg/g	0.0758	4.87
57117-31-4	2,3,4,7,8-PeCDF	U	.0673		pg/g	0.0673	4.87
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0895		pg/g	0.0895	4.87
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0828		pg/g	0.0828	4.87
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0926		pg/g	0.0926	4.87
72918-21-9	1,2,3,7,8,9-HxCDF	U	.142		pg/g	0.142	4.87
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.122		pg/g	0.122	4.87
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.205		pg/g	0.205	4.87
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.419		pg/g	0.419	9.75
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.166		pg/g	0.166	0.975
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.102		pg/g	0.102	4.87
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.114		pg/g	0.114	4.87
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.228		pg/g	0.228	4.87
30402-14-3	Total Tetrachlorodibenzofuran	J	0.302	0.474	pg/g	0.137	0.975
30402-15-4	Total Pentachlorodibenzofuran	U	.0563		pg/g	0.0563	4.87
55684-94-1	Total Hexachlorodibenzofuran	U	.0828		pg/g	0.0828	4.87
38998-75-3	Total Heptachlorodibenzofuran	U	.122		pg/g	0.122	4.87
3333-30-0	TEQ WHO2005 ND=0		0.0308	0.0308	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.217	0.217	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		181	195	pg/g	92.8	(25%-164%)
13C-1,2,3,7,8-PeCDD		207	195	pg/g	106	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	195	pg/g	85.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		171	195	pg/g	87.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		190	195	pg/g	97.7	(23%-140%)
13C-OCDD		346	390	pg/g	88.8	(17%-157%)
13C-2,3,7,8-TCDF		195	195	pg/g	99.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		199	195	pg/g	102	(24%-185%)
13C-2,3,4,7,8-PeCDF		213	195	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		174	195	pg/g	89.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		173	195	pg/g	88.9	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		178	195	pg/g	91.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		180	195	pg/g	92.2	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324007	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 09:27	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-10		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.26 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			186	195	pg/g	95.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			196	195	pg/g	100	(26%-138%)
37Cl-2,3,7,8-TCDD			20.3	19.5	pg/g	104	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324008	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 10:15	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-11		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 11.26 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.17		pg/g	0.170	0.888
40321-76-4	1,2,3,7,8-PeCDD	U	.0847		pg/g	0.0847	4.44
39227-28-6	1,2,3,4,7,8-HxCDD	U	.115		pg/g	0.115	4.44
57653-85-7	1,2,3,6,7,8-HxCDD	U	.114		pg/g	0.114	4.44
19408-74-3	1,2,3,7,8,9-HxCDD	U	.121		pg/g	0.121	4.44
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.169		pg/g	0.169	4.44
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.74		pg/g	0.506	8.88
51207-31-9	2,3,7,8-TCDF	J	0.298		pg/g	0.126	0.888
57117-41-6	1,2,3,7,8-PeCDF	U	.0694		pg/g	0.0694	4.44
57117-31-4	2,3,4,7,8-PeCDF	U	.062		pg/g	0.062	4.44
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0686		pg/g	0.0686	4.44
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0611		pg/g	0.0611	4.44
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0664		pg/g	0.0664	4.44
72918-21-9	1,2,3,7,8,9-HxCDF	U	.102		pg/g	0.102	4.44
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0909		pg/g	0.0909	4.44
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.148		pg/g	0.148	4.44
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.353		pg/g	0.353	8.88
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.17		pg/g	0.170	0.888
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0847		pg/g	0.0847	4.44
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.114		pg/g	0.114	4.44
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.169		pg/g	0.169	4.44
30402-14-3	Total Tetrachlorodibenzofuran	J	0.501		pg/g	0.126	0.888
30402-15-4	Total Pentachlorodibenzofuran	U	.0533		pg/g	0.0533	4.44
55684-94-1	Total Hexachlorodibenzofuran	U	.0611		pg/g	0.0611	4.44
38998-75-3	Total Heptachlorodibenzofuran	U	.0909		pg/g	0.0909	4.44
3333-30-0	TEQ WHO2005 ND=0		0.0304	0.0304	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.203	0.203	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		160	178	pg/g	89.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		183	178	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		150	178	pg/g	84.6	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		151	178	pg/g	85.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		174	178	pg/g	98.2	(23%-140%)
13C-OCDD		324	355	pg/g	91.1	(17%-157%)
13C-2,3,7,8-TCDF		180	178	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		180	178	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		195	178	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		157	178	pg/g	88.1	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		161	178	pg/g	90.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		161	178	pg/g	90.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		159	178	pg/g	89.6	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324008	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 10:15	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-11		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 11.26 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			173	178	pg/g	97.5	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			179	178	pg/g	101	(26%-138%)
37Cl-2,3,7,8-TCDD			19.1	17.8	pg/g	108	(35%-197%)

Comments:

- J** Value is estimated
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324009	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 11:02	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-12		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.33 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.244		pg/g	0.169	0.968
40321-76-4	1,2,3,7,8-PeCDD	U	.0951		pg/g	0.0951	4.84
39227-28-6	1,2,3,4,7,8-HxCDD	U	.144		pg/g	0.144	4.84
57653-85-7	1,2,3,6,7,8-HxCDD	U	.137		pg/g	0.137	4.84
19408-74-3	1,2,3,7,8,9-HxCDD	U	.148		pg/g	0.148	4.84
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.321		pg/g	0.271	4.84
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	4.58		pg/g	0.598	9.68
51207-31-9	2,3,7,8-TCDF	J	0.395		pg/g	0.172	0.968
57117-41-6	1,2,3,7,8-PeCDF	U	.0931		pg/g	0.0931	4.84
57117-31-4	2,3,4,7,8-PeCDF	U	.0842		pg/g	0.0842	4.84
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0829		pg/g	0.0829	4.84
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0807		pg/g	0.0807	4.84
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0838		pg/g	0.0838	4.84
72918-21-9	1,2,3,7,8,9-HxCDF	U	.13		pg/g	0.130	4.84
67562-39-4	1,2,3,4,6,7,8-HpCDF	J	0.108		pg/g	0.103	4.84
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.165		pg/g	0.165	4.84
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.35		pg/g	0.350	9.68
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.244		pg/g	0.169	0.968
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0951		pg/g	0.0951	4.84
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.137		pg/g	0.137	4.84
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.321		pg/g	0.271	4.84
30402-14-3	Total Tetrachlorodibenzofuran	J	0.395		pg/g	0.172	0.968
30402-15-4	Total Pentachlorodibenzofuran	U	.0546		pg/g	0.0546	4.84
55684-94-1	Total Hexachlorodibenzofuran	U	.0807		pg/g	0.0807	4.84
38998-75-3	Total Heptachlorodibenzofuran	J	0.108		pg/g	0.103	4.84
3333-30-0	TEQ WHO2005 ND=0		0.289	0.289	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.392	0.392	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	194	pg/g	91.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		204	194	pg/g	105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		159	194	pg/g	82.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	194	pg/g	91.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		197	194	pg/g	102	(23%-140%)
13C-OCDD		357	387	pg/g	92.3	(17%-157%)
13C-2,3,7,8-TCDF		199	194	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		199	194	pg/g	103	(24%-185%)
13C-2,3,4,7,8-PeCDF		220	194	pg/g	114	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		170	194	pg/g	87.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		177	194	pg/g	91.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	194	pg/g	93.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		177	194	pg/g	91.5	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324009	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB01		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 11:02	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-12		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.33 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			186	194	pg/g	96.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			202	194	pg/g	104	(26%-138%)
37Cl-2,3,7,8-TCDD			20.1	19.4	pg/g	104	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324010	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 11:50	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-13		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.14 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.394		pg/g	0.223	0.986
40321-76-4	1,2,3,7,8-PeCDD	U	.122		pg/g	0.122	4.93
39227-28-6	1,2,3,4,7,8-HxCDD	U	.14		pg/g	0.140	4.93
57653-85-7	1,2,3,6,7,8-HxCDD	U	.135		pg/g	0.135	4.93
19408-74-3	1,2,3,7,8,9-HxCDD	U	.146		pg/g	0.146	4.93
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.286		pg/g	0.252	4.93
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.58		pg/g	0.521	9.86
51207-31-9	2,3,7,8-TCDF	J	0.416		pg/g	0.171	0.986
57117-41-6	1,2,3,7,8-PeCDF	U	.104		pg/g	0.104	4.93
57117-31-4	2,3,4,7,8-PeCDF	U	.0917		pg/g	0.0917	4.93
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0998		pg/g	0.0998	4.93
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0941		pg/g	0.0941	4.93
60851-34-5	2,3,4,6,7,8-HxCDF	U	.103		pg/g	0.103	4.93
72918-21-9	1,2,3,7,8,9-HxCDF	U	.159		pg/g	0.159	4.93
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0921		pg/g	0.0921	4.93
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.146		pg/g	0.146	4.93
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.46		pg/g	0.460	9.86
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.394		pg/g	0.223	0.986
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.122		pg/g	0.122	4.93
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.135		pg/g	0.135	4.93
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.286		pg/g	0.252	4.93
30402-14-3	Total Tetrachlorodibenzofuran	J	0.416		pg/g	0.171	0.986
30402-15-4	Total Pentachlorodibenzofuran	U	.0655		pg/g	0.0655	4.93
55684-94-1	Total Hexachlorodibenzofuran	U	.0941		pg/g	0.0941	4.93
38998-75-3	Total Heptachlorodibenzofuran	U	.0921		pg/g	0.0921	4.93
3333-30-0	TEQ WHO2005 ND=0		0.439	0.439	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.561	0.561	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	197	pg/g	87.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		194	197	pg/g	98.5	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		166	197	pg/g	84.0	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		165	197	pg/g	83.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		192	197	pg/g	97.5	(23%-140%)
13C-OCDD		347	394	pg/g	88.0	(17%-157%)
13C-2,3,7,8-TCDF		193	197	pg/g	97.7	(24%-169%)
13C-1,2,3,7,8-PeCDF		193	197	pg/g	97.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		206	197	pg/g	105	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		163	197	pg/g	82.5	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		180	197	pg/g	91.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		175	197	pg/g	88.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		173	197	pg/g	87.8	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324010	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 11:50	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-13		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.14 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			181	197	pg/g	91.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			191	197	pg/g	96.6	(26%-138%)
37Cl-2,3,7,8-TCDD			19.6	19.7	pg/g	99.4	(35%-197%)

Comments:
J Value is estimated
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324011	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02 Dup		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/20/2014 04:48	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_4-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.47 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	J	0.495		pg/g	0.189	0.955
40321-76-4	1,2,3,7,8-PeCDD	U	.0921		pg/g	0.0921	4.78
39227-28-6	1,2,3,4,7,8-HxCDD	U	.141		pg/g	0.141	4.78
57653-85-7	1,2,3,6,7,8-HxCDD	U	.127		pg/g	0.127	4.78
19408-74-3	1,2,3,7,8,9-HxCDD	U	.14		pg/g	0.140	4.78
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.411		pg/g	0.183	4.78
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	2.88		pg/g	0.607	9.55
51207-31-9	2,3,7,8-TCDF	U	.16		pg/g	0.160	0.955
57117-41-6	1,2,3,7,8-PeCDF	U	.0961		pg/g	0.0961	4.78
57117-31-4	2,3,4,7,8-PeCDF	U	.0831		pg/g	0.0831	4.78
70648-26-9	1,2,3,4,7,8-HxCDF	U	.086		pg/g	0.086	4.78
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0818		pg/g	0.0818	4.78
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0904		pg/g	0.0904	4.78
72918-21-9	1,2,3,7,8,9-HxCDF	U	.141		pg/g	0.141	4.78
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0968		pg/g	0.0968	4.78
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.164		pg/g	0.164	4.78
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.401		pg/g	0.401	9.55
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	0.495		pg/g	0.189	0.955
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0921		pg/g	0.0921	4.78
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.127		pg/g	0.127	4.78
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.411		pg/g	0.183	4.78
30402-14-3	Total Tetrachlorodibenzofuran	J	0.902		pg/g	0.160	0.955
30402-15-4	Total Pentachlorodibenzofuran	U	.0596		pg/g	0.0596	4.78
55684-94-1	Total Hexachlorodibenzofuran	U	.0818		pg/g	0.0818	4.78
38998-75-3	Total Heptachlorodibenzofuran	U	.0968		pg/g	0.0968	4.78
3333-30-0	TEQ WHO2005 ND=0		0.500	0.500	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.609	0.609	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		104	191	pg/g	54.6	(25%-164%)
13C-1,2,3,7,8-PeCDD		124	191	pg/g	65.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		90.8	191	pg/g	47.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		110	191	pg/g	57.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		118	191	pg/g	61.8	(23%-140%)
13C-OCDD		207	382	pg/g	54.1	(17%-157%)
13C-2,3,7,8-TCDF		118	191	pg/g	61.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		118	191	pg/g	61.6	(24%-185%)
13C-2,3,4,7,8-PeCDF		129	191	pg/g	67.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		100	191	pg/g	52.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		115	191	pg/g	60.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		109	191	pg/g	56.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		107	191	pg/g	55.8	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324011	Date Collected: 06/18/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02 Dup		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/20/2014 04:48	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_4-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.47 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			117	191	pg/g	61.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			121	191	pg/g	63.4	(26%-138%)
37Cl-2,3,7,8-TCDD			17.9	19.1	pg/g	93.5	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324012	Date Collected: 06/19/2014 09:30	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 14:21	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-2		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.51 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.289		pg/g	0.289	0.951
40321-76-4	1,2,3,7,8-PeCDD	U	.171		pg/g	0.171	4.76
39227-28-6	1,2,3,4,7,8-HxCDD	U	.285		pg/g	0.285	4.76
57653-85-7	1,2,3,6,7,8-HxCDD	U	.263		pg/g	0.263	4.76
19408-74-3	1,2,3,7,8,9-HxCDD	U	.287		pg/g	0.287	4.76
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.668		pg/g	0.419	4.76
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	3.06		pg/g	1.08	9.51
51207-31-9	2,3,7,8-TCDF	J	0.266		pg/g	0.249	0.951
57117-41-6	1,2,3,7,8-PeCDF	U	.148		pg/g	0.148	4.76
57117-31-4	2,3,4,7,8-PeCDF	U	.135		pg/g	0.135	4.76
70648-26-9	1,2,3,4,7,8-HxCDF	U	.172		pg/g	0.172	4.76
57117-44-9	1,2,3,6,7,8-HxCDF	U	.163		pg/g	0.163	4.76
60851-34-5	2,3,4,6,7,8-HxCDF	U	.192		pg/g	0.192	4.76
72918-21-9	1,2,3,7,8,9-HxCDF	U	.301		pg/g	0.301	4.76
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.215		pg/g	0.215	4.76
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.373		pg/g	0.373	4.76
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.906		pg/g	0.906	9.51
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.289		pg/g	0.289	0.951
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.171		pg/g	0.171	4.76
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.263		pg/g	0.263	4.76
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.668		pg/g	0.419	4.76
30402-14-3	Total Tetrachlorodibenzofuran	J	0.266		pg/g	0.249	0.951
30402-15-4	Total Pentachlorodibenzofuran	U	.123		pg/g	0.123	4.76
55684-94-1	Total Hexachlorodibenzofuran	U	.163		pg/g	0.163	4.76
38998-75-3	Total Heptachlorodibenzofuran	U	.215		pg/g	0.215	4.76
3333-30-0	TEQ WHO2005 ND=0		0.0342	0.0342	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.373	0.373	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		161	190	pg/g	84.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		184	190	pg/g	96.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		141	190	pg/g	74.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		174	190	pg/g	91.5	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		179	190	pg/g	94.1	(23%-140%)
13C-OCDD		288	381	pg/g	75.7	(17%-157%)
13C-2,3,7,8-TCDF		179	190	pg/g	94.1	(24%-169%)
13C-1,2,3,7,8-PeCDF		181	190	pg/g	95.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		194	190	pg/g	102	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		158	190	pg/g	82.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		181	190	pg/g	95.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		172	190	pg/g	90.2	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		158	190	pg/g	82.8	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324012	Date Collected: 06/19/2014 09:30	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB02		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 14:21	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-2		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.51 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			181	190	pg/g	95.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			169	190	pg/g	88.7	(26%-138%)
37Cl-2,3,7,8-TCDD			18.5	19.0	pg/g	97.2	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324013	Date Collected: 06/17/2014 11:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 15:09	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-3		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 11.08 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.204		pg/g	0.204	0.903
40321-76-4	1,2,3,7,8-PeCDD	U	.101		pg/g	0.101	4.51
39227-28-6	1,2,3,4,7,8-HxCDD	U	.154		pg/g	0.154	4.51
57653-85-7	1,2,3,6,7,8-HxCDD	U	.144		pg/g	0.144	4.51
19408-74-3	1,2,3,7,8,9-HxCDD	U	.157		pg/g	0.157	4.51
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.22		pg/g	0.220	4.51
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	1.17		pg/g	0.480	9.03
51207-31-9	2,3,7,8-TCDF	U	.174		pg/g	0.174	0.903
57117-41-6	1,2,3,7,8-PeCDF	U	.103		pg/g	0.103	4.51
57117-31-4	2,3,4,7,8-PeCDF	U	.093		pg/g	0.093	4.51
70648-26-9	1,2,3,4,7,8-HxCDF	U	.106		pg/g	0.106	4.51
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0996		pg/g	0.0996	4.51
60851-34-5	2,3,4,6,7,8-HxCDF	U	.112		pg/g	0.112	4.51
72918-21-9	1,2,3,7,8,9-HxCDF	U	.158		pg/g	0.158	4.51
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.11		pg/g	0.110	4.51
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.18		pg/g	0.180	4.51
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.453		pg/g	0.453	9.03
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.204		pg/g	0.204	0.903
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.101		pg/g	0.101	4.51
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.144		pg/g	0.144	4.51
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.22		pg/g	0.220	4.51
30402-14-3	Total Tetrachlorodibenzofuran	U	.174		pg/g	0.174	0.903
30402-15-4	Total Pentachlorodibenzofuran	U	.0704		pg/g	0.0704	4.51
55684-94-1	Total Hexachlorodibenzofuran	U	.0996		pg/g	0.0996	4.51
38998-75-3	Total Heptachlorodibenzofuran	U	.11		pg/g	0.110	4.51
3333-30-0	TEQ WHO2005 ND=0		0.000352	0.000352	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.226	0.226	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		142	181	pg/g	78.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		161	181	pg/g	89.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		130	181	pg/g	71.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		140	181	pg/g	77.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		156	181	pg/g	86.5	(23%-140%)
13C-OCDD		269	361	pg/g	74.4	(17%-157%)
13C-2,3,7,8-TCDF		161	181	pg/g	88.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		159	181	pg/g	88.3	(24%-185%)
13C-2,3,4,7,8-PeCDF		180	181	pg/g	99.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		138	181	pg/g	76.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		146	181	pg/g	81.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		143	181	pg/g	79.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		142	181	pg/g	78.8	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324013	Date Collected: 06/17/2014 11:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 15:09	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-3		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 11.08 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			155	181	pg/g	85.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			161	181	pg/g	89.4	(26%-138%)
37Cl-2,3,7,8-TCDD			18.8	18.1	pg/g	104	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324014	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 15:56	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-4		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.13 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.167		pg/g	0.167	0.987
40321-76-4	1,2,3,7,8-PeCDD	U	.112		pg/g	0.112	4.94
39227-28-6	1,2,3,4,7,8-HxCDD	U	.134		pg/g	0.134	4.94
57653-85-7	1,2,3,6,7,8-HxCDD	U	.132		pg/g	0.132	4.94
19408-74-3	1,2,3,7,8,9-HxCDD	U	.141		pg/g	0.141	4.94
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.185		pg/g	0.185	4.94
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		0.650	pg/g	0.379	9.87
51207-31-9	2,3,7,8-TCDF	J	0.298		pg/g	0.159	0.987
57117-41-6	1,2,3,7,8-PeCDF	U	.0855		pg/g	0.0855	4.94
57117-31-4	2,3,4,7,8-PeCDF	U	.0744		pg/g	0.0744	4.94
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0853		pg/g	0.0853	4.94
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0815		pg/g	0.0815	4.94
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0888		pg/g	0.0888	4.94
72918-21-9	1,2,3,7,8,9-HxCDF	U	.137		pg/g	0.137	4.94
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0956		pg/g	0.0956	4.94
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.164		pg/g	0.164	4.94
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.409		pg/g	0.409	9.87
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.167		pg/g	0.167	0.987
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.112		pg/g	0.112	4.94
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.132		pg/g	0.132	4.94
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.185		pg/g	0.185	4.94
30402-14-3	Total Tetrachlorodibenzofuran	J	0.298		pg/g	0.159	0.987
30402-15-4	Total Pentachlorodibenzofuran	U	.0584		pg/g	0.0584	4.94
55684-94-1	Total Hexachlorodibenzofuran	U	.0815		pg/g	0.0815	4.94
38998-75-3	Total Heptachlorodibenzofuran	U	.0956		pg/g	0.0956	4.94
3333-30-0	TEQ WHO2005 ND=0		0.0298	0.030	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.224	0.224	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	197	pg/g	87.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		197	197	pg/g	99.7	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		157	197	pg/g	79.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		165	197	pg/g	83.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		187	197	pg/g	94.8	(23%-140%)
13C-OCDD		345	395	pg/g	87.3	(17%-157%)
13C-2,3,7,8-TCDF		194	197	pg/g	98.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		199	197	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		212	197	pg/g	108	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		168	197	pg/g	84.9	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		171	197	pg/g	86.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	197	pg/g	86.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	197	pg/g	84.5	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324014	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 15:56	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-4		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.13 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			191	197	pg/g	96.9	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			188	197	pg/g	95.4	(26%-138%)
37Cl-2,3,7,8-TCDD			19.2	19.7	pg/g	97.3	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324015	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02-F Dup		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 16:44	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-5		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.25 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.151		pg/g	0.151	0.976
40321-76-4	1,2,3,7,8-PeCDD	U	.0759		pg/g	0.0759	4.88
39227-28-6	1,2,3,4,7,8-HxCDD	U	.108		pg/g	0.108	4.88
57653-85-7	1,2,3,6,7,8-HxCDD	U	.105		pg/g	0.105	4.88
19408-74-3	1,2,3,7,8,9-HxCDD	U	.112		pg/g	0.112	4.88
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.164		pg/g	0.164	4.88
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.628		pg/g	0.345	9.76
51207-31-9	2,3,7,8-TCDF	J	0.244		pg/g	0.123	0.976
57117-41-6	1,2,3,7,8-PeCDF	U	.0722		pg/g	0.0722	4.88
57117-31-4	2,3,4,7,8-PeCDF	U	.0628		pg/g	0.0628	4.88
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0716		pg/g	0.0716	4.88
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0665		pg/g	0.0665	4.88
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0736		pg/g	0.0736	4.88
72918-21-9	1,2,3,7,8,9-HxCDF	U	.112		pg/g	0.112	4.88
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.072		pg/g	0.072	4.88
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.125		pg/g	0.125	4.88
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.349		pg/g	0.349	9.76
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.151		pg/g	0.151	0.976
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0759		pg/g	0.0759	4.88
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.105		pg/g	0.105	4.88
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.164		pg/g	0.164	4.88
30402-14-3	Total Tetrachlorodibenzofuran	J	0.394		pg/g	0.123	0.976
30402-15-4	Total Pentachlorodibenzofuran	U	.0542		pg/g	0.0542	4.88
55684-94-1	Total Hexachlorodibenzofuran	U	.0665		pg/g	0.0665	4.88
38998-75-3	Total Heptachlorodibenzofuran	U	.072		pg/g	0.072	4.88
3333-30-0	TEQ WHO2005 ND=0		0.0246	0.0246	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.183	0.183	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		175	195	pg/g	89.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		205	195	pg/g	105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		153	195	pg/g	78.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		177	195	pg/g	90.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		191	195	pg/g	98.1	(23%-140%)
13C-OCDD		337	390	pg/g	86.3	(17%-157%)
13C-2,3,7,8-TCDF		198	195	pg/g	102	(24%-169%)
13C-1,2,3,7,8-PeCDF		202	195	pg/g	104	(24%-185%)
13C-2,3,4,7,8-PeCDF		219	195	pg/g	112	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		165	195	pg/g	84.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		184	195	pg/g	94.4	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		180	195	pg/g	92.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		178	195	pg/g	91.0	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324015	Date Collected: 06/17/2014 12:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFBG02-F Dup		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 16:44	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-5		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.25 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			188	195	pg/g	96.2	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			195	195	pg/g	100	(26%-138%)
37Cl-2,3,7,8-TCDD			20.1	19.5	pg/g	103	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324016	Date Collected: 06/17/2014 08:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 17:32	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.45 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.186		pg/g	0.186	0.957
40321-76-4	1,2,3,7,8-PeCDD	U	.0921		pg/g	0.0921	4.78
39227-28-6	1,2,3,4,7,8-HxCDD	U	.11		pg/g	0.110	4.78
57653-85-7	1,2,3,6,7,8-HxCDD	U	.107		pg/g	0.107	4.78
19408-74-3	1,2,3,7,8,9-HxCDD	U	.115		pg/g	0.115	4.78
35822-46-9	1,2,3,4,6,7,8-HpCDD	J	0.274		pg/g	0.230	4.78
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.957		pg/g	0.318	9.57
51207-31-9	2,3,7,8-TCDF	J	0.310		pg/g	0.152	0.957
57117-41-6	1,2,3,7,8-PeCDF	U	.0838		pg/g	0.0838	4.78
57117-31-4	2,3,4,7,8-PeCDF	U	.0683		pg/g	0.0683	4.78
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0725		pg/g	0.0725	4.78
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0739		pg/g	0.0739	4.78
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0769		pg/g	0.0769	4.78
72918-21-9	1,2,3,7,8,9-HxCDF	U	.12		pg/g	0.120	4.78
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.102		pg/g	0.102	4.78
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.169		pg/g	0.169	4.78
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.354		pg/g	0.354	9.57
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.186		pg/g	0.186	0.957
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0921		pg/g	0.0921	4.78
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.107		pg/g	0.107	4.78
37871-00-4	Total Heptachlorodibenzo-p-dioxin	J	0.274	0.547	pg/g	0.230	4.78
30402-14-3	Total Tetrachlorodibenzofuran	J	0.501		pg/g	0.152	0.957
30402-15-4	Total Pentachlorodibenzofuran	U	.0567		pg/g	0.0567	4.78
55684-94-1	Total Hexachlorodibenzofuran	U	.0725		pg/g	0.0725	4.78
38998-75-3	Total Heptachlorodibenzofuran	U	.102		pg/g	0.102	4.78
3333-30-0	TEQ WHO2005 ND=0		0.034	0.034	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.220	0.220	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		167	191	pg/g	87.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		197	191	pg/g	103	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		156	191	pg/g	81.5	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		162	191	pg/g	84.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		182	191	pg/g	95.2	(23%-140%)
13C-OCDD		323	383	pg/g	84.3	(17%-157%)
13C-2,3,7,8-TCDF		192	191	pg/g	100	(24%-169%)
13C-1,2,3,7,8-PeCDF		193	191	pg/g	101	(24%-185%)
13C-2,3,4,7,8-PeCDF		218	191	pg/g	114	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		154	191	pg/g	80.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		176	191	pg/g	92.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	191	pg/g	89.3	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		163	191	pg/g	85.4	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324016	Date Collected: 06/17/2014 08:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 17:32	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-6		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.45 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			180	191	pg/g	94.2	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			187	191	pg/g	97.8	(26%-138%)
37Cl-2,3,7,8-TCDD			19.7	19.1	pg/g	103	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324017	Date Collected: 06/17/2014 13:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: YFBG01-F / YFBG02-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 18:20	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-7		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.64 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.164		pg/g	0.164	0.940
40321-76-4	1,2,3,7,8-PeCDD	U	.091		pg/g	0.091	4.70
39227-28-6	1,2,3,4,7,8-HxCDD	U	.122		pg/g	0.122	4.70
57653-85-7	1,2,3,6,7,8-HxCDD	U	.12		pg/g	0.120	4.70
19408-74-3	1,2,3,7,8,9-HxCDD	U	.128		pg/g	0.128	4.70
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.164		pg/g	0.164	4.70
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.476		pg/g	0.461	9.40
51207-31-9	2,3,7,8-TCDF	J	0.222		pg/g	0.134	0.940
57117-41-6	1,2,3,7,8-PeCDF	U	.0769		pg/g	0.0769	4.70
57117-31-4	2,3,4,7,8-PeCDF	U	.0675		pg/g	0.0675	4.70
70648-26-9	1,2,3,4,7,8-HxCDF	U	.081		pg/g	0.081	4.70
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0771		pg/g	0.0771	4.70
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0836		pg/g	0.0836	4.70
72918-21-9	1,2,3,7,8,9-HxCDF	U	.138		pg/g	0.138	4.70
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0808		pg/g	0.0808	4.70
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.135		pg/g	0.135	4.70
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.329		pg/g	0.329	9.40
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.164		pg/g	0.164	0.940
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.091		pg/g	0.091	4.70
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.12		pg/g	0.120	4.70
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.164		pg/g	0.164	4.70
30402-14-3	Total Tetrachlorodibenzofuran	J	0.415		pg/g	0.134	0.940
30402-15-4	Total Pentachlorodibenzofuran	U	.0547		pg/g	0.0547	4.70
55684-94-1	Total Hexachlorodibenzofuran	U	.0771		pg/g	0.0771	4.70
38998-75-3	Total Heptachlorodibenzofuran	U	.0808		pg/g	0.0808	4.70
3333-30-0	TEQ WHO2005 ND=0		0.0223	0.0223	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.200	0.200	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	188	pg/g	89.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		204	188	pg/g	108	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		162	188	pg/g	86.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		163	188	pg/g	86.8	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		193	188	pg/g	102	(23%-140%)
13C-OCDD		346	376	pg/g	92.0	(17%-157%)
13C-2,3,7,8-TCDF		193	188	pg/g	103	(24%-169%)
13C-1,2,3,7,8-PeCDF		203	188	pg/g	108	(24%-185%)
13C-2,3,4,7,8-PeCDF		218	188	pg/g	116	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		162	188	pg/g	86.4	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		185	188	pg/g	98.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		174	188	pg/g	92.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		169	188	pg/g	90.0	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324017	Date Collected: 06/17/2014 13:40	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: YFBG01-F / YFBG02-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 18:20	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-7		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.64 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			190	188	pg/g	101	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			195	188	pg/g	104	(26%-138%)
37Cl-2,3,7,8-TCDD			19.0	18.8	pg/g	101	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324018	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 19:07	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-8		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.1 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.176		pg/g	0.176	0.990
40321-76-4	1,2,3,7,8-PeCDD	U	.095		pg/g	0.095	4.95
39227-28-6	1,2,3,4,7,8-HxCDD	U	.128		pg/g	0.128	4.95
57653-85-7	1,2,3,6,7,8-HxCDD	U	.115		pg/g	0.115	4.95
19408-74-3	1,2,3,7,8,9-HxCDD	U	.128		pg/g	0.128	4.95
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.197		pg/g	0.197	4.95
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.648		pg/g	0.370	9.90
51207-31-9	2,3,7,8-TCDF	J	0.240		pg/g	0.151	0.990
57117-41-6	1,2,3,7,8-PeCDF	U	.0739		pg/g	0.0739	4.95
57117-31-4	2,3,4,7,8-PeCDF	U	.0651		pg/g	0.0651	4.95
70648-26-9	1,2,3,4,7,8-HxCDF	U	.076		pg/g	0.076	4.95
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0739		pg/g	0.0739	4.95
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0804		pg/g	0.0804	4.95
72918-21-9	1,2,3,7,8,9-HxCDF	U	.126		pg/g	0.126	4.95
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0931		pg/g	0.0931	4.95
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.16		pg/g	0.160	4.95
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.38		pg/g	0.380	9.90
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.176		pg/g	0.176	0.990
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.095		pg/g	0.095	4.95
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.115		pg/g	0.115	4.95
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.197		pg/g	0.197	4.95
30402-14-3	Total Tetrachlorodibenzofuran	J	0.436		pg/g	0.151	0.990
30402-15-4	Total Pentachlorodibenzofuran	U	.0568		pg/g	0.0568	4.95
55684-94-1	Total Hexachlorodibenzofuran	U	.0739		pg/g	0.0739	4.95
38998-75-3	Total Heptachlorodibenzofuran	U	.0931		pg/g	0.0931	4.95
3333-30-0	TEQ WHO2005 ND=0		0.0242	0.0242	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.209	0.209	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		177	198	pg/g	89.4	(25%-164%)
13C-1,2,3,7,8-PeCDD		217	198	pg/g	110	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		160	198	pg/g	80.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	198	pg/g	85.7	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		198	198	pg/g	100	(23%-140%)
13C-OCDD		360	396	pg/g	90.8	(17%-157%)
13C-2,3,7,8-TCDF		201	198	pg/g	101	(24%-169%)
13C-1,2,3,7,8-PeCDF		209	198	pg/g	105	(24%-185%)
13C-2,3,4,7,8-PeCDF		229	198	pg/g	116	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		166	198	pg/g	84.0	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		187	198	pg/g	94.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		178	198	pg/g	90.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		177	198	pg/g	89.5	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324018	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 19:07	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-8		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.1 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			192	198	pg/g	97.1	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			206	198	pg/g	104	(26%-138%)
37Cl-2,3,7,8-TCDD			21.2	19.8	pg/g	107	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324019	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG02-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 19:55	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-9		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.29 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.186		pg/g	0.186	0.972
40321-76-4	1,2,3,7,8-PeCDD	U	.103		pg/g	0.103	4.86
39227-28-6	1,2,3,4,7,8-HxCDD	U	.134		pg/g	0.134	4.86
57653-85-7	1,2,3,6,7,8-HxCDD	U	.119		pg/g	0.119	4.86
19408-74-3	1,2,3,7,8,9-HxCDD	U	.133		pg/g	0.133	4.86
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.225		pg/g	0.225	4.86
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		0.507	pg/g	0.362	9.72
51207-31-9	2,3,7,8-TCDF	J	0.288		pg/g	0.140	0.972
57117-41-6	1,2,3,7,8-PeCDF	U	.0733		pg/g	0.0733	4.86
57117-31-4	2,3,4,7,8-PeCDF	U	.0641		pg/g	0.0641	4.86
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0741		pg/g	0.0741	4.86
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0702		pg/g	0.0702	4.86
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0781		pg/g	0.0781	4.86
72918-21-9	1,2,3,7,8,9-HxCDF	U	.125		pg/g	0.125	4.86
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0927		pg/g	0.0927	4.86
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.154		pg/g	0.154	4.86
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.418		pg/g	0.418	9.72
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.186		pg/g	0.186	0.972
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.103		pg/g	0.103	4.86
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.119		pg/g	0.119	4.86
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.225		pg/g	0.225	4.86
30402-14-3	Total Tetrachlorodibenzofuran	J	0.503		pg/g	0.140	0.972
30402-15-4	Total Pentachlorodibenzofuran	U	.0641		pg/g	0.0641	4.86
55684-94-1	Total Hexachlorodibenzofuran	U	.0702		pg/g	0.0702	4.86
38998-75-3	Total Heptachlorodibenzofuran	U	.0927		pg/g	0.0927	4.86
3333-30-0	TEQ WHO2005 ND=0		0.0288	0.0289	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.223	0.223	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		167	194	pg/g	85.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		197	194	pg/g	102	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		155	194	pg/g	79.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		167	194	pg/g	85.9	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		185	194	pg/g	95.4	(23%-140%)
13C-OCDD		327	389	pg/g	84.1	(17%-157%)
13C-2,3,7,8-TCDF		191	194	pg/g	98.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		195	194	pg/g	100	(24%-185%)
13C-2,3,4,7,8-PeCDF		211	194	pg/g	109	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		169	194	pg/g	87.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		173	194	pg/g	89.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	194	pg/g	87.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		171	194	pg/g	87.9	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324019	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPBG02-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 19:55	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-9		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.29 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			185	194	pg/g	95.4	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			189	194	pg/g	97.3	(26%-138%)
37Cl-2,3,7,8-TCDD			19.0	19.4	pg/g	98.0	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324020	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 20:43	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-10		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.26 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.168		pg/g	0.168	0.975
40321-76-4	1,2,3,7,8-PeCDD	U	.0947		pg/g	0.0947	4.87
39227-28-6	1,2,3,4,7,8-HxCDD	U	.115		pg/g	0.115	4.87
57653-85-7	1,2,3,6,7,8-HxCDD	U	.111		pg/g	0.111	4.87
19408-74-3	1,2,3,7,8,9-HxCDD	U	.119		pg/g	0.119	4.87
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.174		pg/g	0.174	4.87
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		0.480	pg/g	0.363	9.75
51207-31-9	2,3,7,8-TCDF	J	0.248		pg/g	0.140	0.975
57117-41-6	1,2,3,7,8-PeCDF	U	.0789		pg/g	0.0789	4.87
57117-31-4	2,3,4,7,8-PeCDF	U	.0686		pg/g	0.0686	4.87
70648-26-9	1,2,3,4,7,8-HxCDF	U	.0704		pg/g	0.0704	4.87
57117-44-9	1,2,3,6,7,8-HxCDF	U	.0663		pg/g	0.0663	4.87
60851-34-5	2,3,4,6,7,8-HxCDF	U	.0723		pg/g	0.0723	4.87
72918-21-9	1,2,3,7,8,9-HxCDF	U	.11		pg/g	0.110	4.87
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.0844		pg/g	0.0844	4.87
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.141		pg/g	0.141	4.87
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.376		pg/g	0.376	9.75
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.168		pg/g	0.168	0.975
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.0947		pg/g	0.0947	4.87
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.111		pg/g	0.111	4.87
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.174		pg/g	0.174	4.87
30402-14-3	Total Tetrachlorodibenzofuran	J	0.435		pg/g	0.140	0.975
30402-15-4	Total Pentachlorodibenzofuran	U	.0517		pg/g	0.0517	4.87
55684-94-1	Total Hexachlorodibenzofuran	U	.0663		pg/g	0.0663	4.87
38998-75-3	Total Heptachlorodibenzofuran	U	.0844		pg/g	0.0844	4.87
3333-30-0	TEQ WHO2005 ND=0		0.0248	0.0249	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.203	0.203	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		168	195	pg/g	86.2	(25%-164%)
13C-1,2,3,7,8-PeCDD		203	195	pg/g	104	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		150	195	pg/g	77.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		174	195	pg/g	89.1	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		195	195	pg/g	100	(23%-140%)
13C-OCDD		328	390	pg/g	84.0	(17%-157%)
13C-2,3,7,8-TCDF		198	195	pg/g	101	(24%-169%)
13C-1,2,3,7,8-PeCDF		198	195	pg/g	102	(24%-185%)
13C-2,3,4,7,8-PeCDF		215	195	pg/g	110	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		165	195	pg/g	84.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		186	195	pg/g	95.3	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		179	195	pg/g	91.9	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		172	195	pg/g	88.3	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324020	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB01-F		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 20:43	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_3-10		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10.26 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			192	195	pg/g	98.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			195	195	pg/g	100	(26%-138%)
37Cl-2,3,7,8-TCDD			19.4	19.5	pg/g	99.5	(35%-197%)

Comments:
J Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324021	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02-F		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 09:17	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-4		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10.49 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.233		pg/g	0.233	0.953
40321-76-4	1,2,3,7,8-PeCDD	U	.153		pg/g	0.153	4.77
39227-28-6	1,2,3,4,7,8-HxCDD	U	.215		pg/g	0.215	4.77
57653-85-7	1,2,3,6,7,8-HxCDD	U	.208		pg/g	0.208	4.77
19408-74-3	1,2,3,7,8,9-HxCDD	U	.225		pg/g	0.225	4.77
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.261		pg/g	0.261	4.77
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.826		pg/g	0.690	9.53
51207-31-9	2,3,7,8-TCDF	J	0.214		pg/g	0.190	0.953
57117-41-6	1,2,3,7,8-PeCDF	U	.0995		pg/g	0.0995	4.77
57117-31-4	2,3,4,7,8-PeCDF	U	.0902		pg/g	0.0902	4.77
70648-26-9	1,2,3,4,7,8-HxCDF	U	.118		pg/g	0.118	4.77
57117-44-9	1,2,3,6,7,8-HxCDF	U	.115		pg/g	0.115	4.77
60851-34-5	2,3,4,6,7,8-HxCDF	U	.122		pg/g	0.122	4.77
72918-21-9	1,2,3,7,8,9-HxCDF	U	.186		pg/g	0.186	4.77
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.194		pg/g	0.194	4.77
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.322		pg/g	0.322	4.77
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.601		pg/g	0.601	9.53
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.233		pg/g	0.233	0.953
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.153		pg/g	0.153	4.77
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.208		pg/g	0.208	4.77
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.261		pg/g	0.261	4.77
30402-14-3	Total Tetrachlorodibenzofuran	J	0.214		pg/g	0.190	0.953
30402-15-4	Total Pentachlorodibenzofuran	U	.0902		pg/g	0.0902	4.77
55684-94-1	Total Hexachlorodibenzofuran	U	.115		pg/g	0.115	4.77
38998-75-3	Total Heptachlorodibenzofuran	U	.194		pg/g	0.194	4.77
3333-30-0	TEQ WHO2005 ND=0		0.0216	0.0216	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.293	0.293	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		169	191	pg/g	88.9	(25%-164%)
13C-1,2,3,7,8-PeCDD		166	191	pg/g	87.1	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		158	191	pg/g	83.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	191	pg/g	89.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		184	191	pg/g	96.5	(23%-140%)
13C-OCDD		307	381	pg/g	80.6	(17%-157%)
13C-2,3,7,8-TCDF		179	191	pg/g	93.9	(24%-169%)
13C-1,2,3,7,8-PeCDF		161	191	pg/g	84.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		171	191	pg/g	89.8	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		164	191	pg/g	86.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		174	191	pg/g	91.5	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		169	191	pg/g	88.6	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		167	191	pg/g	87.6	(29%-147%)

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324021	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02-F		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 09:17	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-4		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10.49 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			170	191	pg/g	89.1	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			175	191	pg/g	91.6	(26%-138%)
37Cl-2,3,7,8-TCDD			19.1	19.1	pg/g	100	(35%-197%)

Comments:**J** Value is estimated**U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324022	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02-F Dup		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 10:04	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-5		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10.4 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.235		pg/g	0.235	0.962
40321-76-4	1,2,3,7,8-PeCDD	U	.124		pg/g	0.124	4.81
39227-28-6	1,2,3,4,7,8-HxCDD	U	.179		pg/g	0.179	4.81
57653-85-7	1,2,3,6,7,8-HxCDD	U	.174		pg/g	0.174	4.81
19408-74-3	1,2,3,7,8,9-HxCDD	U	.187		pg/g	0.187	4.81
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.283		pg/g	0.283	4.81
3268-87-9	1,2,3,4,6,7,8,9-OCDD	U	.644		pg/g	0.644	9.62
51207-31-9	2,3,7,8-TCDF	J	0.235		pg/g	0.173	0.962
57117-41-6	1,2,3,7,8-PeCDF	U	.0846		pg/g	0.0846	4.81
57117-31-4	2,3,4,7,8-PeCDF	U	.075		pg/g	0.075	4.81
70648-26-9	1,2,3,4,7,8-HxCDF	U	.116		pg/g	0.116	4.81
57117-44-9	1,2,3,6,7,8-HxCDF	U	.11		pg/g	0.110	4.81
60851-34-5	2,3,4,6,7,8-HxCDF	U	.119		pg/g	0.119	4.81
72918-21-9	1,2,3,7,8,9-HxCDF	U	.184		pg/g	0.184	4.81
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.16		pg/g	0.160	4.81
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.265		pg/g	0.265	4.81
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.625		pg/g	0.625	9.62
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.235		pg/g	0.235	0.962
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.124		pg/g	0.124	4.81
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.174		pg/g	0.174	4.81
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.283		pg/g	0.283	4.81
30402-14-3	Total Tetrachlorodibenzofuran	J	0.235	0.421	pg/g	0.173	0.962
30402-15-4	Total Pentachlorodibenzofuran	U	.0656		pg/g	0.0656	4.81
55684-94-1	Total Hexachlorodibenzofuran	U	.11		pg/g	0.110	4.81
38998-75-3	Total Heptachlorodibenzofuran	U	.16		pg/g	0.160	4.81
3333-30-0	TEQ WHO2005 ND=0		0.0235	0.0235	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.272	0.272	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	192	pg/g	88.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		170	192	pg/g	88.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		160	192	pg/g	83.4	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		166	192	pg/g	86.3	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		177	192	pg/g	91.8	(23%-140%)
13C-OCDD		284	385	pg/g	73.9	(17%-157%)
13C-2,3,7,8-TCDF		178	192	pg/g	92.4	(24%-169%)
13C-1,2,3,7,8-PeCDF		161	192	pg/g	84.0	(24%-185%)
13C-2,3,4,7,8-PeCDF		172	192	pg/g	89.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		165	192	pg/g	85.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		172	192	pg/g	89.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		168	192	pg/g	87.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		160	192	pg/g	83.4	(29%-147%)

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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324022	Date Collected: 06/17/2014 00:00	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: CPLMB02-F Dup		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 10:04	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-5		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10.4 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			170	192	pg/g	88.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			169	192	pg/g	87.7	(26%-138%)
37Cl-2,3,7,8-TCDD			18.7	19.2	pg/g	97.3	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324023	Date Collected: 06/17/2014 09:30	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB02-F		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 10:52	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-6		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10.05 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.275		pg/g	0.275	0.995
40321-76-4	1,2,3,7,8-PeCDD	U	.166		pg/g	0.166	4.98
39227-28-6	1,2,3,4,7,8-HxCDD	U	.227		pg/g	0.227	4.98
57653-85-7	1,2,3,6,7,8-HxCDD	U	.219		pg/g	0.219	4.98
19408-74-3	1,2,3,7,8,9-HxCDD	U	.235		pg/g	0.235	4.98
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.376		pg/g	0.376	4.98
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		0.852	pg/g	0.754	9.95
51207-31-9	2,3,7,8-TCDF	U	.241		pg/g	0.241	0.995
57117-41-6	1,2,3,7,8-PeCDF	U	.144		pg/g	0.144	4.98
57117-31-4	2,3,4,7,8-PeCDF	U	.123		pg/g	0.123	4.98
70648-26-9	1,2,3,4,7,8-HxCDF	U	.172		pg/g	0.172	4.98
57117-44-9	1,2,3,6,7,8-HxCDF	U	.154		pg/g	0.154	4.98
60851-34-5	2,3,4,6,7,8-HxCDF	U	.174		pg/g	0.174	4.98
72918-21-9	1,2,3,7,8,9-HxCDF	U	.263		pg/g	0.263	4.98
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.261		pg/g	0.261	4.98
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.472		pg/g	0.472	4.98
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.961		pg/g	0.961	9.95
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.275		pg/g	0.275	0.995
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.166		pg/g	0.166	4.98
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.219		pg/g	0.219	4.98
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.376		pg/g	0.376	4.98
30402-14-3	Total Tetrachlorodibenzofuran	U	.241		pg/g	0.241	0.995
30402-15-4	Total Pentachlorodibenzofuran	U	.123		pg/g	0.123	4.98
55684-94-1	Total Hexachlorodibenzofuran	U	.154		pg/g	0.154	4.98
38998-75-3	Total Heptachlorodibenzofuran	U	.261		pg/g	0.261	4.98
3333-30-0	TEQ WHO2005 ND=0		0.00	0.000256	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.331	0.331	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		170	199	pg/g	85.3	(25%-164%)
13C-1,2,3,7,8-PeCDD		167	199	pg/g	83.8	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		153	199	pg/g	76.7	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		170	199	pg/g	85.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		178	199	pg/g	89.2	(23%-140%)
13C-OCDD		284	398	pg/g	71.2	(17%-157%)
13C-2,3,7,8-TCDF		183	199	pg/g	91.8	(24%-169%)
13C-1,2,3,7,8-PeCDF		160	199	pg/g	80.4	(24%-185%)
13C-2,3,4,7,8-PeCDF		175	199	pg/g	88.2	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		160	199	pg/g	80.2	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		177	199	pg/g	89.2	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		171	199	pg/g	86.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		159	199	pg/g	79.9	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 2 of 2

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 6324023	Date Collected: 06/17/2014 09:30	Matrix: TISSUE
Client Sample: 1613B Tissue	Date Received: 07/10/2014 09:15	
Client ID: LFLMB02-F		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 10:52	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-6		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10.05 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			170	199	pg/g	85.5	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			164	199	pg/g	82.5	(26%-138%)
37Cl-2,3,7,8-TCDD			19.8	19.9	pg/g	99.4	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010920	LCS for batch 26411	13C-2,3,7,8-TCDD		86.5	(20%-175%)
		13C-1,2,3,7,8-PeCDD		109	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		92.0	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		97.5	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		106	(22%-166%)
		13C-OCDD		93.6	(13%-199%)
		13C-2,3,7,8-TCDF		104	(22%-152%)
		13C-1,2,3,7,8-PeCDF		105	(21%-192%)
		13C-2,3,4,7,8-PeCDF		112	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		97.8	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		101	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		99.8	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		101	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		103	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		106	(20%-186%)
		37Cl-2,3,7,8-TCDD		93.5	(31%-191%)
		12010919	MB for batch 26411	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				111	(25%-181%)
13C-1,2,3,4,7,8-HxCDD				92.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD				95.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD				108	(23%-140%)
13C-OCDD				98.1	(17%-157%)
13C-2,3,7,8-TCDF				106	(24%-169%)
13C-1,2,3,7,8-PeCDF				109	(24%-185%)
13C-2,3,4,7,8-PeCDF				118	(21%-178%)
13C-1,2,3,4,7,8-HxCDF				92.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF				96.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF				98.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF				97.8	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF				102	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF				108	(26%-138%)
37Cl-2,3,7,8-TCDD				106	(35%-197%)
6324001	LFBG01			13C-2,3,7,8-TCDD	
		13C-1,2,3,7,8-PeCDD		109	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		87.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		93.4	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		103	(23%-140%)
		13C-OCDD		94.8	(17%-157%)
		13C-2,3,7,8-TCDF		103	(24%-169%)
		13C-1,2,3,7,8-PeCDF		104	(24%-185%)
		13C-2,3,4,7,8-PeCDF		113	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		91.3	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		94.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		95.7	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		94.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		98.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		106	(26%-138%)
		37Cl-2,3,7,8-TCDD		106	(35%-197%)
		6324002	LFBG02	13C-2,3,7,8-TCDD	

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324002	LFBG02	13C-1,2,3,7,8-PeCDD		111	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		94.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		91.5	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		108	(23%-140%)
		13C-OCDD		101	(17%-157%)
		13C-2,3,7,8-TCDF		102	(24%-169%)
		13C-1,2,3,7,8-PeCDF		108	(24%-185%)
		13C-2,3,4,7,8-PeCDF		115	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		93.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		98.9	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		99.5	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		95.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		103	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		110	(26%-138%)
		37Cl-2,3,7,8-TCDD		109	(35%-197%)
6324003	LFBG02 Dup	13C-2,3,7,8-TCDD		91.3	(25%-164%)
		13C-1,2,3,7,8-PeCDD		105	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		89.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		91.8	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		106	(23%-140%)
		13C-OCDD		98.4	(17%-157%)
		13C-2,3,7,8-TCDF		99.1	(24%-169%)
		13C-1,2,3,7,8-PeCDF		103	(24%-185%)
		13C-2,3,4,7,8-PeCDF		113	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		94.3	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		95.8	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		97.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		92.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		102	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		107	(26%-138%)
37Cl-2,3,7,8-TCDD		105	(35%-197%)		
6324004	LFLMB01	13C-2,3,7,8-TCDD		87.6	(25%-164%)
		13C-1,2,3,7,8-PeCDD		103	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		86.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		88.9	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		106	(23%-140%)
		13C-OCDD		97.7	(17%-157%)
		13C-2,3,7,8-TCDF		99.1	(24%-169%)
		13C-1,2,3,7,8-PeCDF		103	(24%-185%)
		13C-2,3,4,7,8-PeCDF		110	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		89.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		89.4	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		91.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		90.5	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		105	(26%-138%)
37Cl-2,3,7,8-TCDD		103	(35%-197%)		
6324005	YFBG01	13C-2,3,7,8-TCDD		89.0	(25%-164%)
		13C-1,2,3,7,8-PeCDD		107	(25%-181%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324005	YFBG01	13C-1,2,3,4,7,8-HxCDD		86.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		88.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		103	(23%-140%)
		13C-OCDD		90.6	(17%-157%)
		13C-2,3,7,8-TCDF		102	(24%-169%)
		13C-1,2,3,7,8-PeCDF		105	(24%-185%)
		13C-2,3,4,7,8-PeCDF		111	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		87.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		95.0	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		92.5	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		91.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		94.9	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		103	(26%-138%)
		37Cl-2,3,7,8-TCDD		102	(35%-197%)
6324006	YFBG02	13C-2,3,7,8-TCDD		85.4	(25%-164%)
		13C-1,2,3,7,8-PeCDD		96.9	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		83.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		83.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		96.9	(23%-140%)
		13C-OCDD		86.3	(17%-157%)
		13C-2,3,7,8-TCDF		94.3	(24%-169%)
		13C-1,2,3,7,8-PeCDF		97.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		104	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		82.7	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		90.6	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		88.2	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.3	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		95.3	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		99.0	(26%-138%)		
37Cl-2,3,7,8-TCDD		98.6	(35%-197%)		
6324007	CPBG01	13C-2,3,7,8-TCDD		92.8	(25%-164%)
		13C-1,2,3,7,8-PeCDD		106	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		85.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		87.8	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		97.7	(23%-140%)
		13C-OCDD		88.8	(17%-157%)
		13C-2,3,7,8-TCDF		99.9	(24%-169%)
		13C-1,2,3,7,8-PeCDF		102	(24%-185%)
		13C-2,3,4,7,8-PeCDF		110	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		89.5	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		88.9	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		91.2	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		92.2	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		95.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		100	(26%-138%)		
37Cl-2,3,7,8-TCDD		104	(35%-197%)		
6324008	CPBG02	13C-2,3,7,8-TCDD		89.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		103	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		84.6	(32%-141%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324008	CPBG02	13C-1,2,3,6,7,8-HxCDD		85.2	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		98.2	(23%-140%)
		13C-OCDD		91.1	(17%-157%)
		13C-2,3,7,8-TCDF		102	(24%-169%)
		13C-1,2,3,7,8-PeCDF		101	(24%-185%)
		13C-2,3,4,7,8-PeCDF		110	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		88.1	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		90.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		90.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		89.6	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.5	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		101	(26%-138%)
		37Cl-2,3,7,8-TCDD		108	(35%-197%)
		6324009	CPLMB01	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				105	(25%-181%)
13C-1,2,3,4,7,8-HxCDD				82.1	(32%-141%)
13C-1,2,3,6,7,8-HxCDD				91.4	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD				102	(23%-140%)
13C-OCDD				92.3	(17%-157%)
13C-2,3,7,8-TCDF				103	(24%-169%)
13C-1,2,3,7,8-PeCDF				103	(24%-185%)
13C-2,3,4,7,8-PeCDF				114	(21%-178%)
13C-1,2,3,4,7,8-HxCDF				87.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF				91.6	(26%-123%)
13C-2,3,4,6,7,8-HxCDF				93.1	(28%-136%)
13C-1,2,3,7,8,9-HxCDF				91.5	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF				96.0	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		104	(26%-138%)		
37Cl-2,3,7,8-TCDD		104	(35%-197%)		
6324010	CPLMB02	13C-2,3,7,8-TCDD		87.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		98.5	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		84.0	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		83.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		97.5	(23%-140%)
		13C-OCDD		88.0	(17%-157%)
		13C-2,3,7,8-TCDF		97.7	(24%-169%)
		13C-1,2,3,7,8-PeCDF		97.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		105	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		82.5	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		91.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		88.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		91.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF		96.6	(26%-138%)		
37Cl-2,3,7,8-TCDD		99.4	(35%-197%)		
6324012	LFLMB02	13C-2,3,7,8-TCDD		84.7	(25%-164%)
		13C-1,2,3,7,8-PeCDD		96.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		74.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		91.5	(28%-130%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324012	LFLMB02	13C-1,2,3,4,6,7,8-HpCDD		94.1	(23%-140%)
		13C-OCDD		75.7	(17%-157%)
		13C-2,3,7,8-TCDF		94.1	(24%-169%)
		13C-1,2,3,7,8-PeCDF		95.0	(24%-185%)
		13C-2,3,4,7,8-PeCDF		102	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		82.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		95.4	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		90.2	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		82.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		95.0	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		88.7	(26%-138%)
		37Cl-2,3,7,8-TCDD		97.2	(35%-197%)
		6324013	LFBG01-F	13C-2,3,7,8-TCDD	
13C-1,2,3,7,8-PeCDD				89.0	(25%-181%)
13C-1,2,3,4,7,8-HxCDD				71.8	(32%-141%)
13C-1,2,3,6,7,8-HxCDD				77.6	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD				86.5	(23%-140%)
13C-OCDD				74.4	(17%-157%)
13C-2,3,7,8-TCDF				88.9	(24%-169%)
13C-1,2,3,7,8-PeCDF				88.3	(24%-185%)
13C-2,3,4,7,8-PeCDF				99.9	(21%-178%)
13C-1,2,3,4,7,8-HxCDF				76.6	(26%-152%)
13C-1,2,3,6,7,8-HxCDF				81.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF				79.4	(28%-136%)
13C-1,2,3,7,8,9-HxCDF				78.8	(29%-147%)
13C-1,2,3,4,6,7,8-HpCDF				85.6	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF				89.4	(26%-138%)
37Cl-2,3,7,8-TCDD		104	(35%-197%)		
6324014	LFBG02-F	13C-2,3,7,8-TCDD		87.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		99.7	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		79.4	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		83.7	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		94.8	(23%-140%)
		13C-OCDD		87.3	(17%-157%)
		13C-2,3,7,8-TCDF		98.4	(24%-169%)
		13C-1,2,3,7,8-PeCDF		101	(24%-185%)
		13C-2,3,4,7,8-PeCDF		108	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.9	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		86.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		86.7	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		84.5	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		96.9	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		95.4	(26%-138%)
37Cl-2,3,7,8-TCDD		97.3	(35%-197%)		
6324015	LFBG02-F Dup	13C-2,3,7,8-TCDD		89.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		105	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		78.5	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		90.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		98.1	(23%-140%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324015	LFBG02-F Dup	13C-OCDD		86.3	(17%-157%)
		13C-2,3,7,8-TCDF		102	(24%-169%)
		13C-1,2,3,7,8-PeCDF		104	(24%-185%)
		13C-2,3,4,7,8-PeCDF		112	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.6	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		94.4	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		92.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		91.0	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		96.2	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		100	(26%-138%)
		37Cl-2,3,7,8-TCDD		103	(35%-197%)
6324016	LFLMB01-F	13C-2,3,7,8-TCDD		87.3	(25%-164%)
		13C-1,2,3,7,8-PeCDD		103	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		81.5	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		84.6	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		95.2	(23%-140%)
		13C-OCDD		84.3	(17%-157%)
		13C-2,3,7,8-TCDF		100	(24%-169%)
		13C-1,2,3,7,8-PeCDF		101	(24%-185%)
		13C-2,3,4,7,8-PeCDF		114	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		80.3	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		92.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		89.3	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		85.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		94.2	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		97.8	(26%-138%)
37Cl-2,3,7,8-TCDD		103	(35%-197%)		
6324017	YFBG01-F / YFBG02-F	13C-2,3,7,8-TCDD		89.7	(25%-164%)
		13C-1,2,3,7,8-PeCDD		108	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		86.3	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		86.8	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		102	(23%-140%)
		13C-OCDD		92.0	(17%-157%)
		13C-2,3,7,8-TCDF		103	(24%-169%)
		13C-1,2,3,7,8-PeCDF		108	(24%-185%)
		13C-2,3,4,7,8-PeCDF		116	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		86.4	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		98.6	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		92.7	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		90.0	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		101	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		104	(26%-138%)
37Cl-2,3,7,8-TCDD		101	(35%-197%)		
6324018	CPBG01-F	13C-2,3,7,8-TCDD		89.4	(25%-164%)
		13C-1,2,3,7,8-PeCDD		110	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		80.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		85.7	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		100	(23%-140%)
		13C-OCDD		90.8	(17%-157%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324018	CPBG01-F	13C-2,3,7,8-TCDF		101	(24%-169%)
		13C-1,2,3,7,8-PeCDF		105	(24%-185%)
		13C-2,3,4,7,8-PeCDF		116	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.0	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		94.3	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		90.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		89.5	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		97.1	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		104	(26%-138%)
		37Cl-2,3,7,8-TCDD		107	(35%-197%)
6324019	CPBG02-F	13C-2,3,7,8-TCDD		85.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		102	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		79.8	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		85.9	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		95.4	(23%-140%)
		13C-OCDD		84.1	(17%-157%)
		13C-2,3,7,8-TCDF		98.5	(24%-169%)
		13C-1,2,3,7,8-PeCDF		100	(24%-185%)
		13C-2,3,4,7,8-PeCDF		109	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		87.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		89.3	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		87.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		95.4	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		97.3	(26%-138%)
37Cl-2,3,7,8-TCDD		98.0	(35%-197%)		
6324020	CPLMB01-F	13C-2,3,7,8-TCDD		86.2	(25%-164%)
		13C-1,2,3,7,8-PeCDD		104	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		77.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		89.1	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		100	(23%-140%)
		13C-OCDD		84.0	(17%-157%)
		13C-2,3,7,8-TCDF		101	(24%-169%)
		13C-1,2,3,7,8-PeCDF		102	(24%-185%)
		13C-2,3,4,7,8-PeCDF		110	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		84.8	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		95.3	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		91.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		88.3	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		98.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		100	(26%-138%)
37Cl-2,3,7,8-TCDD		99.5	(35%-197%)		
6324011	CPLMB02 Dup	13C-2,3,7,8-TCDD		54.6	(25%-164%)
		13C-1,2,3,7,8-PeCDD		65.1	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		47.5	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		57.4	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		61.8	(23%-140%)
		13C-OCDD		54.1	(17%-157%)
		13C-2,3,7,8-TCDF		61.5	(24%-169%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324011	CPLMB02 Dup	13C-1,2,3,7,8-PeCDF		61.6	(24%-185%)
		13C-2,3,4,7,8-PeCDF		67.6	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		52.6	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		60.4	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		56.9	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		55.8	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		61.3	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		63.4	(26%-138%)
		37Cl-2,3,7,8-TCDD		93.5	(35%-197%)
12010921	LCSD for batch 26411	13C-2,3,7,8-TCDD		93.2	(20%-175%)
		13C-1,2,3,7,8-PeCDD		103	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		99.9	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		91.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		110	(22%-166%)
		13C-OCDD		93.9	(13%-199%)
		13C-2,3,7,8-TCDF		98.8	(22%-152%)
		13C-1,2,3,7,8-PeCDF		97.8	(21%-192%)
		13C-2,3,4,7,8-PeCDF		106	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		93.9	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		95.9	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		97.4	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		96.1	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		104	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		109	(20%-186%)
37Cl-2,3,7,8-TCDD		103	(31%-191%)		
12010948	LCS for batch 26438	13C-2,3,7,8-TCDD		91.0	(20%-175%)
		13C-1,2,3,7,8-PeCDD		93.1	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		86.9	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		87.4	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		97.4	(22%-166%)
		13C-OCDD		81.9	(13%-199%)
		13C-2,3,7,8-TCDF		97.0	(22%-152%)
		13C-1,2,3,7,8-PeCDF		87.9	(21%-192%)
		13C-2,3,4,7,8-PeCDF		96.3	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		89.1	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		87.3	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		89.9	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		86.6	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		91.0	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		92.9	(20%-186%)
37Cl-2,3,7,8-TCDD		103	(31%-191%)		
12010949	LCSD for batch 26438	13C-2,3,7,8-TCDD		96.2	(20%-175%)
		13C-1,2,3,7,8-PeCDD		96.0	(21%-227%)
		13C-1,2,3,4,7,8-HxCDD		91.6	(21%-193%)
		13C-1,2,3,6,7,8-HxCDD		88.7	(25%-163%)
		13C-1,2,3,4,6,7,8-HpCDD		101	(22%-166%)
		13C-OCDD		84.4	(13%-199%)
		13C-2,3,7,8-TCDF		103	(22%-152%)
		13C-1,2,3,7,8-PeCDF		94.2	(21%-192%)

Hi-Res Dioxins/Furans
Surrogate Recovery Report

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12010949	LCSD for batch 26438	13C-2,3,4,7,8-PeCDF		100	(13%-328%)
		13C-1,2,3,4,7,8-HxCDF		88.8	(19%-202%)
		13C-1,2,3,6,7,8-HxCDF		93.3	(21%-159%)
		13C-2,3,4,6,7,8-HxCDF		94.4	(22%-176%)
		13C-1,2,3,7,8,9-HxCDF		90.2	(17%-205%)
		13C-1,2,3,4,6,7,8-HpCDF		92.7	(21%-158%)
		13C-1,2,3,4,7,8,9-HpCDF		99.4	(20%-186%)
		37Cl-2,3,7,8-TCDD		109	(31%-191%)
12010947	MB for batch 26438	13C-2,3,7,8-TCDD		92.7	(25%-164%)
		13C-1,2,3,7,8-PeCDD		95.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		85.2	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		91.0	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		102	(23%-140%)
		13C-OCDD		84.1	(17%-157%)
		13C-2,3,7,8-TCDF		97.5	(24%-169%)
		13C-1,2,3,7,8-PeCDF		91.7	(24%-185%)
		13C-2,3,4,7,8-PeCDF		95.6	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		90.3	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		96.1	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		94.8	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		92.5	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		94.9	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		98.5	(26%-138%)
37Cl-2,3,7,8-TCDD		99.3	(35%-197%)		
6324021	CPLMB02-F	13C-2,3,7,8-TCDD		88.9	(25%-164%)
		13C-1,2,3,7,8-PeCDD		87.1	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		83.1	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		89.3	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		96.5	(23%-140%)
		13C-OCDD		80.6	(17%-157%)
		13C-2,3,7,8-TCDF		93.9	(24%-169%)
		13C-1,2,3,7,8-PeCDF		84.4	(24%-185%)
		13C-2,3,4,7,8-PeCDF		89.8	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		86.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		91.5	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		88.6	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		87.6	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		89.1	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		91.6	(26%-138%)
37Cl-2,3,7,8-TCDD		100	(35%-197%)		
6324022	CPLMB02-F Dup	13C-2,3,7,8-TCDD		88.5	(25%-164%)
		13C-1,2,3,7,8-PeCDD		88.2	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		83.4	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		86.3	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		91.8	(23%-140%)
		13C-OCDD		73.9	(17%-157%)
		13C-2,3,7,8-TCDF		92.4	(24%-169%)
		13C-1,2,3,7,8-PeCDF		84.0	(24%-185%)
		13C-2,3,4,7,8-PeCDF		89.6	(21%-178%)

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: 6324

Matrix Type: TISSUE

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
6324022	CPLMB02-F Dup	13C-1,2,3,4,7,8-HxCDF		85.6	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		89.6	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		87.4	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		83.4	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		88.6	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		87.7	(26%-138%)
		37Cl-2,3,7,8-TCDD		97.3	(35%-197%)
6324023	LFLMB02-F	13C-2,3,7,8-TCDD		85.3	(25%-164%)
		13C-1,2,3,7,8-PeCDD		83.8	(25%-181%)
		13C-1,2,3,4,7,8-HxCDD		76.7	(32%-141%)
		13C-1,2,3,6,7,8-HxCDD		85.2	(28%-130%)
		13C-1,2,3,4,6,7,8-HpCDD		89.2	(23%-140%)
		13C-OCDD		71.2	(17%-157%)
		13C-2,3,7,8-TCDF		91.8	(24%-169%)
		13C-1,2,3,7,8-PeCDF		80.4	(24%-185%)
		13C-2,3,4,7,8-PeCDF		88.2	(21%-178%)
		13C-1,2,3,4,7,8-HxCDF		80.2	(26%-152%)
		13C-1,2,3,6,7,8-HxCDF		89.2	(26%-123%)
		13C-2,3,4,6,7,8-HxCDF		86.1	(28%-136%)
		13C-1,2,3,7,8,9-HxCDF		79.9	(29%-147%)
		13C-1,2,3,4,6,7,8-HpCDF		85.5	(28%-143%)
		13C-1,2,3,4,7,8,9-HpCDF		82.5	(26%-138%)
		37Cl-2,3,7,8-TCDD		99.4	(35%-197%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6324

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 26411

Matrix: TISSUE

Lab Sample ID: 12010920

Instrument: HRP763

Analysis Date: 07/19/2014 02:18

Dilution: 1

Analyst: JTF

Prep Batch ID: 26411

Batch ID: 26413

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits
1746-01-6	LCS 2,3,7,8-TCDD	20.0	20.0	99.8	67-158
40321-76-4	LCS 1,2,3,7,8-PeCDD	100	104	104	70-142
39227-28-6	LCS 1,2,3,4,7,8-HxCDD	100	100	100	70-164
57653-85-7	LCS 1,2,3,6,7,8-HxCDD	100	100	100	76-134
19408-74-3	LCS 1,2,3,7,8,9-HxCDD	100	110	110	64-162
35822-46-9	LCS 1,2,3,4,6,7,8-HpCDD	100	102	102	70-140
3268-87-9	LCS 1,2,3,4,6,7,8,9-OCDD	200	193	96.5	78-144
51207-31-9	LCS 2,3,7,8-TCDF	20.0	20.1	101	75-158
57117-41-6	LCS 1,2,3,7,8-PeCDF	100	109	109	80-134
57117-31-4	LCS 2,3,4,7,8-PeCDF	100	108	108	68-160
70648-26-9	LCS 1,2,3,4,7,8-HxCDF	100	111	111	72-134
57117-44-9	LCS 1,2,3,6,7,8-HxCDF	100	113	113	84-130
60851-34-5	LCS 2,3,4,6,7,8-HxCDF	100	109	109	70-156
72918-21-9	LCS 1,2,3,7,8,9-HxCDF	100	112	112	78-130
67562-39-4	LCS 1,2,3,4,6,7,8-HpCDF	100	108	108	82-122
55673-89-7	LCS 1,2,3,4,7,8,9-HpCDF	100	110	110	78-138
39001-02-0	LCS 1,2,3,4,6,7,8,9-OCDF	200	227	113	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6324
Client ID: LCS for batch 26438
Lab Sample ID: 12010948
Instrument: HRP763
Analyst: JTF

Sample Type: Laboratory Control Sample
Matrix: TISSUE
Analysis Date: 07/23/2014 06:54
Prep Batch ID: 26438
Batch ID: 26440
Dilution: 1

CAS No.	Parmname	Amount Added pg/g	Spike Conc. pg/g	Recovery %	Acceptance Limits	
1746-01-6	LCS	2,3,7,8-TCDD	20.0	20.1	101	67-158
40321-76-4	LCS	1,2,3,7,8-PeCDD	100	98.6	98.6	70-142
39227-28-6	LCS	1,2,3,4,7,8-HxCDD	100	102	102	70-164
57653-85-7	LCS	1,2,3,6,7,8-HxCDD	100	101	101	76-134
19408-74-3	LCS	1,2,3,7,8,9-HxCDD	100	106	106	64-162
35822-46-9	LCS	1,2,3,4,6,7,8-HpCDD	100	97.2	97.2	70-140
3268-87-9	LCS	1,2,3,4,6,7,8,9-OCDD	200	188	93.9	78-144
51207-31-9	LCS	2,3,7,8-TCDF	20.0	20.7	104	75-158
57117-41-6	LCS	1,2,3,7,8-PeCDF	100	103	103	80-134
57117-31-4	LCS	2,3,4,7,8-PeCDF	100	98.8	98.8	68-160
70648-26-9	LCS	1,2,3,4,7,8-HxCDF	100	110	110	72-134
57117-44-9	LCS	1,2,3,6,7,8-HxCDF	100	112	112	84-130
60851-34-5	LCS	2,3,4,6,7,8-HxCDF	100	110	110	70-156
72918-21-9	LCS	1,2,3,7,8,9-HxCDF	100	119	119	78-130
67562-39-4	LCS	1,2,3,4,6,7,8-HpCDF	100	106	106	82-122
55673-89-7	LCS	1,2,3,4,7,8,9-HpCDF	100	108	108	78-138
39001-02-0	LCS	1,2,3,4,6,7,8,9-OCDF	200	213	107	63-170

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

SDG Number: 6324

Sample Type: Laboratory Control Sample Duplicate

Client ID: LCSD for batch 26438

Matrix: TISSUE

Lab Sample ID: 12010949

Instrument: HRP763

Analysis Date: 07/23/2014 07:41

Dilution: 1

Analyst: JTF

Prep Batch ID: 26438

Batch ID: 26440

CAS No.	Parmname	Amount	Spike	Recovery	Acceptance	RPD	Acceptance
		Added	Conc.		Limits	%	Limits
		pg/g	pg/g	%		%	
1746-01-6	LCSD 2,3,7,8-TCDD	20.0	21.0	105	67-158	4.39	0-20
40321-76-4	LCSD 1,2,3,7,8-PeCDD	100	101	101	70-142	2.83	0-20
39227-28-6	LCSD 1,2,3,4,7,8-HxCDD	100	103	103	70-164	1.13	0-20
57653-85-7	LCSD 1,2,3,6,7,8-HxCDD	100	106	106	76-134	5.12	0-20
19408-74-3	LCSD 1,2,3,7,8,9-HxCDD	100	115	115	64-162	7.92	0-20
35822-46-9	LCSD 1,2,3,4,6,7,8-HpCDD	100	102	102	70-140	5.07	0-20
3268-87-9	LCSD 1,2,3,4,6,7,8,9-OCDD	200	200	99.8	78-144	6.02	0-20
51207-31-9	LCSD 2,3,7,8-TCDF	20.0	20.5	103	75-158	1.08	0-20
57117-41-6	LCSD 1,2,3,7,8-PeCDF	100	108	108	80-134	4.51	0-20
57117-31-4	LCSD 2,3,4,7,8-PeCDF	100	107	107	68-160	7.69	0-20
70648-26-9	LCSD 1,2,3,4,7,8-HxCDF	100	118	118	72-134	7.14	0-20
57117-44-9	LCSD 1,2,3,6,7,8-HxCDF	100	110	110	84-130	1.26	0-20
60851-34-5	LCSD 2,3,4,6,7,8-HxCDF	100	113	113	70-156	2.52	0-20
72918-21-9	LCSD 1,2,3,7,8,9-HxCDF	100	123	123	78-130	2.98	0-20
67562-39-4	LCSD 1,2,3,4,6,7,8-HpCDF	100	113	113	82-122	6.41	0-20
55673-89-7	LCSD 1,2,3,4,7,8,9-HpCDF	100	110	110	78-138	1.44	0-20
39001-02-0	LCSD 1,2,3,4,6,7,8,9-OCDF	200	226	113	63-170	5.94	0-20

Method Blank Summary

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SDG Number: 6324
 Client ID: MB for batch 26411
 Lab Sample ID: 12010919
 Column:

Client: TRCC001
 Instrument ID: HRP763
 Prep Date: 17-JUL-14

Matrix: TISSUE
 Data File: b18jul14a_2-3
 Analyzed: 07/19/14 03:53

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26411	12010920	b18jul14a_2-1	07/19/14	0218
02 LFBG01	6324001	b18jul14a_2-4	07/19/14	0440
03 LFBG02	6324002	b18jul14a_2-5	07/19/14	0528
04 LFBG02 Dup	6324003	b18jul14a_2-6	07/19/14	0616
05 LFLMB01	6324004	b18jul14a_2-7	07/19/14	0704
06 YFBG01	6324005	b18jul14a_2-8	07/19/14	0751
07 YFBG02	6324006	b18jul14a_2-9	07/19/14	0839
08 CPBG01	6324007	b18jul14a_2-10	07/19/14	0927
09 CPBG02	6324008	b18jul14a_2-11	07/19/14	1015
10 CPLMB01	6324009	b18jul14a_2-12	07/19/14	1102
11 CPLMB02	6324010	b18jul14a_2-13	07/19/14	1150
12 LFLMB02	6324012	b18jul14a_3-2	07/19/14	1421
13 LFBG01-F	6324013	b18jul14a_3-3	07/19/14	1509
14 LFBG02-F	6324014	b18jul14a_3-4	07/19/14	1556
15 LFBG02-F Dup	6324015	b18jul14a_3-5	07/19/14	1644
16 LFLMB01-F	6324016	b18jul14a_3-6	07/19/14	1732
17 YFBG01-F / YFBG02-F	6324017	b18jul14a_3-7	07/19/14	1820
18 CPBG01-F	6324018	b18jul14a_3-8	07/19/14	1907
19 CPBG02-F	6324019	b18jul14a_3-9	07/19/14	1955
20 CPLMB01-F	6324020	b18jul14a_3-10	07/19/14	2043
21 CPLMB02 Dup	6324011	b18jul14a_4-6	07/20/14	0448
22 LCSD for batch 26411	12010921	b22jul14a-2	07/22/14	0950

Method Blank Summary

Page 1 of 1

SDG Number: 6324
Client ID: MB for batch 26438
Lab Sample ID: 12010947
Column:

Client: TRCC001
Instrument ID: HRP763
Prep Date: 18-JUL-14

Matrix: TISSUE
Data File: b22jul14a_3-3
Analyzed: 07/23/14 08:29

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 26438	12010948	b22jul14a_3-1	07/23/14	0654
02 LCSD for batch 26438	12010949	b22jul14a_3-2	07/23/14	0741
03 CPLMB02-F	6324021	b22jul14a_3-4	07/23/14	0917
04 CPLMB02-F Dup	6324022	b22jul14a_3-5	07/23/14	1004
05 LFLMB02-F	6324023	b22jul14a_3-6	07/23/14	1052

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010919		Matrix: TISSUE
Client Sample: QC for batch 26411		
Client ID: MB for batch 26411		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 03:53	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-3		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.204		pg/g	0.204	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	.104		pg/g	0.104	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	.171		pg/g	0.171	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	.156		pg/g	0.156	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	.173		pg/g	0.173	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.26		pg/g	0.260	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	J	0.924		pg/g	0.426	10.0
51207-31-9	2,3,7,8-TCDF	J	0.186		pg/g	0.151	1.00
57117-41-6	1,2,3,7,8-PeCDF	J	0.108		pg/g	0.092	5.00
57117-31-4	2,3,4,7,8-PeCDF	JK		0.082	pg/g	0.0786	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	.116		pg/g	0.116	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	.117		pg/g	0.117	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	.119		pg/g	0.119	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	.18		pg/g	0.180	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.103		pg/g	0.103	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.171		pg/g	0.171	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.48		pg/g	0.480	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.204		pg/g	0.204	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.104		pg/g	0.104	5.00
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.156		pg/g	0.156	5.00
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.26		pg/g	0.260	5.00
30402-14-3	Total Tetrachlorodibenzofuran	J	0.186		pg/g	0.151	1.00
30402-15-4	Total Pentachlorodibenzofuran	J	0.108	0.190	pg/g	0.0576	5.00
55684-94-1	Total Hexachlorodibenzofuran	U	.116		pg/g	0.116	5.00
38998-75-3	Total Heptachlorodibenzofuran	U	.103		pg/g	0.103	5.00
3333-30-0	TEQ WHO2005 ND=0		0.0221	0.0467	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.242	0.255	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		195	200	pg/g	97.5	(25%-164%)
13C-1,2,3,7,8-PeCDD		223	200	pg/g	111	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		185	200	pg/g	92.3	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		190	200	pg/g	95.2	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		215	200	pg/g	108	(23%-140%)
13C-OCDD		392	400	pg/g	98.1	(17%-157%)
13C-2,3,7,8-TCDF		212	200	pg/g	106	(24%-169%)
13C-1,2,3,7,8-PeCDF		218	200	pg/g	109	(24%-185%)
13C-2,3,4,7,8-PeCDF		236	200	pg/g	118	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		186	200	pg/g	92.8	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		192	200	pg/g	96.0	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		197	200	pg/g	98.7	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		196	200	pg/g	97.8	(29%-147%)

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010919		Matrix: TISSUE
Client Sample: QC for batch 26411		
Client ID: MB for batch 26411		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 03:53	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-3		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			204	200	pg/g	102	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			215	200	pg/g	108	(26%-138%)
37Cl-2,3,7,8-TCDD			21.3	20.0	pg/g	106	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010920		Matrix: TISSUE
Client Sample: QC for batch 26411		
Client ID: LCS for batch 26411		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/19/2014 02:18	Analyst: JTF	Instrument: HRP763
Data File: b18jul14a_2-1		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.0		pg/g	4.44	1.00
40321-76-4	1,2,3,7,8-PeCDD		104		pg/g	0.234	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		100		pg/g	0.448	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		100		pg/g	0.424	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		110		pg/g	0.460	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		102		pg/g	0.892	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		193		pg/g	1.60	10.0
51207-31-9	2,3,7,8-TCDF		20.1		pg/g	0.226	1.00
57117-41-6	1,2,3,7,8-PeCDF		109		pg/g	0.326	5.00
57117-31-4	2,3,4,7,8-PeCDF		108		pg/g	0.310	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		111		pg/g	0.604	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		113		pg/g	0.558	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		109		pg/g	0.642	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		112		pg/g	1.00	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.616	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		110		pg/g	1.05	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		227		pg/g	1.56	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		173	200	pg/g	86.5	(20%-175%)
13C-1,2,3,7,8-PeCDD		218	200	pg/g	109	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		184	200	pg/g	92.0	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		195	200	pg/g	97.5	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		213	200	pg/g	106	(22%-166%)
13C-OCDD		374	400	pg/g	93.6	(13%-199%)
13C-2,3,7,8-TCDF		209	200	pg/g	104	(22%-152%)
13C-1,2,3,7,8-PeCDF		210	200	pg/g	105	(21%-192%)
13C-2,3,4,7,8-PeCDF		225	200	pg/g	112	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		196	200	pg/g	97.8	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		202	200	pg/g	101	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		200	200	pg/g	99.8	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		201	200	pg/g	101	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		207	200	pg/g	103	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		213	200	pg/g	106	(20%-186%)
37Cl-2,3,7,8-TCDD		18.7	20.0	pg/g	93.5	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010921		Matrix: TISSUE
Client Sample: QC for batch 26411		
Client ID: LCSD for batch 26411		Prep Basis: As Received
Batch ID: 26413	Method: EPA Method 1613B	
Run Date: 07/22/2014 09:50	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a-2		Dilution: 1
Prep Batch: 26411	Prep Method: SW846 3540C	
Prep Date: 17-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.1		pg/g	0.626	1.00
40321-76-4	1,2,3,7,8-PeCDD		98.3		pg/g	0.522	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		100		pg/g	0.810	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		101		pg/g	0.808	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		108		pg/g	0.858	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		97.2		pg/g	0.708	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		199		pg/g	2.12	10.0
51207-31-9	2,3,7,8-TCDF		20.8		pg/g	0.442	1.00
57117-41-6	1,2,3,7,8-PeCDF		106		pg/g	0.620	5.00
57117-31-4	2,3,4,7,8-PeCDF		107		pg/g	0.600	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		112		pg/g	0.856	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		112		pg/g	0.840	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		109		pg/g	0.874	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		116		pg/g	1.28	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		108		pg/g	0.670	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		108		pg/g	1.06	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		212		pg/g	2.40	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		186	200	pg/g	93.2	(20%-175%)
13C-1,2,3,7,8-PeCDD		206	200	pg/g	103	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		200	200	pg/g	99.9	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		183	200	pg/g	91.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		220	200	pg/g	110	(22%-166%)
13C-OCDD		376	400	pg/g	93.9	(13%-199%)
13C-2,3,7,8-TCDF		198	200	pg/g	98.8	(22%-152%)
13C-1,2,3,7,8-PeCDF		196	200	pg/g	97.8	(21%-192%)
13C-2,3,4,7,8-PeCDF		211	200	pg/g	106	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		188	200	pg/g	93.9	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		192	200	pg/g	95.9	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		195	200	pg/g	97.4	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		192	200	pg/g	96.1	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		208	200	pg/g	104	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		217	200	pg/g	109	(20%-186%)
37Cl-2,3,7,8-TCDD		20.7	20.0	pg/g	103	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010947		Matrix: TISSUE
Client Sample: QC for batch 26438		
Client ID: MB for batch 26438		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 08:29	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-3		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	.322		pg/g	0.322	1.00
40321-76-4	1,2,3,7,8-PeCDD	U	.168		pg/g	0.168	5.00
39227-28-6	1,2,3,4,7,8-HxCDD	U	.236		pg/g	0.236	5.00
57653-85-7	1,2,3,6,7,8-HxCDD	U	.242		pg/g	0.242	5.00
19408-74-3	1,2,3,7,8,9-HxCDD	U	.254		pg/g	0.254	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD	U	.274		pg/g	0.274	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD	JK		0.832	pg/g	0.552	10.0
51207-31-9	2,3,7,8-TCDF	U	.206		pg/g	0.206	1.00
57117-41-6	1,2,3,7,8-PeCDF	U	.11		pg/g	0.110	5.00
57117-31-4	2,3,4,7,8-PeCDF	U	.096		pg/g	0.096	5.00
70648-26-9	1,2,3,4,7,8-HxCDF	U	.168		pg/g	0.168	5.00
57117-44-9	1,2,3,6,7,8-HxCDF	U	.158		pg/g	0.158	5.00
60851-34-5	2,3,4,6,7,8-HxCDF	U	.175		pg/g	0.175	5.00
72918-21-9	1,2,3,7,8,9-HxCDF	U	.264		pg/g	0.264	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF	U	.182		pg/g	0.182	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF	U	.298		pg/g	0.298	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF	U	.722		pg/g	0.722	10.0
41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	.322		pg/g	0.322	1.00
36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	.168		pg/g	0.168	5.00
34465-46-8	Total Hexachlorodibenzo-p-dioxin	U	.236		pg/g	0.236	5.00
37871-00-4	Total Heptachlorodibenzo-p-dioxin	U	.274		pg/g	0.274	5.00
30402-14-3	Total Tetrachlorodibenzofuran	U	.206		pg/g	0.206	1.00
30402-15-4	Total Pentachlorodibenzofuran	U	.076		pg/g	0.076	5.00
55684-94-1	Total Hexachlorodibenzofuran	U	.158		pg/g	0.158	5.00
38998-75-3	Total Heptachlorodibenzofuran	U	.182		pg/g	0.182	5.00
3333-30-0	TEQ WHO2005 ND=0		0.00	0.00025	pg/g		
3333-30-1	TEQ WHO2005 ND=0.5		0.350	0.350	pg/g		

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		185	200	pg/g	92.7	(25%-164%)
13C-1,2,3,7,8-PeCDD		190	200	pg/g	95.2	(25%-181%)
13C-1,2,3,4,7,8-HxCDD		170	200	pg/g	85.2	(32%-141%)
13C-1,2,3,6,7,8-HxCDD		182	200	pg/g	91.0	(28%-130%)
13C-1,2,3,4,6,7,8-HpCDD		204	200	pg/g	102	(23%-140%)
13C-OCDD		336	400	pg/g	84.1	(17%-157%)
13C-2,3,7,8-TCDF		195	200	pg/g	97.5	(24%-169%)
13C-1,2,3,7,8-PeCDF		183	200	pg/g	91.7	(24%-185%)
13C-2,3,4,7,8-PeCDF		191	200	pg/g	95.6	(21%-178%)
13C-1,2,3,4,7,8-HxCDF		181	200	pg/g	90.3	(26%-152%)
13C-1,2,3,6,7,8-HxCDF		192	200	pg/g	96.1	(26%-123%)
13C-2,3,4,6,7,8-HxCDF		190	200	pg/g	94.8	(28%-136%)
13C-1,2,3,7,8,9-HxCDF		185	200	pg/g	92.5	(29%-147%)

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010947		Matrix: TISSUE
Client Sample: QC for batch 26438		
Client ID: MB for batch 26438		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 08:29	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-3		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
Surrogate/Tracer recovery							
		Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-1,2,3,4,6,7,8-HpCDF			190	200	pg/g	94.9	(28%-143%)
13C-1,2,3,4,7,8,9-HpCDF			197	200	pg/g	98.5	(26%-138%)
37Cl-2,3,7,8-TCDD			19.9	20.0	pg/g	99.3	(35%-197%)

Comments:

- J** Value is estimated
- K** Estimated Maximum Possible Concentration
- U** Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010948		Matrix: TISSUE
Client Sample: QC for batch 26438		
Client ID: LCS for batch 26438		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 06:54	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-1		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		20.1		pg/g	0.374	1.00
40321-76-4	1,2,3,7,8-PeCDD		98.6		pg/g	0.378	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		102		pg/g	0.578	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		101		pg/g	0.562	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		106		pg/g	0.604	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		97.2		pg/g	0.816	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		188		pg/g	1.45	10.0
51207-31-9	2,3,7,8-TCDF		20.7		pg/g	0.236	1.00
57117-41-6	1,2,3,7,8-PeCDF		103		pg/g	0.460	5.00
57117-31-4	2,3,4,7,8-PeCDF		98.8		pg/g	0.404	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		110		pg/g	0.904	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		112		pg/g	0.844	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		110		pg/g	0.976	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		119		pg/g	1.51	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		106		pg/g	0.622	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		108		pg/g	1.08	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		213		pg/g	2.98	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		182	200	pg/g	91.0	(20%-175%)
13C-1,2,3,7,8-PeCDD		186	200	pg/g	93.1	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		174	200	pg/g	86.9	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		175	200	pg/g	87.4	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		195	200	pg/g	97.4	(22%-166%)
13C-OCDD		328	400	pg/g	81.9	(13%-199%)
13C-2,3,7,8-TCDF		194	200	pg/g	97.0	(22%-152%)
13C-1,2,3,7,8-PeCDF		176	200	pg/g	87.9	(21%-192%)
13C-2,3,4,7,8-PeCDF		193	200	pg/g	96.3	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		178	200	pg/g	89.1	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		175	200	pg/g	87.3	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		180	200	pg/g	89.9	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		173	200	pg/g	86.6	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		182	200	pg/g	91.0	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		186	200	pg/g	92.9	(20%-186%)
37Cl-2,3,7,8-TCDD		20.7	20.0	pg/g	103	(31%-191%)

Comments:

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

**Hi-Res Dioxins/Furans
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Sample Summary**

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SDG Number: 6324	Client: TRCC001	Project: TRCC00314
Lab Sample ID: 12010949		Matrix: TISSUE
Client Sample: QC for batch 26438		
Client ID: LCSD for batch 26438		Prep Basis: As Received
Batch ID: 26440	Method: EPA Method 1613B	
Run Date: 07/23/2014 07:41	Analyst: JTF	Instrument: HRP763
Data File: b22jul14a_3-2		Dilution: 1
Prep Batch: 26438	Prep Method: SW846 3540C	
Prep Date: 18-JUL-14	Prep Aliquot: 10 g	

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		21.0		pg/g	0.770	1.00
40321-76-4	1,2,3,7,8-PeCDD		101		pg/g	0.488	5.00
39227-28-6	1,2,3,4,7,8-HxCDD		103		pg/g	0.704	5.00
57653-85-7	1,2,3,6,7,8-HxCDD		106		pg/g	0.662	5.00
19408-74-3	1,2,3,7,8,9-HxCDD		115		pg/g	0.724	5.00
35822-46-9	1,2,3,4,6,7,8-HpCDD		102		pg/g	0.822	5.00
3268-87-9	1,2,3,4,6,7,8,9-OCDD		200		pg/g	1.94	10.0
51207-31-9	2,3,7,8-TCDF		20.5		pg/g	0.226	1.00
57117-41-6	1,2,3,7,8-PeCDF		108		pg/g	0.384	5.00
57117-31-4	2,3,4,7,8-PeCDF		107		pg/g	0.348	5.00
70648-26-9	1,2,3,4,7,8-HxCDF		118		pg/g	0.664	5.00
57117-44-9	1,2,3,6,7,8-HxCDF		110		pg/g	0.602	5.00
60851-34-5	2,3,4,6,7,8-HxCDF		113		pg/g	0.686	5.00
72918-21-9	1,2,3,7,8,9-HxCDF		123		pg/g	1.01	5.00
67562-39-4	1,2,3,4,6,7,8-HpCDF		113		pg/g	0.662	5.00
55673-89-7	1,2,3,4,7,8,9-HpCDF		110		pg/g	1.11	5.00
39001-02-0	1,2,3,4,6,7,8,9-OCDF		226		pg/g	2.18	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		192	200	pg/g	96.2	(20%-175%)
13C-1,2,3,7,8-PeCDD		192	200	pg/g	96.0	(21%-227%)
13C-1,2,3,4,7,8-HxCDD		183	200	pg/g	91.6	(21%-193%)
13C-1,2,3,6,7,8-HxCDD		177	200	pg/g	88.7	(25%-163%)
13C-1,2,3,4,6,7,8-HpCDD		202	200	pg/g	101	(22%-166%)
13C-OCDD		338	400	pg/g	84.4	(13%-199%)
13C-2,3,7,8-TCDF		206	200	pg/g	103	(22%-152%)
13C-1,2,3,7,8-PeCDF		188	200	pg/g	94.2	(21%-192%)
13C-2,3,4,7,8-PeCDF		200	200	pg/g	100	(13%-328%)
13C-1,2,3,4,7,8-HxCDF		178	200	pg/g	88.8	(19%-202%)
13C-1,2,3,6,7,8-HxCDF		187	200	pg/g	93.3	(21%-159%)
13C-2,3,4,6,7,8-HxCDF		189	200	pg/g	94.4	(22%-176%)
13C-1,2,3,7,8,9-HxCDF		180	200	pg/g	90.2	(17%-205%)
13C-1,2,3,4,6,7,8-HpCDF		185	200	pg/g	92.7	(21%-158%)
13C-1,2,3,4,7,8,9-HpCDF		199	200	pg/g	99.4	(20%-186%)
37Cl-2,3,7,8-TCDD		21.8	20.0	pg/g	109	(31%-191%)

Comments:

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

APPENDIX E

PEER REVIEW COMMENT LETTER



Scientific Research and Consulting

July 9, 2015

Ms. Karen Vetrano, Ph.D.
Manager, Risk Assessment and Toxicology
TRC Environmental Corporation
142 Ralyn Rd
Cotuit, MA 02635

Dear Karen,

I have had the opportunity to review the February 2015 revised final draft of the Fifth Operational Phase Non-Air Media Monitoring report prepared by TRC Associates regarding the Montgomery County Resource Recovery Facility (RRF).

In this peer review, I evaluated the revised final draft in light of the comments submitted from my earlier review of the January 2015 draft. My review also considered previous peer review comments on the fourth operational phase non-air media monitoring program, conducted in 2007, that were included in Attachment I of Montgomery County's RRF Request for Proposal.¹

It should be noted that I did not independently verify or validate the data values presented in the report. It is my understanding that these items have been independently quality assured and validated by TRC as part of its quality assurance methods for this project. I also accepted as accurate maps and figures provided in the draft report.

TRC did a thorough job of addressing my prior comments. I compared the revised draft section by section and confirmed that TRC addressed my previous technical comments and edited the report text to help make it more understandable to a less technical audience. The revised draft report also has considered and appropriately addressed peer review comments on the fourth operational phase non-air media monitoring program. For example, TRC has provided additional description and discussion of detection limits and the treatment of non-detected sampling results in the draft report, as well as the potential impacts of these factors on the statistical evaluation of concentration trends over time.

The non-air media monitoring program was conducted in accordance with standard sampling and analytical methods that are currently used for these types of environmental monitoring studies. The sampling, analysis and validation methods are clearly summarized in the draft report and compared to those used in previous non-air media monitoring programs. Documentation related to data validation and the detailed laboratory results are provided in appendices to the final draft report.

¹ Montgomery County. 2013. Request for Proposals #1016212. Resource Recovery Facility Human Risk Assessment Update, Ambient Environmental Media Monitoring and Technical Assistance. January 11, 2013

Overall, the methodologies followed were consistent with current scientific norms for this type of study, and the conclusions were consistent with findings in other environmental monitoring studies of similar waste to energy facilities.

In summary, it is my conclusion that the non-air media monitoring program relied on well-accepted and appropriate methodologies to evaluate potential environmental impacts associated with air emissions from the waste to energy facility. The study shows no measurable changes in the environmental concentrations of the evaluated compounds (dioxins and furans and selected trace metals) that can be attributed to the facility.

Please feel free to contact me for any further clarification or if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Sarah Foster".

Sarah Foster, Principal
CPF Associates, Inc.