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APPENDIX G

Ecological Screening Level Exposure Assessment of Table 3+ PFAS

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NC License No.: C-3500 and C-295

ECOLOGICAL SCREENING LEVEL EXPOSURE ASSESSMENT (SLEA) OF TABLE 3+ PFAS

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LIST OF ABBREVIAIONS

°F	degree Fahrenheit
95UCL	95% Upper Confidence Limit
µg/kg	microgram per kilogram
AUF	Area use factor
BAF	bioaccumulation factors
BCF	bioconcentrations factors
bgs	below ground surface
BSAF	biota-soil accumulation factor
BW	Body weight
CAP	Corrective Action Plan
CFR	Cape Fear River
CO	Consent Order
CSM	Conceptual Site Model
DDT	dichlorodiphenyltrichloroethane
dw	dry weight
Ecological SLEA	Ecological Screening Level Exposure Assessment
EPC	exposure point concentration
EPC_{soil}	Exposure Point Concentration in soil
EPC_{diet}	Exposure Point Concentration in diet items
EPC_{sw}	Exposure Point Concentration in surface water
ERA	Ecological Risk Assessment
EU	Exposure Unit
FIR_{ww}	Daily food ingestion rate
FIR_{dw}	Daily food ingestion rate
FOD	frequency of detection
HFPO-DA	hexafluoropropylene oxide dimer acid
HFPO-TA	hexafluoropropylene oxide trimer acid
HH-SLEA	Human Health Screening Level Exposure Assessment

LIST OF ABBREVIAIONS (CON'T)

HQ	Hazard Quotient
ISM	Incremental Sampling Methodology
kg	kilogram
log K_{OC}	log10-based organic carbon-water partitioning co-efficient
L/kg	liter per kilogram
log K_{OA}	log10-based octanol-air partitioning co-efficient
log K_{OW}	log octanal-water partitioning coefficient
logP	log partitioning coefficient
mg/L	milligram per liter
mg/kg bw-day	milligram per kilogram body weight per day
MSL	mean sea level
NC	North Carolina
NCDEQ	North Carolina Department of Environmental Quality
ng/kg	nanogram per kilogram
NOAEL	No observed adverse effect level
NOEC	no effect concentration
NOEL	no effect level
NPDES	National Pollutant Discharge Elimination System
NVHOS	Sodium 1,1,2,2-Teatrafluoro-2-(1,2,2,2-tetrafluoroethoxy)ethane-1-sulfonate
P	Proportion of diet composed of the individual food source
PCB	polychlorinated biphenyl
PEPA	perfluoroethoxypropyl carboxylic acid
PES	perfluoro(2-ethoxyethane)sulfonic acid
PFAA	perfluoroalkyl acids
PFAS	per- and poly-fluoroalkyl substances
PFCA	perfluorocarboxylic acid
PFECA B	perfluoro-3,6-dioxaheptanoic acid
PFESA-BP1	perfluoro-3,6-dioxa-4-methyl-7-octene-1-sulfonic acid

LIST OF ABBREVIAIONS (CON'T)

PFESA-BP2	perfluoro-2-{[perfluoro-3-(perfluoroethoxy)-2 propanyl]oxy}ethanesulfonic acid
PFMOAA	perfluoro-2-methoxyacetic acid
PFOA	perfluorooctanoic acid
PFO2HxA	perfluoro(3,5-dioxahexanoic) acid
PFO3OA	perfluoro(3,5,7-trioxaoctanoic) acid
PFO4DA	perfluoro(3,5,7,9-tetraoxadecanoic) acid
PFO5DA	perfluoro-3,5,7,9,11-pentaoxadodecanoic acid
PFOS	perfluorooctane sulfonate
PMPA	perfluoro-2-(perfluoromethoxy)propanoic acid
PNEC	Probable No Effects Concentrations
RL	reporting limit
SLERA	Screening-level ecological risk assessments
SMDP	Scientific Management Decision Point
SOP	Standard Operating Procedure
T&E	Threatened and endangered
TDI	totally daily intake
TDI_{diet}	Total daily dietary intake
TDI_{soil}	Total daily soil intake
TRV	Toxicity Reference Value
USGS	United States Geological Survey
WB:F	whole-body to fillet ratios
WET	Whole Effluent Toxicity
ww	wet weight

EXECUTIVE SUMMARY

Geosyntec prepared this Ecological Screening Level Exposure Assessment (Ecological SLEA) on behalf of The Chemours Company FC, LLC (Chemours) in support of developing a Corrective Action Plan (CAP) for the Chemours Fayetteville Works Site (the Site). The overall goal of the Ecological SLEA was to refine the ecological Conceptual Site Model in support of CAP development, quantify and assess exposures to ecological receptors onsite, offsite and in the Cape Fear River, and to evaluate the potential for hazards related to exposure to hexafluoropropylene oxide dimer acid (HFPO-DA). Field investigations included collection of onsite and offsite soils, invertebrates and offsite vegetation, and sediment, vegetation, fish and clams from the Cape Fear River for analysis of Table 3+ per- and poly-fluoroalkyl substances (PFAS). These data were used to evaluate the presence of Table 3+ PFAS in environmental media, identify spatial patterns, quantify mammalian and avian exposures to Table 3+ PFAS, and to evaluate the potential for adverse effects to wildlife from current exposures to HFPO-DA.

Overall, 17 out of 20 Table 3+ PFAS were detected in one or more samples from the field investigation. Environmental media with the highest number of positively detected Table 3+ PFAS included site invertebrates (15 out of 20), onsite soils (13 out of 20), terrestrial vegetation (13 out of 20), aquatic vegetation (11 out of 20), and fish (7 out of 20). However, some environmental media had very few or no detections of Table 3+ PFAS, including sediment (in which only HFPO-DA was detected), offsite soil (2 out of 20 Table 3+ PFAS were detected) and benthic invertebrates from the Cape Fear River (in which no Table 3+ PFAS were detected). Because the sediment in the Cape Fear River and soil in the offsite areas do not appear to have accumulated widely detectable concentrations of Table 3+ PFAS, they are not likely to act as long-term exposure sources for ecological receptors, although uncertainties regarding partitioning to porewater and analytical sensitivities remain.

Estimated total daily intake (TDI) indicated that the highest Table 3+PFAS exposures are for vertebrates that consume terrestrial and aquatic plants in both onsite, aquatic and offsite areas. In general, herbivores demonstrated a higher estimated TDI for Table 3+ PFAS, followed by piscivores and invertivores. Estimated total exposures (i.e., cumulative exposure to all Table 3+ PFAS) were generally highest in the onsite area, exceeding those in the Cape Fear River and offsite terrestrial areas by up to 3 times. The predominant Table 3+ PFAS contributing to herbivore exposures included perfluoro-2-methoxyacetic acid (PFMOAA), sodium 1,1,2,2-tetrafluoro-2-(1,2,2,2-tetrafluoroethoxy)ethane-1-sulfonate (NVHOS), perfluoro-2-(perfluoromethoxy)-propanoic acid (PMPA) and perfluoro-3,5-dioxahexanoic acid (PFO2HxA). Piscivores

in the Cape Fear River were exposed to a high proportion of PFMOAA and perfluoro(3,5,7,9-tetraoxadecanoic) acid (PFO4DA). Exposure to invertivores included PFMOAA, PMPA, Byproduct4, Byproduct5, and HFPO-DA.

Hazard quotients (HQs) for HFPO-DA ranged from 0.00000008 to 0.24, indicating that current exposures in these Exposure Units (EUs) are not expected to pose a hazard to ecological receptors.

Although there are several inherent sources of uncertainty in ecological evaluations, the primary source of uncertainty in the Ecological SLEA is attributed to the lack of toxicity reference values (TRVs) for many Table 3+ PFAS, as TRVs are a key element of quantitative hazard evaluations. Chemours is presently undertaking a process to provide additional toxicity data for five additional compounds (PMPA, PEPA, PFMOAA, PFO2HxA, and PFESA-BP2), which will be useful in the development of TRVs in the future. Tests are presently anticipated to be completed in late 2022. Overall, this Ecological SLEA presents a screening-level evaluation of Table 3+ PFAS detected in environmental media. Results indicate that current exposures to ecological receptors from HFPO-DA are not expected to pose a hazard to ecological receptors in the study area.

1 INTRODUCTION

Geosyntec prepared this Ecological Screening Level Exposure Assessment (Ecological SLEA) on behalf of The Chemours Company FC, LLC (Chemours) in support of developing a Corrective Action Plan (CAP; Geosyntec, 2019a) for the Chemours Fayetteville Works Site (the Site) pursuant to the February 25, 2019 Consent Order (CO) among the Chemours Company FC, LLC (Chemours), the North Carolina Department of Environmental Quality (NCDEQ) and the Cape Fear River Watch. While inclusion of this Ecological SLEA is not a requirement of the CO, Chemours has performed this evaluation of exposure to ecological receptors for Table 3+ per- and polyfluoroalkyl substances (PFAS) to support the CAP.

This Ecological SLEA evaluated exposures of Table 3+ PFAS to ecological receptors and the hazard potential for hexafluoropropylene dimer acid (HFPO-DA), as toxicological data are only available for HFPO-DA. The remainder of this section focuses on a brief overview of the Ecological Risk Assessment (ERA) process, as well as specific goals and objectives for this assessment.

1.1 Ecological Exposure and Risk Assessment

This subsection contextualizes the data and analyses described herein within the ERA process. The purpose of performing an ERA is to identify and characterize the current potential risks to ecological receptors from potentially hazardous substances. Additionally, ecological risk assessments can be used to establish cleanup levels protective of ecological receptors and evaluate various remedial approaches (USEPA, 1994; NCDEQ, 2003). USEPA guidance on performing ERAs includes an 8-Step process concluding with a Scientific Management Decision Point (SMDP). Screening-level ecological risk assessments (SLERA) consistent with standard ecological risk assessment practice and guidance (USEPA, 1993; NCDEQ 2003), are reflective of the first two steps of this 8-Step ERA framework. A SLERA applies conservative assumptions, often using more limited data sets, to evaluate the potential hazards to ecological receptors. SLERAs include the following key steps:

- Problem Formulation and Toxicity Evaluation: In this first step of the SLERA process, information regarding the Site is compiled. Information evaluated in this step can include on and offsite habitats, identifying potentially exposed receptors including state or Federally listed species, and identifying potentially complete exposure pathways. Additionally, toxicity benchmarks are selected, typically in the form of conservative screening levels developed by State or Federal agencies. These screening levels are typically based on

highly conservative assumptions and are reflective of concentrations in the environment below which no adverse impacts to receptors are expected.

- Screening-level Exposure Assessment and Risk Calculations: In this second step of the SLERA, the exposure to receptors is estimated using conservative assumptions. For example, maximum concentrations of constituents may be selected over measures of central tendency to reflect exposure point concentrations. The estimated exposure is compared to the toxicity benchmark selected in Step 1 to evaluate the potential for risk. If exposure is below the toxicity benchmark, it can be confidently concluded that adverse impacts are not likely to occur. If exposure is greater than the toxicity benchmark, then additional refinement of assumptions and quantification of risk levels should be considered.

Due to the emerging nature of Table 3+ PFAS and the wider class of PFAS there are limited toxicity benchmarks to be applied to evaluate risks. For this reason, this report reflects a Screening Level *Exposure* Assessment rather than a SLERA. This Ecological SLEA includes the Problem Formulation and Exposure Assessment steps of a typical SLERA and evaluated hazard where sufficient toxicity data are available to do so. For Table 3+ PFAS, toxicity data are available for HFPO-DA. Under Paragraph 14 of the CO, Chemours is working to address many of the toxicity data gaps related to other Table 3+ PFAS (Chemours, 2019). The results of this Ecological SLEA may be refined as additional information on toxicity of these compounds becomes available.

1.2 Objectives

The objective of this Ecological SLEA was to refine the ecological Conceptual Site Model (CSM) in support of developing the Corrective Action Plan (CAP). Prior to this Ecological SLEA, minimal data on the presence of Table 3+ PFAS in biotic media in the vicinity of the Site were available, resulting in limited understanding of the magnitude of exposure for ecological receptors to Table 3+ PFAS. While the current understanding of the toxicity of Table 3+ PFAS limits the ability to evaluate hazards, this Ecological SLEA followed standard SLERA methodologies with respect to Problem Formulation and Exposure Assessment and applied appropriately conservative assumptions at this stage. Specifically, the objectives of this Ecological SLEA are:

- Evaluate the presence/absence of Table 3+ PFAS in abiotic and biotic media;
- Quantify exposure to Table 3+ PFAS for terrestrial plants, invertebrates and wildlife, and aquatic life (pelagic fish, invertebrates, vegetation), benthic invertebrates and aquatic-dependent wildlife;

- Refine the CSM and understanding of fate of Table 3+ PFAS in the foodweb;
- Evaluate hazards related to exposure to HFPO-DA where sufficient understanding of toxicity is available; and
- Evaluate additional lines of evidence to refine understanding of the CSM.

2 SITE SETTING

2.1 Site Description

The Site is located within a 2,177-acre property at 22828 NC Highway 87, approximately 15 miles southeast of the city of Fayetteville, NC along the Bladen-Cumberland county line. Figure 2-1 presents an overview of the Site. The Site is bounded by NC Highway 87 to the west, the Cape Fear River to the east, and by undeveloped areas and farmland to the north and south. Willis and Georgia Branch Creeks, which are tributaries of the Cape Fear River, are located near the northern and southern property boundaries respectively, with the Georgia Branch Creek being offsite for its entire course (Geosyntec, 2019b). Of the 2,177-acre property, approximately 400 acres is developed land for manufacturing activities, with the remainder generally undeveloped. The Site is zoned for industrial use but includes land specifically designated for conservation and provides habitat for deer, turkey, and other wildlife. A more robust Site history and other operations on Site are described in the Site Assessment Report (Geosyntec, 2019b).

2.2 Environmental Setting

2.2.1 Climate

The climate in Bladen County is characterized by relatively mild winters, hot summers, and abundant rainfall. According to the National Weather Service, average monthly temperatures range from a high of 91 degrees Fahrenheit (°F) in July to a low of 33°F in January. Average monthly rainfall ranges from a high of 5.92 inches in July to a low of 2.65 inches in December (Parsons, 2014).

2.2.2 Topography

The developed portion (manufacturing area) of the Site is located on a relatively flat topographic plateau at an approximate elevation of 145 feet above mean sea level (MSL) and approximately 70 feet above the Cape Fear River floodplain (Figure 2-2). Surface topography generally remains flat to the west with a gentle increase of about 5 feet to a topographic divide near NC Highway 87. However, ground surface elevations decrease from the topographic plateau at the manufacturing area towards the Cape Fear River to the east as well as its tributaries, Willis Creek to the north and Georgia Branch Creek to the south. Topographic relief from the main manufacturing area decreases by approximately 100 feet in elevation towards the Cape Fear River bank to the east. Inclined topographic relief combined with overland flow and groundwater seeps have created natural drainage networks into the Cape Fear River (Geosyntec, 2019b).

2.2.3 Land Uses and Habitats

The Site is situated along the Bladen and Cumberland county line and is within the Coastal Plain eco-region in North Carolina (NC) (NCWC, 2019). This region is classified by the prevalence of large rivers, reservoirs and impoundments, natural lakes, and stream swamp systems.

The Cumberland County Land Use Plan Map indicates that the county is predominantly comprised of undeveloped lands with clusters of residential or manufactured homes. Based on the 2016 land use plan (CCJPB, 2016), Cumberland County is largely zoned for agricultural production due to the large proportion of land designated as either prime farmland (rich soil requiring little input of resources like chemicals or energy) or soil of state and local importance (capable of crop production with modern farming technology). These areas largely produce crops for food, fiber, feed, forage, and oilseed crops. Approximately 24,000 acres of land in Cumberland County were considered to be a part of working farms, either large commercial farms producing one crop (i.e. tobacco, grain crops, peanuts, cotton) or small, multiuse farms with both crops and livestock. There are also a number of working farms that identify as woodlands, or tree farms for future harvesting. This county also features wildlife species that are considered endangered, threatened, significantly rare, or of special concern as discussed below.

Bladen County features many of the same attributes of Cumberland County. Bladen largely includes undeveloped land, land with agricultural use, and clusters of residential use. There are three rivers in the county, and it is bisected by the Cape Fear River which is the largest. Fishing, as well as deer and squirrel hunting are prominent recreational activities in the county. Bladen County includes the habitat for many of the same species as Cumberland County.

2.2.4 Cape Fear River and Tributaries

The Cape Fear River and its entire watershed are located in the state of NC. The Cape Fear River drains about 9,164 square miles and empties into the Atlantic Ocean near the city of Wilmington, NC, and hosts a diverse ecosystem. Including tributaries, the Cape Fear River watershed extends over 200 miles in length, beginning in the Piedmont and ending in the Atlantic Ocean off the coast of Wilmington (NC Office of Environmental Education and Public Affairs, 2019). Habitats present over the course of the Cape Fear River include forests, wetlands, riparian areas, and estuaries. Endemic to the Cape Fear River is an endangered species known as the Cape Fear shiner, a minnow that lives in shallow, rocky areas. Historically, the Cape Fear River also has hosted healthy populations of sturgeon, bass, and American shad.

However, the three lock-and-dam structures, historically used along the lower Cape Fear River to allow the larger vessels to navigate through shallow waters, may block passage of anadromous fish species. Along with overfishing and declining water and habitat quality, some species have recently been in decline (Cape Fear River Partnership, 2019). Other biota inhabiting the Cape Fear River include cypress trees, alligators, and otters, and many estuarine organisms are found along the 35 miles of the river between Wilmington and the Atlantic Ocean which also serves as a nursery for shrimp, crabs, and fish.

The Site is situated on the western bank of the Cape Fear River and it draws water from the Cape Fear River for use primarily as non-contact cooling water. Three lock and dam systems with United States Geological Survey (USGS) stream gauges are located downstream of the Site: (1) W.O. Huske Lock and Dam, located 0.5 river miles from the Site; (2) Cape Fear River Lock #2 near Elizabethtown and (2) Cape Fear Lock and Dam #1, located 55 river miles downstream. There are three perennial surface water features that are tributaries to the Cape Fear River at or adjacent to the Site. To the north of the Site is Willis Creek, in close proximity to the water intake for the Site. To the south of the Site is Georgia Branch Creek which discharges to the Cape Fear River approximately 7,500 feet south of the W.O. Huske Dam. Old Outfall 002 discharges a mixture of surface water and groundwater into the Cape Fear River approximately 1,350 feet south of the W.O. Huske Dam (Geosyntec, 2019b). Additionally, in 2019 four groundwater seep features were identified on the hillside leading from the Site to the Cape Fear River between Willis Creek and Old Outfall 002. These seeps represent groundwater exiting the aquifer and forming channelized flows of water to the Cape Fear River.

In the vicinity of the Site, livestock operations have the greatest effects on the natural resources and habitat quality along the river (Cahoon et al., 1999). The majority of swine are found in the Cape Fear River basin; large numbers of the total population of turkeys, chickens, and cattle are also found in the Cape Fear River basin. The result of livestock production is the introduction of large amounts of nutrients which has led to algal blooms, increased biological oxygen demand, and the threat of eutrophication.

In addition to livestock, large industries lining the lower part of the Cape Fear River have impacted water quality via industrial discharges and stormwater runoff in this area. Particular to potential impacts from PFAS, both Fort Bragg in Fayetteville and Seymour Johnson Air Force Base in Goldsboro, NC have been identified as potential PFAS related impacted sites (EWG, 2019). Multiple studies (Nakayama et al. 2007; Sun et al. 2016; Lindstrom et al., 2015) have reported elevated concentrations of perfluorooctane sulfonate (PFOS) and other 'legacy' PFAS in the Cape Fear River watershed well upstream of the Cape Fear River and the Site, including the Haw River and Cane Creek Reservoir, resulting from a series of inputs regionally. While the majority Table 3+ PFAS

enter the Cape Fear River adjacent to the Site, concentrations of 'legacy' PFAS, including perfluorocarboxylic acids (PFCAs) and perfluorosulfonic acids (PFSAs), are generally consistent upstream and downstream of the Site (Geosyntec, 2018).

2.3 Threatened & Endangered Species

Threatened and endangered (T&E) species are receptors that receive special consideration in ecological risk and exposure assessments (USEPA, 1997). Populations of T&E species may be more vulnerable than other species to site-specific constituents, if present at a site, as smaller populations are less resilient to additional stressors. A comprehensive search for Federal- and state-listed species of special concern was conducted and included the following sites:

- U.S. Fish & Wildlife Service. Raleigh Ecological Services Field Office. Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species, Cumberland County and Bladen County, NC. (https://www.fws.gov/raleigh/species/cntylist/cumberland.html and https://www.fws.gov/raleigh/species/cntylist/bladen.html)
- Center for Biological Diversity, Map: U.S. Threaten and Endangered Species by County; Bladen County and Cumberland County considered (https://www.biologicaldiversity.org/programs/population_and_sustainability/T_and_E_map/)
- U.S. Fish & Wildlife Service. Information for Planning and Consultation tool (https://ecos.fws.gov/ipac/location/index)

Table 2-1 presents a list of threatened, endangered, or otherwise at-risk species identified in Bladen and Cumberland Counties. This includes 10 vertebrates, 3 invertebrates and 9 vascular plant species. Table 2-1 also includes an evaluation of the preferred habitat for each species and an indication of whether these species are likely to be found within the Site, based on their habitat preferences. Many of the species identified as T&E species in Cumberland County are found only in the Northwestern portion of the county, distant from the Site, in an area called the Sandhills, which is near the Fall line. Based on this assessment, 4 vertebrates (i.e., Bald eagle, red cockaded woodpecker, Southern hognose snake, and wood stork), 2 invertebrates (Atlantic pigtoe [mussel], and variegated clubtail [sanddragon]), and 7 plant species (bog spicebush, Boykin's lobelia, Carolina bogmint, Michaux's sumac, pondberry, rough-leaved loosestrife, Venus' fly-trap) are considered T&E or at risk and may potentially be found within the Site boundaries; a biological survey would need to be conducted to confirm the presence or absence of these species and/or their preferred habitat. As described in the following section, with the exception of the Southern hognose snake, Table 3+ PFAS exposure to each of these species is

represented by a sensitive receptor from the same group of organisms (i.e., plant, terrestrial invertebrate, aquatic invertebrate, invertivorous terrestrial bird, piscivorous bird).

2.4 Conceptual Site Model

2.4.1 Table 3+ PFAS

The primary PFAS of concern is HFPO-DA and the other Table 3+ PFAS that are formed in the manufacturing process at the Site. The list of Table 3+ PFAS is provided in Table 2-2 and Table 2-3 presents physical and chemical properties for each Table 3+ PFAS. This section primarily focuses on HFPO-DA as more is currently known on the physical and chemical properties, but inferences from the available data on the other Table 3+ PFAS are discussed below.

HFPO-DA is a human-made chemical produced at the Site. HFPO-DA is a six carbon, branched PFAS containing an ether bond (i.e., an oxygen atom linking two carbon atoms). HFPO-DA is a clear, colorless liquid that exhibits a low octanol-water partitioning capacity (reported log K_{ow} values range from 3.6 [Hopkins et al., 2018] to 4.26 [Geosyntec, 2019a])[1] and is completely miscible with water (i.e., high solubility in surface water, groundwater, rainwater, leachate). Under normal environmental conditions, HFPO-DA exists as an anionic acid (2.8 acid dissociation constant [pKa])[2] (Hoke et al., 2016).

Similar to other environmentally persistent compounds, HFPO-DA has a relatively long half-life in environmental matrices (> 6-months) and does not readily undergo photolysis, hydrolysis, or biotransformation/degradation (USEPA, 2018; DuPont, 2008b; DuPont, 2009a). Due to a combination of high solubility in water and low affinity for sediment/soil, HFPO-DA is expected to rapidly partition to, and remain in aqueous environmental compartments (e.g., groundwater and surface water) (USEPA, 2018, DuPont, 2008a, Hoke et al., 2016, Beekman et al., 2016, Pan et al., 2018). However, the vapor pressure of HFPO-DA does not exclude some volatilization to air; dissolution in aerosolized water droplets or binding to suspended particulate matter has also been reported (USEPA, 2018). HFPO-DA present in air is deposited via wet and dry deposition (USEPA, 2018; Hoke et al., 2016; Beekman et al., 2016; Xiao et al., 2017). Once present

[1] K_{ow} is the octanol-water partitioning coefficient, the ratio of the equilibrium concentration of a dissolved chemical in a two-phase system of n-octanol and water. n-Octanol serves as a surrogate to biota lipids and K_{ow} values are used as an indicator of a chemical's tendency to bioaccumulate, or to be taken-up by organisms from the environment.

[2] The pKa predicts that HFPO-DA will be in acid form (as a negative ion, or an anion) at pH levels at or above a pH of 2.8.

in terrestrial systems, HFPO-DA is expected to rapidly partition to aqueous matrices via leaching and/or runoff (USEPA, 2018; Beekman et al., 2016; DuPont, 2008c).

Structural analyses indicate a low bioaccumulative potential for both HFPO-DA anion and its ammonium salt relative to longer chain PFAS (e.g., PFOS and PFOA) (USEPA, 2018). These findings are supported by a limited number of bioaccumulation and bioconcentration studies in which aquatic biota are exposed to HFPO-DA (USEPA, 2018; DuPont, 2009b; DuPont, 2007; Hoke et al., 2016; Beekman et al., 2016, Xiao, 2017). Multiple fish studies have confirmed bioconcentration factors (BCFs) of less than 30 liters per kilogram (L/kg) wet weight (ww) (DuPont, 2009b; Hoke et al., 2016; Goodband, 2019). Bioaccumulation factors (BAFs), calculated for carp, were 7.2 L/kg ww for blood, 3.2 L/kg ww for liver and 4.0 L/kg ww for muscle (Pan et al., 2017). BCFs and BAFs greater than 5,000 L/kg ww are considered indicative of high bioaccumulation potential in aquatic food webs; BAFs and BCFs for HFPO-DA are well below this benchmark. Recent research has also shown rapid elimination (< 24 hours) and a lack of bioaccumulation of HFPO-DA in the benthic fish Blue spot gobies (*Pseudogobius sp.*) as no HFPO-DA was detected in fish tissue in either the uptake or elimination phases of this study (Hassell et al. 2019).

While there are limited studies on the fate and transport of other Table 3+ PFAS, some general inferences can be drawn from the available understanding of PFAS as a class of compounds and the physical and chemical properties for each specific Table 3+ PFAS (Table 2-3):

- Due to the strong nature of the C-F bond, while some compounds may degrade to daughter products, many compounds will be persistent in the environment or transform into persistent compounds.
- Log10-based organic carbon-water partitioning co-efficient (log K_{OC}) values range from 0.89 to 2.56 L/kg (Table 2-3; Geosyntec, 2019a), with HFPO-DA exhibiting a mid-range log K_{OC} value of 1.69 L/kg (Table 2-3). The range of log K_{OC} values observed for Table 3+ PFAS indicate that some compounds (e.g., Hydro-EVE Acid, EVE Acid) are more likely to partition to soils than others (e.g., Difluoro(perfluoromethoxy)acetic acid [PFMOAA]). Relative to compounds that strongly partition to organic matter in soils and sediments (e.g. PCBs with log K_{OC} values in the 4 to 7 L/kg range), the log K_{OC} values of Table 3+ are low, exhibiting values that are similar to less sorbtive compounds (e.g., benzene [log K_{OC} = 1.77] or trichloroethylene [log K_{OC} = 2.22]).
- Predicted log10-based octanol-air partitioning co-efficient (log K_{OA}) values range from 2.59 to 7.17. Log K_{OA} values in the 5 to 7 range may be indicative

of chemicals that exhibit potentially significant bioaccumulation potential in terrestrial (air-breathing) food-webs (Kelly et al. 2007). HFPO-DA has mid-range log K_{OA} value of 3.74.

- Bioconcentration factors (L/kg, ww) ranged from 1.4 to 617 L/kg ww, all well below the generally accepted benchmark of 5000 L/kg, ww indicative of high bioaccumulation potential in aquatic food-webs (Gobas et al., 2009).
- Log partitioning coefficient (log P) is a commonly used measure of lipophilicity and is the partition coefficient of a molecule between aqueous and lipophilic phases. Log P is analogous to log octanol-water partitioning coefficient (log K_{OW}), but it is used for ionic rather than neutral compounds. Log P values (at a pH of 8) ranged from 1 to 5.7 (Geosyntec, 2019a). For traditional persistent organic pollutants [polychlorinated byphenyls (PCBs), dichlorodiphenyltrichloroethane (DDTs)] where the primary mechanism for bioaccumulation is the preferential partitioning of compounds in lipids and a lack of metabolism, K_{OW} can be a valuable metric to understand bioaccumulation potential; PFAS do not bioaccumulate by this mechanism. The current understanding of PFAS accumulation mechanisms relates to preferential partitioning in proteins rather than lipids, therefore logP or log K_{OW} may not be a representative metric for bioaccumulation potential for PFAS (Conder et al., 2008).

2.4.2 Ecological Exposure Units

For purposes of this Ecological SLEA, the Site and surrounding area where ecological receptors may be exposed to Table 3+ PFAS was divided into three ecological exposure units (EUs; Figure 2-3).

2.4.2.1 Onsite Terrestrial EU

The terrestrial onsite area includes the non-industrial portions of the Site which are characterized by heavily forested habitats. The onsite terrestrial EU is generally bound by Willis Creek to the north and Georgia Branch Creek to the south, the Cape Fear River to the east and Highway 89 to the west. Terrestrial ecological receptors are expected to use this area for foraging and habitat.

2.4.2.2 Offsite Terrestrial EU

The terrestrial offsite area includes the 12 EUs identified in the Human Health SLEA workplan (Geosyntec, 2019c). Receptors in these EUs may be exposed to Table 3+ PFAS

that has been aerially deposited and accumulated in or on soil, plants or invertebrates. While the Human Health SLEA has evaluated exposures at each EU, this Ecological SLEA has combined these EUs based on similar habitat qualities and expected receptors. The offsite terrestrial EU extends approximately 6 miles outward from the Site and is characterized by mixed residential and farming land uses, patches of undeveloped forested habitat and creeks, streams and other tributaries of the Cape Fear River.

2.4.2.3 Cape Fear River EU

The Cape Fear River or aquatic EU includes the Cape Fear River between Willis Creek to the north and Georgia Branch Creek to the south. This EU includes the in-water portion of the Cape Fear River and banks that would be used by aquatic-dependent birds and mammals while foraging at the river. While the Human Health SLEA included samples downstream of the Site, based on the current understanding of where ecological exposures are expected to be greatest, this Ecological SLEA focused on the Site-adjacent area of the Cape Fear River.

2.4.3 Potentially Complete Ecological Exposure Pathways

The ecological CSM (Figure 2-4) reflects the potential exposure of receptors to Table 3+ PFAS, including aquatic life in the Cape Fear River and tributaries, aquatic dependent wildlife foraging in the Cape Fear River and banks, terrestrial plant and invertebrate communities, and herbivorous and invertivore wildlife and carnivorous wildlife. Exposures may potentially occur to Table 3+ PFAS via surface soil, surface water and sediment, along with potential exposures via diet items if Table 3+ PFAS have accumulated in plants, invertebrates and fish. The following receptors and exposure pathways were assumed to be complete for purposes of the Ecological SLEA:

- Aquatic life includes benthic and pelagic invertebrates and fish in the Cape Fear River. Pelagic fish, invertebrates and aquatic plants may potentially be directly exposed to Table 3+ PFAS in the water column. Benthic invertebrates may potentially be directly exposed to Table 3+ PFAS in sediments. Exposures to aquatic life were estimated from the surface water and sediment datasets.
- Aquatic-life dependent birds and mammals may potentially be exposed to Table 3+ PFAS indirectly via consumption of plants, fish or benthic invertebrates that have accumulated Table 3+ PFAS from water or sediment. Exposures to these receptors will be estimated from concentrations in diet items for each representative receptor. Birds and mammals may also be exposed via the incidental consumption of sediment while foraging for food and surface water as drinking water.

- Terrestrial plant and invertebrate communities may potentially be directly exposed to Table 3+ PFAS present in surface soils or via air deposition in the surrounding areas of the Site. Exposures to plant and soil communities were evaluated using the surface soil dataset.
- Terrestrial avian and mammalian receptors may potentially be indirectly exposed to Table 3+ PFAS from consumption of terrestrial plants or invertebrates that may have accumulated Table 3+ PFAS. Exposures to these receptors were estimated from concentrations in diet items for each representative receptor. Birds and mammals may also be exposed via the incidental consumption of soil while foraging for food or surface water as drinking water.
- Terrestrial avian and mammalian carnivores may potentially be indirectly exposed to Table 3+ PFAS from consumption of small mammals and birds that may have accumulated Table 3+ PFAS from the food web. A tissue sampling dataset sufficient to quantitatively evaluate this pathway was determined to be infeasible for the time available to complete this Ecological SLEA, however considerations such as bioaccumulation potential of Table 3+ PFAS and identification of the Table 3+ PFAS that are responsible for the majority of exposure to herbivores and invertivores may be informative to understand potential exposures to avian and mammalian carnivores. Exposure to these receptors is discussed in the Uncertainties Section (Section 5).

3 ECOLOGICAL SLEA METHODOLOGY

The Ecological SLEA included multiple field efforts to characterize the magnitude and extent of Table 3+ PFAS in various abiotic and biotic components of the foodweb, the selection of representative receptors for each potentially complete exposure pathway, estimating exposure point concentrations (EPCs), and performing foodweb exposure modeling to calculate exposure to wildlife receptors. The methods used for each component of this Ecological SLEA are described below and detailed further in Appendix A. All analytical results for the Ecological SLEA field investigations are provided in Appendix B.

3.1 Field Investigation

Offsite Terrestrial Soil, Vegetation and Insects

In July 2019, surface soils from each of the 12 Human Health SLEA EUs were sampled using an Incremental Sampling Methodology (ISM). Thirty (30) aliquots of surface soil were collected from the top 0 to 1 foot of soil from publicly accessible sampling locations within each EU (Figure 3-1). All aliquots were composited for each EU, resulting in 12 discrete samples analyzed for Table 3+ Compounds and Method 537 PFAS[3] (Table 3-1). The Offsite terrestrial surface soil dataset was used to quantify exposures to terrestrial plant and soil invertebrate communities and incidental soil ingestion of terrestrial birds and mammals.

In addition to the collection of surface soil from each EU, terrestrial plant samples were collected as co-located aliquots of vegetation when present at a soil sampling ISM aliquot location (Figure 3-2). Broadleaf plants with non-waxy leaves, berries or fruit within 1 to 2 feet of the ground surface seeded grasses (fescues, ryegrass, wheatgrass) were targeted for sampling. A representative photo log is provided in Appendix C. Twelve (12) samples of sufficient plant tissue mass were collected and analyzed for Table 3+ Compounds and Method 537 PFAS (Table 3-2). Where sufficient mass was collected, samples were also

[3] Samples collected under this effort were also analyzed for Method 537 PFAS and these data are presented along with the Table 3+ PFAS results in Appendix B. Table 3+ PFAS, including HFPO-DA, originate from air emissions and historical process water releases at the Site. Table 3+ PFAS were identified in non-targeted analytical studies conducted by Chemours and the method was developed to quantitate the presence of these PFAS. In most exposure media (terrestrial invertebrates, terrestrial and aquatic vegetation, and surface water) the Table 3+ PFAS were more frequently detected and at concentrations often an order of magnitude higher than Method 537 PFAS. The exception was the sediment and fish samples from the Cape Fear River, where Method 537 PFAS were frequently detected at elevated concentrations compared to the Table 3+ PFAS. Of the PFAS data available, the Ecological SLEA evaluated exposures to Table 3+ PFAS originating from releases at the Site to support developing Corrective Actions for these PFAS.

analyzed for percent moisture. The terrestrial plant dataset was used to quantity exposures to terrestrial herbivores both onsite and offsite.

In addition to the collection of surface soil from each EU, terrestrial invertebrate samples were collected as co-located aliquots of invertebrates when present at a soil sampling ISM aliquot location (Figure 3-3). Earthworms were selected as the preferred invertebrates for analysis due to high lipid and protein content compared to hard shelled invertebrates and high degree of soil association. Since earthworms were not present in soil during soil sampling activities the field team identified and sampled terrestrial insects when present at a soil sampling aliquot location. Terrestrial invertebrates collected included primarily grasshoppers, crickets, and dragonflies. Invertebrates were composited from all aliquots in an EU; not all EUs resulted in the collection of an invertebrate sample of sufficient sampling mass for analysis (Table 3-2). The collected terrestrial invertebrates along with estimated concentrations in earthworms as discussed below were used to quantity exposures to terrestrial invertivores offsite.

Surface Water

In July and September 2019, surface water samples were collected from the Pond 1/DERC Pond located on Site, Pond B located in the offsite EU-2 (Figure 3-4), and the Cape Fear River (Figure 3-5). The Pond 1 samples were used to quantify exposure to onsite terrestrial birds and mammals from drinking water intake. The Pond B samples were used to quantify exposure to offsite terrestrial birds and mammals from drinking water intake. There were additional Cape Fear River surface water samples that have been collected from previous scopes of work, however only the most recent data from July 2019 were included in the Cape Fear River surface water datasets to reflect current conditions following the interim measures taken at the Site. Additional details on surface water sampling are included in the Human Health SLEA workplan and in Table 3-3. The Cape Fear River dataset was used to quantify exposures to aquatic-life dependent birds and mammals from drinking water and to quantify direct exposures to aquatic life communities (plants, invertebrates and fish).

Onsite Soil and Biota-Soil Accumulation Factor Sampling

The invertebrate samples collected from the 12 EUs under the Human Health SLEA program did not represent the targeted species of earthworms (*Lumbricus terrestris*), which were targeted due to high protein and lipid contents and high association with soil over their lifetime compared to other invertebrates. As an approach to estimate the concentrations in earthworms in the offsite EUs, co-located surface soil and targeted earthworm samples were collected from the forested area and seeps near the Site and used to calculate soil-to-earthworm biota-soil accumulation factor (BSAFs) which are the ratio of the concentration of Table 3+ PFAS in earthworm [microgram per kilogram (µg/kg)

wet weight (ww)] to the concentration of the same Table 3+ PFAS in soil [µg/kg dry weight (dw)].

In September 2019, Parsons of NC (Parsons) staff collected soil and earthworm samples from locations in the forested areas adjacent to each of Seeps A through D and near the mouth of Willis Creek (Figure 3-6). Soil sub-samples were collected using a stainless-steel shovel from 0 to 1-foot below ground surface (bgs) and sieved to isolate any earthworms within the soil sample while collecting the soil beneath the sieve. For each subsample where no earthworms were collected, the soil was discarded. If one or more earthworms were collected in a sub-sample, that soil was retained for analysis. This process was repeated at a sample location until sufficient earthworm tissue mass was collected for analysis, in some locations requiring multiple composites. Additional details are provided in Appendix A and Table 3-4. Soil and earthworm samples were analyzed for all Table 3+ SOP compounds, Method 537 PFAS and percent moisture where sufficient sample mass was available. Earthworms were allowed to depurate the ingested soils from their digestive tracts for 24 hours prior to submitting to the laboratory so that the samples represented primary earthworm tissue only rather than ingested soil and tissue.

BSAFs were calculated with reporting limits (RLs) used to represent results below detection limits; so if a Table 3+ PFAS was detected in earthworm tissue but not soils, the soil RL was used to represent the concentration in soil, and similarly if a result was detected in soil but not in earthworm tissues. If a Table 3+ PFAS was not detected in either soil or earthworms, no BSAF was calculated. The BSAF were then applied to measured concentrations of Table 3+ PFAS in offsite soil samples to estimate wet weight concentrations in earthworm for the offsite EU. For the onsite terrestrial invertebrate dataset, the empirically measured earthworm data were included in the calculation of EPCs.

In addition to collecting co-located soil and earthworm samples, Parson staff also collected 5-point composite soil samples from each of the Seeps A through D areas and near the mouth of Willis Creek (Figure 3-6). Composite samples were selected to provide better spatial coverage from the areas adjacent to seeps (i.e. not within the seep channel) and along the Cape Fear River banks. Bank soil samples analyzed for all Table 3+ SOP compounds and Method 537 PFAS. Additional details are provided in Appendix A and Table 3-4. The bank soil data set was used as the onsite terrestrial surface soil dataset to quantify exposures to terrestrial plant and soil invertebrate communities and incidental soil ingestion of terrestrial birds and mammals foraging onsite.

Surface Sediment and Aquatic Vegetation

Characterization of Cape Fear River sediments near the Site will be completed under a sampling program under CO paragraph 11.2. However, data were not expected to be collected in time for inclusion in this report. Since sediment may be an important exposure media for aquatic life and aquatic-dependent wildlife, a smaller focused sampling program was undertaken for this Ecological SLEA. In October 2019, Parsons and Geosyntec staff collected 6 sediment samples from just upstream of Willis Creek to the Old Outfall (Figure 3-5). Three-point composite sediment samples were collected using a petite ponar sampler to collect surface sediment (0 to 4 inches) and homogenized prior to delivery to the laboratory. At the same time, field staff collected aquatic emergent and floating vegetation in the vicinity of the sediment samples. Samples included duckweed (floating macrophyte) and rooted emergent vegetation along the banks. All sediment and vegetations samples were analyzed for all Table 3+ SOP compounds and Method 537 PFAS. Additional details are provided in Appendix A, Table 3-5 and Table 3-6. The sediment dataset was used to characterize direct exposure to benthic invertebrates and to characterize incidental sediment ingestion by aquatic-dependent wildlife. The aquatic vegetation dataset was used to characterize exposure to aquatic-dependent herbivores.

Benthic Invertebrates

Benthic invertebrate sampling was undertaken to characterize exposure to invertivore receptors. Initially in July 2019, crayfish/crawfish samples were targeted by placing baited crawfish traps along the Cape Fear River adjacent to the Site, however sampling was not successful; no crawfish were collected after multiple attempts. During fish sampling in September 2019, a few sediment samples were collected with a petite ponar sampler and sieved to evaluate the effectiveness of collecting benthic invertebrates using this approach but was not highly successful as few invertebrates were typically returned in the grab sample. Based on observations of field staff, it was determined that a targeted collection of a highly common species would best allow the collection of sufficient sample mass in the timeframe required for inclusion in this report. Asian clams (*Corbicula fluminea*), a common invasive species in the region, were identified as being highly abundant in sandy areas along the banks of the Cape Fear River adjacent to the Site. Additionally, it is likely that wildlife invertivores are consuming the commonly occurring invertebrates; therefore, targeted Asian clams were determined as an appropriate exposure metric and deemed likely to be a successful sampling strategy. In October 2019, Parsons and Geosyntec staff collected three discrete samples of Asian clams from the Cape Fear River (Figure 3-7). Samples were collected by loosening the clams from the sediment bed and collecting using a net; clams were sampled from

relatively shallow water near banks. Clam samples were submitted as whole body (in shell) for processing at the laboratory. At the lab, soft body tissues were removed from shells, homogenized and analyzed for Table 3+ SOP and Method 537 PFAS. Additional details are provided in Appendix A and Table 3-6.

In addition to the targeted Asian clam sample, mixed benthic invertebrates were collected for a composite sample as they were encountered in the field. Invertebrates other than clams that were collected in nets during Asian clam collections, and invertebrates collected in ponar samples near sediment sampling locations were compiled. One sample of mixed invertebrates, consisting primarily of a leech, dragonfly larvae and other insect larvae was collected and composited. These invertebrates were primarily collected from shallow areas near banks during clam sampling. During the ponar sampling, the primary invertebrate collected were additional Asian clam samples. These samples reflect much deeper surface water depths and were a wider spatial composite than the target clam samples, and so were submitted to the laboratory to better understand spatial and vertical variability in the data.

The Asian clam and mixed benthic invertebrate samples comprise the benthic invertebrate dataset and were used to characterize exposure to aquatic-dependent avian and mammal invertivores.

Fish Tissue

From July through September 2019, two fish sampling events were undertaken by Parsons and Geosyntec staff. The majority of fish sampling was to support the Human Health SLEA and therefore all fish samples were processed at the laboratory for analysis of skin-off fillet tissues only. Catfish (both channel and black) and largemouth bass were targeted for sampling using rod-and-reel fishing under this scope of work from locations in the Cape Fear River both upstream, adjacent and downstream of the Site and nearby fish-bearing ponds (Figure 3-7 and Figure 3-4, respectively). Samples were collected from the Cape Fear River adjacent to the Site and downstream to Bladen Bluffs. The downstream samples are outside of the Ecological Aquatic EU and were not included in EPC calculations. Additional details can be found in the Human Health SLEA work plan (Geosyntec, 2019c).

As wildlife piscivores typically consume whole body fish, the use of fillet data may not accurately estimate exposure to this group of receptors since internal organs may accumulate PFAS differently than muscle (fillet) tissue (Conder et al., 2008). To better utilize the Site-adjacent data collected under the Human Health SLEA, the laboratory also weighed and analyzed the non-fillet carcass material (bones, organs, skin, blood) from select samples. From the paired fillet and carcass samples, the whole-body concentrations

were estimated as the weighted average of fillet and carcass results. From the estimated whole-body concentrations and measured fillet results, whole-body to fillet ratios were calculated for all detected concentrations of Table 3+ PFAS. The whole-body to fillet ratios were calculated for catfish and largemouth bass separately and applied on a species-specific basis to the remaining measured fillet results to estimate whole-body concentrations for those fish samples.

As the use of the whole-body to fillet ratios and the larger size of the fish sampled for the Human Health SLEA adds uncertainty to the exposure estimates, a small whole-body targeted fish sampling effort was also undertaken. Smaller whole-body fish were selected as this is more representative of wildlife fish consumption. In September 2019, nine samples of either single fish or single-species composites were collected from the Cape Fear River adjacent to the Site (Figure 3-7). Fish were collected using electrofishing, targeting fish of less than approximately 6 inches to represent a fish size class than can be consumed whole-body by avian and mammal piscivores. Samples of redbreast sunfish *(Lepomis auritus*), young-of-year largemouth bass (*Micropterus salmoides*), American eel (*Anguilla rostrate*), dusky shiner (*Notropis cummingsae*) and comely shiner (*Notropis amoenus*) were collected. Where needed, single species composite samples were collected for sufficient sampling mass. Additional details on fish tissue samples are provided in Table 3-7. Most samples were collected from the Cape Fear River adjacent to the Site, with one whole body sample collected downstream to provide a measure of spatial variability.

All fish samples from within the Cape Fear River aquatic EU comprise the fish tissue dataset and were used to characterize exposure to avian and mammal piscivores. As noted above, some fish tissue samples were collected downstream of the Cape Fear River EU for the Human Health SLEA. These samples were not included in the calculation of EPCs but are discussed here qualitatively to evaluate spatial variability.

3.2 Calculation of EPCs

An EPC is an estimate of a constituent in a medium within some specified exposure point and are applied to quantify exposures to specific receptors under specific conditions or assumptions. EPCs for each detected Table 3+ PFAS in a given media were calculated for use in the Ecological SLEA. Consistent with SLERA guidance, EPCs were selected to be conservative estimates of exposure.

EPCs were calculated for each EU on a media specific basis including: onsite and offsite terrestrial surface soil, Cape Fear River sediment, onsite and offsite surface water,

terrestrial [4] and aquatic vegetation, offsite terrestrial invertebrates, onsite and offsite earthworms both as measured and estimated using BSAFs and surface soil EPCs, Asian clams and benthic invertebrates, and for each fish species with Comely and Dusky shiners combined. All primary and field duplicate samples were averaged prior to calculation of EPCs.

Where a media specific dataset included greater than eight samples with at least four detected results, EPCs were calculated by selecting the lower of the 95% Upper Confidence Limit (95UCL) on the mean or the maximum detected concentration. In cases where the number of samples was less than eight, the maximum detected concentration was used. 95UCLs were calculated using USEPA's ProUCL statistical software package (version 5.1; USEPA, 2015). ProUCL outputs are provided in Appendix D. For the estimation of intakes for invertivores and piscivores where multiple species-specific EPC were available (i.e. terrestrial empirical results for insects vs estimated in earthworms; different fish species EPCs) the highest species-specific EPC was selected to represent exposure. Additionally, if a Table 3+ PFAS was detected in some media within an EU but was non-detected above RLs in other media in the same EU, the RLs were used to represent the EPC. These approaches are highly conservative and likely to result in estimates of the highest potential exposures, but a high level of conservatism at this stage is consistent with SLERA approaches.

3.3 Receptor Identification

Representative terrestrial and aquatic-life dependent avian and mammalian receptors for the quantitative evaluation of ecological risks at the Site were selected in consideration of the CSM, as presented below. All relevant exposure factors for wildlife receptors are provided in Table 3-8 for all terrestrial wildlife and in Table 3-9 for all aquatic-dependent wildlife. Selected representative terrestrial receptors are described below:

Bobwhite Quail

The bobwhite quail (*Colinus virginianus*) is a small quail with striped and speckled black, brown, and white plumage. Bobwhite quails can be found in fields, rangelands and open forests in southeastern North American but have experienced a sharp population decline in the past half-century. They eat mainly seeds and leaves as well as insects during breeding season. For the purposes of this SLEA, the Bobwhite quail was assumed to consume 100% plants.

[4] As onsite vegetation was not specifically sampled, the maximum of terrestrial or aquatic vegetation was used to represent the onsite vegetation as a conservative approach.

Woodcock

The woodcock (*Scolopax minor*) is a small, plump bird with a brown-mottled plumage, short legs and a long, straight bill. Woodcocks are found in forests and shrubby old fields across eastern North America. Their long bill is used for probing earthworms and other invertebrates (snails, millipedes, spiders, beetles etc.) in the soil. For the purposes of this SLEA, the Woodcock was assumed to consume 100% terrestrial invertebrates.

Eastern Cottontail Rabbit

The eastern cottontail rabbit (*Sylvilagus floridanus*) is the most common cottontail that is prolific from Canada to South America and throughout the United States. Cottontails are small mammals with a distinct "cotton ball" tail and have a reddish brown to gray coloring. They can commonly be found in fields, meadows and farms but are adaptable to other habitats. The eastern cottontail consumes grasses and herbs and are known to browse on garden vegetables (peas, lettuce etc.). For the purposes of this SLEA, the Cottontail rabbit was assumed to consume 100% plants.

Southern Short-tailed Shrew

The southern Short-tailed shrew (*Blarina carolinensis*) is a small, dark gray to sooty black shrew with short legs and a long, pointed snout. It is found in the southeastern United States in pine forests, meadows and even in wet, swampy areas. The shrews are social animals that live in burrow systems beneath the soil. Their diet consists of a variety of invertebrates including insects, annelids, snails, centipedes and spiders. For the purposes of this SLEA, the Short-tailed shrew was assumed to consume 100% terrestrial invertebrates.

Selected representative aquatic-life dependent receptors are described below:

Wood Duck

The wood duck (*Aix sponsa*) is an ornate patterned waterfowl with iridescent brown and green patterns on each feather. They have an oblong shaped head, a bright belly and dark underwings and chest. They are a common duck in North America and can be found in wooded swamps, on the edges of streams, in overgrown beaver ponds or freshwater marshes. Wood ducks eat seeds, fruits, and insects, and while their diet can vary greatly, studies indicate plant materials comprise at least 80% of their diet (Cornell Lab of Ornithology, 2019). For the purposes of this SLEA, the wood duck was assumed to consume 100% plants, however as noted below may reflect a mixed diet similar to a Mallard.

Mallard Duck

The mallard duck (*Anas platyrhynchos*) is a large duck with a flat bill and a rounded head. They are one of the most common ducks found in wetland habitats in North America. Mallards feed primarily on aquatic insects, earthworms, snails, and vegetation. While they do not dive for their food, they are known to dabble for their food by tipping their beak forward in the water. The mallard duck is expected to be a common bird in the Cape Fear River watershed. Both the mallard duck and Wood duck have similar dietary habits reflecting a mixed diet of plants and invertebrates. For the purposes of this SLEA, the Wood duck was assumed to consume 100% plants and the Mallard duck was assumed to consume 100% invertebrates.

Great Blue Heron

The great blue heron (*Ardea herodias*) is the largest North American heron with characteristically long legs, a long, narrow neck, and a large pointed beak. Great blue herons have blue-gray plumage with a black stripe over the eye. They live in freshwater habitats and forage for their food including fish, amphibians, reptiles, small mammals, and insects. For the purposes of this SLEA, the Great Blue heron was assumed to consume 100% fish. Although it does consume some invertebrates, avian invertivores were represented by the Mallard duck.

Muskrat

The muskrat (*Ondatra zibethicus*) is a large dark brown aquatic mammal with a flat, scaly tail and large feet that are slightly webbed. They are found in ponds, swamps, marshes, wetlands and other wet environments throughout North America. Muskrats mainly eat green vegetation (~95% of diet) but can also eat small aquatic mammals (frogs, fish, crayfish, etc.). For the purposes of this SLEA, the Muskrat was assumed to consume 100% plants.

Mink

The mink (*Neovison vison*) is a long and slender, dark-colored mammal. They prefer forested areas that are close to water and are common in all states except for Arizona. Mink have a varied diet and are opportunistic feeders. They are known to eat fish and other terrestrial vertebrates (small mammals) when available. For the purposes of this SLEA, the Mink was assumed to consume 100% benthic invertebrates.

River Otter

The river otter (*Lontra canadensis*) is a semi-aquatic mammal with short legs, long bodies and a thick tail. They are dark brown to black and have a wide, round head and webbed feet. River otters build dens in aquatic habitats including freshwater and coastal areas,

rivers, lakes, marshes, swamps and estuaries. The limiting factor for river otters is a permanent food supply of aquatic organisms (amphibians, fish, turtles, crayfish etc.) and occasionally small terrestrial mammals. They can be found throughout Canada and most parts of the United States and are adaptable to various climates (cold, warm, high elevations) but are sensitive to pollution. For the purposes of this SLEA, the river otter was assumed to consume 100% fish.

3.4 Exposure Assessment

Exposure assessment is the process of measuring or estimating the intensity, frequency, and duration of ecological exposure to a chemical in the environment. This section describes the mechanisms by which these receptors might potentially come in contact with PFAS in environmental media, and the methods for quantifying the degree of contact between potential representative receptors and Table 3+ PFAS.

3.4.1 Direct Exposures

Directly exposed communities include terrestrial plants and invertebrates exposed to Table 3+ PFAS in soil; benthic invertebrates directly exposed to Table 3+ PFAS in sediment; and aquatic life (pelagic plants, invertebrates and fish) directly exposed to Table 3+ PFAS in surface water. The media-specific EPCs for terrestrial onsite and offsite soils, Cape Fear River sediment and Cape Fear River surface water were used to evaluate relative exposures for these receptors. EPCs for each detected PFAS in a given media were calculated for use in the Ecological SLEA as discussed in Section 3.2. For HFPO-DA, the media-specific EPCs were compared to the media-specific TRV discussed in Section 3.5.

3.4.2 Calculation of Receptor Intakes

For this Ecological SLEA, Site-specific doses for all Table 3+ PFAS were calculated for all terrestrial and aquatic-dependent wildlife receptors (birds and mammals). Ingested doses are presented in daily dose rates per unit of body weight [milligram per kilogram per day (mg/kg-day)] and referred to as total daily intake (TDI). Terrestrial wildlife was assumed to be exposed to Table 3+ PFAS via incidental ingestion of soil during foraging, consumption of surface water and consumption of food/prey items that have accumulated Table 3+ PFAS. Aquatic wildlife receptors were assumed to be exposed to Table 3+ PFAS via incidental ingestion of sediment, consumption of surface water and consumption of food/prey items that have accumulated Table 3+ PFAS. The estimated TDI for each receptor was calculated using generic dose formulas from the Wildlife Exposure Factors Handbook (EPA, 1993), as well as receptor-specific exposure factors

as provided in Table 3-8 and Table 3-9, and represents the sum of intake from diet, soil and surface water:

$$\text{Total Daily Intake}\left(\text{TDI};\frac{\text{mg}}{\text{kg}-\text{day}}\right) = \text{TDI}_{diet} + \text{TDI}_{soil} + \text{TDI}_{surface\ water}$$

TDI from diet items, soil and surface water are calculated from the concentrations of Table 3+ PFAS in diet items, soil, and surface water, the proportion of each diet item in the overall diet, the daily ingestion rates of these media, receptor body weights and the area use factor which characterize the frequency that a receptors is expected to forage from potentially impacted areas of the Site. For each, TDI is estimated as:

$$\text{TDI}_{diet} = \frac{(\sum(FIR_{ww}\ x\ EPC_{diet}\ x\ P)\ x\ AUF}{BW}$$

$$\text{TDI}_{soil} = \frac{(\sum(FIR_{dw}\ x\ EPC_{soil}\ x\ P)\ x\ AUF}{BW}$$

$$\text{TDI}_{sw} = \frac{(\sum(DWI\ x\ EPC_{sw})\ x\ AUF}{BW}$$

TDI_{diet} = Total daily dietary intake (mg/kg-day)
TDI_{soil} = Total daily soil intake (mg/kg-day)
FIR_{ww} = Daily food ingestion rate (kg wet weight/day)
FIR_{dw} = Daily food ingestion rate (kg dry weight/day)
DWI = Daily water ingestion rate (L/day)
EPC_{soil} = Exposure Point Concentration in soil (mg/kg dry weight)
EPC_{diet} = Exposure Point Concentration in diet items (mg/kg ww)
EPC_{sw} = Exposure Point Concentration in surface water (mg/L)
P = Proportion of diet composed of the individual food source
AUF = Area use factor (fraction of time spent foraging at the Site)
BW = Body weight (kg)

Bioavailability of all Table 3+ PFAS were assumed to be 100%. As concentrations of Table 3+ PFAS in soil and sediments were reported by the laboratory in dry weight, the dry matter ingestion rates based on allometric equations in Nagy et al. (2001) were applied for estimating TDI_{soil}. Tissue data (fish, plant and invertebrates) were reported by the lab on a ww basis and so the wet or fresh matter ingestion rates based on allometric equations in Nagy et al. (2001) were applied for estimating TDI_{diet}. Ingestion rates, assumed diet items, body weights and home ranges are provided in Table 3-8 for all terrestrial wildlife receptors and in Table 3-9 for all aquatic-dependent wildlife receptors.

3.5 Hazard Assessment for HFPO-DA

Typically for a SLERA, a conservative Toxicity Reference Value (TRV) for each receptor would be selected for calculating receptor specific hazard quotients following the estimation of exposures. Outside of HFPO-DA there are no TRVs for Table 3+ PFAS. These compounds are byproducts of the manufacturing process rather than products which are registered substances and consequently there are no available toxicity (hazard) information for these PFAS. Though a limited number of toxicity tests have been completed, the toxicity testing that has been performed on HFPO-DA is sufficient to evaluate the potential hazard to the environment.

For the HFPO-DA assessment, the estimated exposures (as direct exposure or estimated TDI from the exposure models) were compared to TRVs to calculate a Hazard Quotient (HQ) as:

$$\mathrm{HQ} = \frac{\text{Exposure } (\frac{mg}{kg}, \frac{mg}{L} \text{ or } \frac{mg}{kg-day})}{\text{TRV } (\frac{mg}{kg}, \frac{mg}{L} \text{ or } \frac{mg}{kg-day})}$$

A critical component of HQ calculation is the selection of a TRV that represents appropriate receptors and endpoints (growth, reproduction or development). The ecotoxicity of HFPO-DA and TRVs selected for HFPO-DA are described briefly below and provided in Table 3-10.

Toxicity to Soil Plant and Invertebrate Communities

The TRV selected for the evaluation of hazards to soil plant and invertebrate communities is the Probable No Effects Concentration (PNEC) of 0.066 mg/kg dw as reported in ECHA (2019). This PNEC was calculated using an equilibrium partitioning approach where a toxicity value based on exposure in water is converted to a soil or sediment basis. For the soil PNEC reported by ECHA (2019), the PNEC aqua-freshwater was converted using a K_{OC} of 12 L/kg (log K_{OC} of 1.08), and the appropriate equations from the REACH Guidance on Information Requirements and Chemical Safety Assessment: Part B, Hazard Assessment, and a correction factor of 1.13 for conversion to dry weight. As the value was based on aquatic species, there is higher uncertainty related to the applicability of this value to terrestrial invertebrate and plant communities.

Toxicity to Sediment Benthic Invertebrate Communities

The TRV selected for evaluation of hazards to benthic invertebrate communities is the PNEC of 0.518 mg/kg dw as reported in ECHA (2019). Similar to above, the PNEC value was calculated using the equilibrium partitioning approach with a K_{OC} of 12 L/kg (log K_{OC} of 1.08), the PNEC aqua-freshwater, the appropriate equations from the REACH

Guidance on Information Requirements and Chemical Safety Assessment: Part B, Hazard Assessment, p. 45, and a correction factor of 4.6 for conversion to dry weight. As this value was based on aquatic species but not specifically sediment associated benthic invertebrates, there is some uncertainty regarding the application of this value to evaluate hazards to benthic invertebrates.

Toxicity to Aquatic Plants

The TRV selected for evaluation of hazards to aquatic plants is the no effect concentration (NOEC) for algae reported in ECHA (2019) of 106 milligrams per liter (mg/L). The basis for this NOEC is an acute 72-hour freshwater toxicity test with algae. Both growth rate and cell count were measured over 72 hours of exposure with no adverse effects at 106 mg/L.

Toxicity to Aquatic Life (Pelagic Invertebrates and Fish)

The aquatic toxicity of HFPO-DA has been the most well studied exposure route. Both acute and chronic toxicity tests on aquatic invertebrates and fish have been performed under the ECHA Chemical Registration process, as summarized in Hoke et al. (2016), and ECHA (2019).

Acute to toxicity to aquatic life was evaluated using acute toxicity tests for rainbow trout (*Oncorhynchus mykiss*), Japanese medaka (*Oryzias latipes*), rare gudgeon (*Gobiocypris rarus*), a freshwater invertebrate (*Daphnia magna*), and a freshwater green alga, (*Pseudokirchneriella subcapitata*). Chronic toxicity tests include a 21-day reproductive test with Daphnia magna, and a 90-day early life stage test with Rainbow trout. All tests were performed according to Good Laboratory Practices and in conformance with appropriate OECD test guidelines (Hoke et al. 2016). Acute LC50 or EC50 values were all greater than 96 mg/L. The 90-day early life stage test resulted in NOEC of 1.08 mg/L based on statistically decreased hatching time. However, as noted in Hoke et al. (2016), the empirical data indicated that the change in last hatching day in the highest tested exposure group was only a single day less than controls, which is not considered an ecologically significant endpoint. As no other effects were observed in the highest test group, the unbounded NOEC was 8.89 mg/L. ECHA (2019) applied a 10X uncertainty factor to the statistical NOEC of 1.08 mg/L to derive the reported PNEC of 0.108 mg/L (ECHA, 2019). This Ecological SLEA applied the same 10X UF to the ecologically relevant NOEC of 8.89 mg/L to develop a TRV of 0.889 mg/L for the calculation of hazard quotients . In addition, surface water EPC were compared to the more conservative PNEC of 0.108 mg/L as an additional line of evidence.

Toxicity to Birds

The TRV for avians is 84.5 mg/kg-day and is based on a chronic reproduction test on Northern bobwhite quail (*Colinus virginianus*) as reported in ECHA (2019). Adult Bobwhite quail were fed HFPO-DA via spiked food in both a range finding and definitive test. In the range finding test, Bobwhite quail were exposed to HFPO-DA via the diet at nominal concentrations of 0, 100, and 1000 mg/kg for 6-weeks. No treatment related effects on reproduction were observed at the 0 and 100 mg/kg exposure doses. Slight but statistically significant reductions in viability of embryos and in numbers of hatchlings and 14-day old survivors were observed in the 1,000 mg/kg exposure group. The ranging finding test NOEC was 100 mg/kg and the test LOEC was 1,000 mg/kg.

In the definitive test, Bobwhite quail were exposed to nominal concentrations of 0, 100, 500, and 1,000 mg/kg in feed over 20 weeks. In this test, no adverse effects on growth or reproductive endpoints were observed in any exposure group. Evaluated endpoints included body weight, food consumption, eggs laid, viable embryos, hatching success, 14-day old survivorship and offspring weight; see ECHA (2019) for a complete list of evaluated parameters. No differences in endpoints were observed among the dose levels. The test resulted in an unbounded NOEC of 1,000 mg/kg, equivalent to a no observed adverse effect level (NOAEL) of 84.5 mg/kg-day (ECHA, 2019). The definitive test NOAEL was selected as the TRV over the range finding test NOEC due to the longer exposure duration.

Toxicity to Mammals

For mammals, the chronic toxicity studies summarized in EPA (2019) and other literature were evaluated to identify studies with appropriate endpoints for evaluation ecological hazards focusing on growth, development and reproductive endpoints. These endpoints are typically included in TRVs as these can be more directly associated with ecologically meaningful adverse effects at the population level. Therefore, many of the reported results in EPA (2019) were not appropriate for use as wildlife TRVs due to sub-organism or subcellular endpoints.

Two chronic reproductive and development studies were performed in 2010 by DuPont and are summarized in EPA (2019). From the first study, a NOAEL of 0.5 mg/kg/day was reported based on decreased F1 generation pup weights in mice at the next highest dose (LOAEL, 5 mg/kg/day). In the second study, a NOAEL of 10 mg/kg/day was reported based on early delivery and decreased fetal weights in rats at the next highest dose (LOAEL, 100 mg/kg/day). Consistent with EPA recommendations on wildlife TRVs (USEPA, 2005), the highest NOAEL below the lowest reported LOAEL was selected as the TRV – 0.5 mg/kg/day.

4 ECOLOGICAL SLEA RESULTS

4.1 Data Analysis and QA/QC

All analytical data were reviewed using the Data Verification Module (DVM) within the Locus™ Environmental Information Management (EIM) system, which is a commercial software program used to manage data. Following the DVM process, manual reviews of the data were conducted. The DVM and the manual review results were combined in a data review narrative report for each set of sample results, which were consistent with Stage 2b of the EPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (USEPA, 2009). The narrative report summarizes which samples were qualified (if any), the specific reasons for the qualification, and any potential bias in reported results. The data usability, in view of the project's data quality objectives (DQOs), was assessed and the data were entered into the EIM system. The data were evaluated by the DVM against the following data usability checks:

- Hold time criteria;
- Field and laboratory blank contamination;
- Completeness of QA/QC samples;
- MS/MSD recoveries and the relative percent differences (RPDs) between these spikes;
- Laboratory control sample/control sample duplicate recoveries and the RPD between these spikes;
- Surrogate spike recoveries for organic analyses; and
- RPD between field duplicate sample pairs.

All results of the Ecological SLEA sampling are provided in Appendix B. Results are presented with all validator flags. Some results were rejected following data validation due to very poor matrix spike recoveries. All rejected results were reported as non-detected results and included results for Byproduct 4, Byproduct 5, PFECA-G, FPMOAA, PFO4DA and R-EVE in in various on and offsite media. Laboratory reports and data validation summaries are provided in Appendix E.

Under the scope of the Ecological SLEA, samples of soil, surface water sediment, insects, earthworms, and fish tissue were collected. As is typically the case with tissue sampling, some samples consisted of lower tissue mass resulting in some cases where only a single analysis of Table 3+ SOP compounds was performed (i.e. MS/DUP samples that are run per the SOP could not be run). RPDs for SLEA samples for which duplicate analysis were performed were all within 50%, with the exception of one RPD of 57%, indicating that the reproducibility of the sample analysis is very good. Matrix spike recoveries for SLEA samples for which matrix spikes were performed showed 33% of the spike recoveries

were outside laboratory control limits, indicating that there may be some effect of the SLEA matrices on the analytical results.

4.2 Empirical Data Trends

4.2.1 Detection Frequencies of Table 3+ PFAS in Media

Terrestrial Exposure Units

In soil samples collected onsite near seep areas the following Table 3+ PFAS were detected, including:

- HFPO-DA,
- PFMOAA,
- Perfluoro-3,5-dioxahexanoic acid (PFO2HxA),
- Perfluoro-3,5,7-trioxaoctanoic acid (PFO3OA),
- Perfluoro-3,5,7,9-butaoxadecanoic acid (PFO4DA),
- Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid (PFO5DA),
- Perfluoro-2-(perfluoromethoxy)propanoic acid (PMPA),
- 2,3,3,3-Tetrafluoro-2-(pentafluoroethoxy)propanoic acid (PEPA),
- Perfluoro-3,6-dioxa-4-methyl-7-octene-1-sulfonic acid (PFESA-BP1),
- Perfluoro-2-{[perfluoro-3-(perfluoroethoxy)-2-propanyl]oxy}ethanesulfonic acid (PFESA-BP2),
- Byproduct 4,
- Sodium 1,1,2,2-Teatrafluoro-2-(1,2,2,2-tetrafluoroethoxy)ethane-1-sulfonate (NVHOS), and,
- Hydro-EVE Acid.

Meanwhile, Byproduct 5, Byproduct 6, EVE Acid, R-EVE, Perfluoro(2-ethoxyethane)sulfonic acid (PES), Perfluoro-3,6-dioxaheptanoic acid (PFECA B) and (Perfluoro-4-isoproproxybutanoic acid) PFECA-G were not detected in onsite soil samples. Detection frequencies ranged from 9% to 100% and are provided along with summary statistics in Table 4-1. HFPO-DA, PFMOAA and PFO2HxA were the most frequently detected. As discussed in Geosyntec (2019b), Table 3+ PFAS profiles of combined process water and other process waters sources tend to reflect PFMOAA and a

mix of other Table 3+ PFAS, where air emissions tend to reflect PMPA, HFPO-DA and PFO2HxA primarily. Onsite soil samples from the seep areas appear to reflect process water sources consistent with the current CSM. The detection frequencies of each Table 3+ PFAS in the evaluated onsite media are provided in Figure 4-1. Data from the onsite seeps were included in this figure to provide information regarding detection profiles but was not considered an exposure media for wildlife.

A higher frequency of detections was observed for onsite soil samples compared to offsite soil samples (Figure 4-2). In soil samples collected via ISM from each Human Health SLEA EU, only HFPO-DA and PFO2HxA were detected (Table 4-2). The detection of only HFPO-DA and PFO2HxA in surface soils supports air emissions as the primary source of Table 3+ PFAS to this EU, however this is complicated by the varying sensitivities of Table 3+ SOP methods between Table 3+ PFAS and between solid and liquid media; it is possible additional Table 3+ PFAS are present in soil below RLs for soil but may be detectable in other media (groundwater, plants) within the same EU.

Surface water samples collected from both onsite (Pond 1 or DERC pond) and offsite (Pond B) resulted in a very similar set of detected Table 3+ PFAS (Figure 4-1 and Figure 4-2). HFPO-DA, PFMOAA, PFO2HxA, PFO3OA, PFO4DA, PFO5DA, PMPA, PEPA, PFESA-BP2, Byproduct 4, NVHOS, Hydro-EVE Acid, and R-EVE were detected in onsite pond surface water samples at detection frequencies of 100% (Table 4-3). These same PFAS, with the exceptions of NVHOS and Hydro-EVE Acid were detected in offsite Pond B with detection frequencies ranging from 66% to 100% (Table 4-4).

In vegetation samples collected from the offsite areas using an ISM approach, more Table 3+ PFAS were detected than were detected in the soil samples also collected from the EUs (Figure 4-2). HFPO-DA, PFMOAA, PFO2HxA, PFO3OA, PFO4DA, PMPA, PEPA, Byproduct 4, Byproduct 5, NVHOS, R-EVE, PES, PFECA B were detected at detection frequencies ranging from 8% to 100% (Table 4-5). PMPA was the most frequently detected compound, followed by HFPO-DA and PFO2HxA, which is consistent with the expected profile of Table 3+ PFAS with air emissions as the primary source (Geosyntec, 2019b).

Insect samples (primarily grasshoppers and crickets) collected from the offsite EUs resulted in a detection profile more similar to the terrestrial vegetation samples compared to offsite soil samples (Figure 4-2). HFPO-DA, PFMOAA, PMPA, PEPA, PFESA-BP1, Byproduct 4, and R-EVE were detected in offsite insect samples with detection frequencies ranging from 9% to 27% (Table 4-6). PMPA was the most frequently detected compound, followed by HFPO-DA, which is consistent with the expected profile of Table 3+ PFAS with air emissions as the primary source (Geosyntec, 2019b).

Onsite earthworm samples collected from near the seep areas of the Site resulted higher detection frequencies for more Table 3+ PFAS than in the offsite insect samples (Table 4-7). These results are consistent with the expectation that offsite invertebrates were primarily exposed via air deposition, whereas the onsite earthworm samples near the onsite groundwater seeps were more likely exposed higher concentrations of PFAS originating from historic process water releases. The detection profile in earthworms showed a high degree of similarity to the detection profile to seep groundwater samples, more so than to surface soil samples, indicating the seep groundwater is potentially the primary exposure media for invertebrates in this area (Figure 4-1). Based on detection frequencies in earthworm samples, the predominant Table 3+ PFAS include HFPO-DA, PFO3OA, PFO5DA. PEPA, PFESA-BP2, Byproduct 4, and R-EVE indicating a process water source (Geosyntec, 2019b).

Byproduct 6, EVE Acid, Hydro EVE Acid and PFECA-G were not detected in any offsite media and therefore were not included in the quantification of exposures. Similarly, Byproduct 6, EVE Acid and PFECA-G were not detected in onsite media and were therefore not included in the quantification of exposures for onsite receptors.

Aquatic Exposure Unit

The detection frequencies of each Table 3+ PFAS in the evaluated aquatic media are provided in Figure 4-3. Only HFPO-DA was detected in one surface sediment sample from the Cape Fear River in the Site-adjacent area evaluated (Table 4-8). No other Table 3+ PFAS were detected. The sampling program included in the Ecological SLEA was a focused sampling event to provide input data to evaluate exposures. A surface sediment sampling program for a larger extent of the Cape Fear River has been developed as per the *Sediment Characterization Plan* (Geosyntec, 2019d). DEQ provided comments on the plan on November 20, 2019 and at the time of writing Chemours was in the process of responding to DEQ's comments. This sampling scope of work is expected to provide a more extensive dataset.

The results from sediment samples collected immediately upstream, adjacent and downstream of the Site indicate that Table 3+ PFAS are not accumulating in sediment above detectable concentrations. Considering the low log K_{oc} values for the Table 3+ PFAS and the sensitivities of analytical methods for soils/sediment compared to water, there is some uncertainty if Table 3+ PFAS may be present in the sediment porewater at detectable concentrations while concentrations are below RLs in bulk sediment. The detection frequencies of each Table 3+ PFAS in the evaluated aquatic media are provided in Figure 4-3.

In the Cape Fear River surface water samples, HFPO-DA, PFMOAA, PFO2HxA, PFO3OA, PFO4DA, PMPA, Byproduct 4, Byproduct 5, NVHOS, and R-EVE were detected with detection frequencies ranging from 11% to 100% (Table 4-9). A similar detection profile was observed in aquatic plants (Figure 4-3). HFPO-DA, PFMOAA, PFO2HxA, PFO3OA, PFO4DA, PFO5DA, PMPA, PEPA, Byproduct 4, NVHOS, and R-EVE detected in aquatic vegetation at detection frequencies ranging from 16% to 66% (Table 4-10).

Notably, no Table 3+ PFAS were detected in Asian clams or the mixed benthic invertebrate sample. Asian clams do not appear to accumulate Table 3+ PFAS to an appreciable extent. Asian clams were sampled as their high abundance resulted in a likely to be consumed invertebrate and efficient sampling program. Benthic invertebrates more closely associated with sediment porewater than Asian clams were not sampled due to the relative limited availability of these species in the sampling area. Species with a closer porewater association are in general associated with greater bioaccumulation of sediment associated chemicals.

In largemouth bass and catfish fillet samples from within the Aquatic EU, PFO4DA and PMPA were detected at detection frequencies ranging from 33% to 50% (Figure 4-3). However, additional Table 3+ PFAS were detected in largemouth bass, bluegill sunfish, catfish and red-breasted sunfish fillet samples from further downstream (CFR-09, MM-68 and Bladen bluffs) including HFPO-DA, PFMOAA, PFO5DA and R-EVE. Most Table 3+ PFAS detected in fillet samples (PFMOAA, PFO4DA, PFO5DA, PMPA, Byproduct 4 and R-EVE) along with PFESA-BP2 and NVHOS were detected in whole-body fish and fish carcass samples as well (Figure 4-3; Table 4-11).

Table 3+ compounds PFESA-BP1, PFESA-BP2, Byproduct 6, EVE Acid, Hydro EVE Acid, PES, PFECA-B and PFECA-G were not detected in any aquatic media and therefore were not included in the quantification of exposures for this EU.

4.2.2 Spatial Patterns of Table 3+ PFAS in Media

Terrestrial EUs

In offsite surface soil samples, the limited detections of HFPO-DA and PFO2HxA occurred in EU-1, EU-3, and EU-5, which are the EUs closest to the Site and in the predominant wind direction. As discussed above, the detections of HFPO-DA and PFO2HxA support air emissions as the primary source, though typically PMPA is expected to be detected in air emission sourced PFAS; PMPA was not detected here, is more mobile in the subsurface than HFPO-DA and PFO2HxA and so the lack of detection may reflect this higher mobility.

Offsite vegetation samples showed a similar pattern, with the most detected Table 3+ PFAS in EU-1. Detections in plants were much more frequent than in soil. Generally higher concentrations of the sum of all Table 3+ PFAS were observed in EU-2 and EU-11 (Figure 4-4). This was generally expected for EU-2 given proximity to the Site. Notably elevated concentrations of NVHOS and PMPA were observed at EU-11 and of HFPO-DA at EU-12. Given that the available soil and groundwater data in these EUs do not indicate relatively elevated concentrations of HFPO-DA, no clear mechanism for this pattern is evident.

In addition to a higher detection frequency for Table 3+ PFAS, the concentrations detected in onsite soils were typically at least an order of magnitude higher. The maximum concentration of HFPO-DA in offsite soils was 2,600 nanogram per kilogram (ng/kg) but was detected up to 29,500 ng/kg in onsite surface soil samples. PFO2HxA was detected as high as 2,300 ng/kg in offsite soils, but as high as 47,000 ng/kg in onsite soils. While other Table 3+ PFAS were not detected above RLs in offsite soil samples, Table 3+ PFAS in onsite soils ranged as high as 150,000 ng/kg for PFMOAA. The onsite surface soil samples were the only surface soil data with the full Table 3+ PFAS data set available and the limited scope did not enable and assessment of spatial trends. However, based on the results of onsite subsurface soil samples (Geosyntec, 2019b), the combined data suggest that concentrations of HFPO-DA may be elevated near historical process water release locations and along the eastern edge of the Site where observed groundwater seeps containing PFAS from historical process water releases. Concentrations in subsurface are typically lower on the southwestern edge of the Site, though surface data are lacking for this area.

Aquatic EUs

The focus of the aquatic EU area is the Cape Fear River from north of the Site at Willis Creek south to approximately Georgia Branch Creek. The concentrations of total Table3+ PFAS were generally highest in soils and aquatic vegetation from near the onsite seep areas, with lower concentrations in media sampled below the dam (Figure 4-5). In sediment samples collected from this area, limited detections did not enable an assessment of spatial patterns. In aquatic vegetation samples, Total Table 3+ PFAS were highest in the Site adjacent area and decreased in samples below the dam. Concentrations of Table 3+ PFAS in aquatic vegetation were in the same order of magnitude as terrestrial plant samples, with the exceptions of PFMOAA, PFO2HxA, and PEPA which were typically an order of magnitude higher in aquatic samples.

In whole-body fish samples collected from the Aquatic EU, no clear spatial patterns were observed which is consistent with the expectation that many fish will forage throughout the Aquatic EU rather than spatially distinct areas. When evaluated along with

downstream fillet samples collected at Bladen Bluffs and CFR-09 and upstream at River Mile 68, concentrations of Table 3+ PFAS were generally on the same order of magnitude as samples collected from areas adjacent to the Site, with no clear decrease in concentrations. HFPO-DA was detected in 3 of 6 largemouth bass samples from these downstream locations but was not detected in samples from closer to the Site. Samples of other species from Bladen Bluffs did not result in detectable HFPO-DA. PFO4DA was also detected at an order of magnitude higher in a Bluegill sunfish sample from Bladen Bluffs compared to Site-adjacent samples.

4.2.3 Bioaccumulation Potential of Table 3+ PFAS

The bioaccumulation potential of a compound is of particular interest when considering ecological exposures. Compounds that are non-metabolizable and have high accumulation potential result in elevated exposures to upper trophic level organisms, many of which are important species for ecological function. Metabolizable compounds are typically removed by organisms at a rate that prevents this accumulation in the absence of on-going exposures. HFPO-DA is expected to be metabolized and have a low bioaccumulation potential based on results of bioconcentrations tests with fish (DuPont,2009b; Hoke et al., 2016; Goodband, 2019, Pan et al., 2017), and is expected to be metabolizable in mammals based on the lack of detections in human blood serum of exposed populations (Kotlarz et al, 2019; NC State University, 2018).

As part of the estimation of TDI in each EU, Site-specific Soil to Terrestrial Invertebrate Bioaccumulation Factors (BSAF) and fillet to whole body ratios for fish were calculated to expand the utility of these datasets, and can provide some indication of bioaccumulation of Table 3+ PFAS in these media.

Soil to Terrestrial Invertebrate Bioaccumulation

The paired soil and earthworm samples are a useful indicator of terrestrial bioaccumulation potential for Table 3+ compounds. Six samples of paired soil and earthworms were collected from areas of the Site where a high concentration of Table 3+ compounds in soil was anticipated, specifically areas near groundwater seeps along the Cape Fear River. These areas were targeted with the expectation that a higher frequency of detected compounds and higher concentrations would occur, allowing for a better dataset to understand bioaccumulation and evaluation of exposures under reasonable worst-case conditions.

The ratio of each detected Table 3+ PFAS in earthworm (ng/kg ww) to soil (ng/kg dw) was calculated for each paired sampled and averaged for a Site-specific BSAF (Table 4-12). The results indicated the following:

- BSAFs for Byproduct 4, Byproduct 5, NVHOS, and R-EVE ranged from 2 kg ww/kg dw to 12 kg ww/kg dw and were all greater than 1, indicating accumulation of these PFAS from soil to earthworm tissues.
- BSAFs for HFPO-DA, PFMOAA, PFO2HxA, PFO3OA, PFO4DA, PFO5DA, PMPA, PEPA, PFESA-BP1, PFESA-BP2, and Hydro-EVE Acid were all below 1, indicating negligible bioaccumulation from soil to earthworms.
- BSAFs for Byproduct 6, EVE Acid, PES, PFECA B, PFECA-G could not be calculated due to a lack of detections in either media.

Whole-body to Fillet Ratios for Fish

Flathead, channel and blue catfish along with angler sized largemouth bass were collected in support of the HH-SLEA. These samples were analyzed for fillet only, however six samples were analyzed as both fillet and carcass samples to estimate whole-body to fillet ratios (Table 4-13). The whole-body to fillet ratios (WB:F) were then applied to the fillet EPCs for use in estimating exposure. This step also provided information on the tissue specific partitioning of Table 3+ PFAS. Based on data availability, WB:F ratios were calculated for either largemouth bass or catfish for PFO4DA, PFO5DA, PMPA, PFESA-BP2, Byproduct 4, and R-EVE. Generally, concentrations were higher in carcass samples, resulting in WB:F ratios greater than 1 (1.2 to 4.6). PFO4DA in catfish and PFESA-BP2 in largemouth bass resulted in WB:F ratios less than one, suggesting higher partitioning in fillet muscles. However, ratios were variable between samples of the same species and given the small size of the data set are uncertain.

4.2.4 Summary of Observations from Empirical Data:

Based on empirical data collected the following observation were made:

- Neither offsite soil nor Cape Fear River sediment resulted in high detection frequencies of any Table 3+ PFAS though given the difference in sensitivities between soil and sediment analytical methods compared to aqueous media analytical methods some uncertainties remain regarding the magnitude of potential exposure to porewater, but this exposure is bounded by the soil and sediment reporting limits.

- Accumulation of Table 3+ PFAS in both terrestrial and aquatic plants was observed, but accumulation in invertebrates was limited to terrestrial invertebrates; Table 3+ PFAS were not detected in the sampled aquatic invertebrates though some uncertainties remain regarding the presence of and bioaccumulation in species with different feeding mechanisms.
- PFMOAA, PMPA, NVHOS, PFO4DA, PFO5DA, Byproduct 4, and R-EVE were the primary Table 3+ PFAS detected in whole-body fish in the Aquatic EU. Accumulation of these Table 3+ PFAS in fish was observed, but data generally suggest that the other Table 3+ PFAS do not have bioaccumulative potential in fish based on a lack of detections in fish tissue samples.
- The higher detection frequencies of Table 3+ PFAS in soil samples near onsite seeps are consistent with the current CSM. The detection profile of Table 3+ PFAS in groundwater and seeps from the onsite area are reflective of process water. The detection profile in soils in the offsite area appear to reflect aerial emissions and aerial deposition processes.

4.3 Quantification of Exposure

The data for soil, sediment, surface water, plant, invertebrates and fish tissue were used to estimate TDIs for the potentially exposed receptors described in Section 3.3. EPCs and TDIs were calculated on an EU specific basis as described in Section 3.4. Results are discussed for each EU below.

4.3.1 Exposure Point Concentrations

EPCs were calculated for all EU specific exposure media as described in Section 3.2 Summary statistics for each EU and media specific exposure datasets are provided in Tables 4-1 through 4-11. For each Table 3+ PFAS the EPC is selected for that media in its respective Summary Statistics table.

EPCs for all media are compared for the primarily detected Table 3+ PFAS in the Figure 4-6 series. As indicated in this figure set, the highest EPCs were variable for different compounds. For many Table 3+ PFAS (HFPO-DA, PFMOAA, PFO2HxA, PMPA, PEPA, and NVHOS) the highest EPCs were observed in plants; for other compounds (PFO3DA, PFO5DA, PEFSA-BP1, PEFSA-BP2, Byproduct4, Hydro-EVE and R-EVE) the EPCs were highest for invertebrates; only one compound resulted in the highest EPCs in fish tissue (PFO4DA).

4.3.2 Onsite Terrestrial

The onsite terrestrial dataset includes surface soil and earthworm samples collected from the areas of known seeps on Site, and surface water from the onsite Pond 1. No onsite vegetation samples were collected, however the maximum concentration of either the aquatic or offsite terrestrial vegetation samples were applied as the plant EPC. EPCs are summarized for the onsite EU in Table 4-14.

The onsite soil EPC was used to evaluate exposures for directly exposed plants and invertebrate communities (Table 4-15). For wildlife receptors in the onsite EU, TDI was calculated for each Table 3+ PFAS for each receptor and are presented in Tables 4-16a through 4-16d. As shown in Figure 4-7, TDI for the ΣTable 3+ PFAS were similar for all receptors, ranging from 0.003 mg/kg-bw day to 0.21 mg/kg-bw day. TDI was largely dependent on overall food ingestion rates rather than by feeding guild.

The profile of Table 3+ PFAS did vary considerably between herbivores and invertivores in the onsite area. Herbivores were primarily exposed to NVHOS, PFMOAA, PMPA and PFO2HxA. HFPO-DA represented < 5% of TDI of Table 3+ PFAS for herbivores. However the exposure estimates for NVHOS is primarily driven by vegetation, which is based on measurement of offsite concentrations in plants (as discussed above, as onsite vegetation was not sampled the maximum of offsite and aquatic vegetation was used) and so may not reflect true onsite exposures. The profile of Table 3+ PFAS of TDI for invertivores were dominated by PFMOAA, followed by Byproduct4, Byproduct5 and HFPO-DA. HFPO-DA represented ~10% of TDI of Table 3+ PFAS for invertivores.

4.3.3 Offsite Terrestrial

The offsite terrestrial dataset includes surface soil samples, vegetation samples and insect samples collected from the offsite EU area using ISM, and surface water from the offsite Pond B. As the offsite insects collected did not represent the targeted soil-associated invertebrates, the maximum of the offsite insect and an estimated offsite earthworm concentration (calculated using Site-specific BSAFs) were applied as the EPCs. EPCs are summarized for the offsite EU in Table 4-17.

The offsite soil EPC was used to evaluate exposures for directly exposed plants and invertebrate communities (Table 4-18). For wildlife receptors in the offsite EU, TDI was calculated for each Table 3+ PFAS for each receptor and are presented in Tables 4-19a through 4-19d. As shown in Figure 4-8, TDI for the ΣTable 3+ PFAS was highest for the Eastern Cottontail rabbit (0.12 mg/kg-bw day), but similar for all other receptors, ranging from 0.03 mg/kg-bw day to 0.06 mg/kg-bw day. In the onsite areas, similar concentrations in most diet items resulted in TDIs that were largely dependent on overall food ingestion rates rather than by feeding guild. Here the combined elevated ingestion rate for

Cottontail rabbits and higher concentrations in plants than soils and invertebrates resulted in a higher TDI for this receptor.

The profile of Table 3+ PFAS between herbivores and invertivores was similar to the onsite area. Herbivores were exposed to much higher levels of NVHOS in this EU accounting for approximately 70% of TDI. PFMOAA was the next highest exposure in herbivores. In invertivores, PMPA, Byproduct 4, Byproduct 5 and HFPO-DA were the most significant contributors to TDI accounting for approximately 60% of TDI.

4.3.4 Aquatic EU

The Aquatic EU dataset includes sediment, surface water, aquatic vegetation, Asian clam/benthic invertebrate and fish tissue samples collected from Cape Fear River. EPCs are summarized for the Aquatic EU in Table 4-20.

The aquatic sediment EPC was used to evaluate exposures for directly exposed benthic invertebrate communities and the surface water EPC was used to evaluate exposures for directly exposed aquatic life and plants (Table 4-21). For wildlife receptors in the Aquatic EU, TDI was calculated for each Table 3+ PFAS for each receptor and are presented in Tables 4-22a through 4-22f. As shown in Figure 4-9, TDI for the ΣTable 3+ PFAS were highly variable. Herbivores were estimated to have TDI two orders of magnitude higher than other receptors (0.2 mg/kg-bw day and 0.1 mg/kg-bw day for Muskrat and Wood duck, respectively). The fish consuming receptor – Great Blue heron – had the next highest TDI of 0.01 mg/kg-bw day. The mammalian fish-eating receptor – the River otter - resulted in a lower TDI compared to the Great Blue heron due to its larger home range. As Table 3+ PFAS were not detected above method detection limits in benthic invertebrates, invertivore receptors (Mink and Mallard duck) had very low TDI and a highly uniform profile of Table 3+ PFAS primarily reflecting RLs as EPCs for non-detect results.

While the profile of the Table 3+ PFAS in invertivores was uninformative due to low detection frequencies, the profile of Table 3+ PFAS between herbivores and piscivores were different. Herbivores consuming aquatic vegetation were exposed to a much higher level of PFMOAA accounting for approximately 66% of TDI. PMPA and PFO2HxA were the next two most predominant of the Table 3+ PFAS. In piscivores, PFO4DA followed by PFMOAA and Byproduct4 were the most significant contributors to TDI. HFPO-DA contributed < 10% of TDI for all aquatic receptors.

4.3.5 Summary of Observations from Quantification of Exposures

Based on the evaluation of the Ecological SLEA dataset and quantifications of TDI for various receptors both on and offsite, the following observations are indicated:

- The TDI of ΣTable3+ compounds ranged from 0.002 mg/kg-bw day to 0.2 mg/kg-bw day across all EUs and receptors. Exposures occurring onsite are higher than those occurring offsite or in the Aquatic EU.
- Terrestrial herbivores are primarily exposed to NVHOS in the offsite EU, and a combination of NVHOS and PFMOAA in the onsite EU, however the EPC for NVHOS for the onsite EU was represented by offsite data adding uncertainty.
- Offsite invertivores are primarily exposed to PMPA, Byproduct4, Byproduct5, and R-EVE. Onsite invertivores are primarily exposed to PFMOAA and Byproduct4.
- Aquatic herbivores in the Cape Fear River are primarily exposed PFMOAA followed by Byproduct4, Byproduct5 and PMPA. Invertivores are not highly exposed based on the currently available dataset. Piscivores are primarily exposed to PFO4DA, PFMOAA and Byproduct4.
- Key Table 3+ PFAS of interest for ecological exposures based on this evaluation include NVHOS, PFMOAA, PMPA, Byproduct4, and PFO2HxA, which represented the Table 3+ PFAS with the highest exposures in the most-exposed ecological feeding guilds (herbivores) in both terrestrial and aquatic habitats. PFO4DA may be of ecological concern for fish-consuming receptors.

4.4 Hazard Assessment of HFPO-DA

The TDI for each Table 3+ PFAS for each receptor was calculated as described above. As toxicological benchmarks are available for only HFPO-DA, a hazard assessment specific to HFPO-DA was included in this Ecological SLEA. As discussed in Section 3.5, to evaluate potential hazards via complete exposure pathways to receptors, TRVs were selected as NOAEL or PNEC values from the literature (Table 3-10). To evaluate hazards to directly exposed receptors (aquatic life, terrestrial plants and invertebrates), the EPC for that EU-specific media was compared to the selected TRV to calculate the HQ. For receptors exposed via dietary consumption, the TDI for HFPO-DA was compared to the TRV to calculate the HQ.

Overall, the current exposures of HFPO-DA to wildlife are unlikely to result in adverse effects to wildlife communities either onsite, offsite or in the Cape Fear River based on the results of this evaluation. As shown in Table 4-23, HQs ranged from 0.00000008 to 0.24 indicating that current exposures in these EUs do not pose a hazard to ecological receptors. The highest HQ was observed for onsite terrestrial plants and invertebrates

based on the PNEC for soil communities. As noted in Section 3.5, the uncertainty regarding the PNEC is high as it was based on aquatic invertebrate toxicity rather than terrestrial. Although there is high uncertainty on the PNEC for soil, based on observations at the Site, plant and terrestrial invertebrate communities are abundant with no observed signs of potential stress.

HQs for wildlife receptors were all below 0.02 indicating that current exposures to HFPO-DA not pose a hazard to wildlife. As discussed in Section 3.5, the range finding study for HFPO-DA in birds (ECHA, 2019) indicated some slight reductions in reproduction at a 100 mg/kg dosing level (dose representing the concentration of HFPO-DA in food), but the definitive study NOEC was at the 1,000 mg/kg dose HQs for birds were all < 0.0002 and so if the range finding study NOEC was applied (i.e. a 10X lower TRV), exposures would not result in HQs > 1.

4.5 Additional Data Evaluations and Lines of Evidence

Toxicity reference values for many Table 3+ PFAS are still being developed, particularly with respect to ecological receptors. Therefore, it was necessary to investigate additional lines of evidence to inform development of the CSM and to qualitatively evaluate potential risk to biota to support the exposure quantifications and HFPO-DA hazard assessment. The following additional lines of evidence were included:

- Results of Whole Effluent Toxicity (WET) testing conducted by Chemours Fayetteville, and
- Additional environmental data regarding Table 3+ PFAS in the Fayetteville region and Cape Fear River Estuary.

4.5.1 WET Testing to Evaluate Risks to Aquatic Life

Whole Effluent Toxicity (WET) testing at the Site has shown that effluent does not pose a hazard to aquatic life. WET testing is a tool used to evaluate effluent toxicity utilizing an aquatic toxicity test that employs standardized methods (USEPA, 2000). WET tests are used by regulatory agencies to assess water quality, develop permit limits, and assess permit compliance. This type of testing is particularly useful in determining the combined toxicity of effluent to aquatic biota, without identifying the specific chemicals within the effluent that are likely to be responsible for effects. The overarching goal of WET testing is to ensure that water quality criteria are designed with consideration to protecting aquatic ecosystem health (USEPA, 2000).

The USEPA has approved the following testing methods to evaluate the acute and/or chronic toxicity of whole effluents to freshwater, marine, and/or estuarine biota:

- Acute toxicity to Freshwater and Marine organisms
- Chronic toxicity to Freshwater organisms
- Chronic toxicity to Marine/Estuarine organisms

Per the USEPA (2000), the study design for WET testing must include a control group and a minimum of five effluent concentrations that are ≥ 0.5 dilution factor of the whole effluent. Acute exposures are evaluated for 24, 48, and 96 hours. Chronic toxicity to freshwater organisms is evaluated for four to eight days, while chronic toxicity to marine and estuarine organisms is evaluated for one hour to nine days. Although there are inherent differences in species sensitivities, reproductive toxicity is widely accepted as a sensitive endpoint in toxicity testing, as well as an important indicator of potential population level effects.

The Chemours Fayetteville manufacturing facility conducts WET testing in accordance with their National Pollutant Discharge Elimination System (NPDES) permit requirements. Thirteen chronic studies were conducted between February 2016 and February 2019, in which *Ceriodaphnia dubia* were exposed to 3.3% effluent from the Fayetteville manufacturing facility. Mortality and reproduction of *C. dubia* were recorded daily for the duration of the test. As seen in Table 4-24, no statistically significant adverse effects on either of the aforementioned endpoints were observed during any of the tests. For context, a 3.3% dilution of effluent containing approximately 40,000-80,000 ng/L of HFPO-DA (which is representative of concentrations in effluent over the time frame of WET tests [Geosyntec, 2019e]) corresponds to an exposure concentration of 1,320 to 2,640 ng/L. Concentrations of HFPO-DA were below this exposure concentration in all SLEA surface water samples from the CFR supporting the conclusion of this Ecological SLEA that there are no potential hazards to aquatic life from current concentrations of HFPO-DA in the CFR.

4.5.2 Additional Regional Environmental Data

Certain Table 3+ PFAS were detected in abiotic and biota media in the Cape Fear River and the terrestrial area surrounding the facility. Other efforts by research facilities, including state and Federal agencies, have developed additional datasets regarding the presence of Table 3+ PFAS in the environment. Major findings from publicly available studies are briefly summarized below; many of the studies discussed below are currently in progress and have only reported preliminary findings thus far.

Robuck et al. (2019) measured the concentrations of 17 PFAS, including four Table 3+ PFAS, in Atlantic seabirds, as a proxy for homeothermic vertebrates. Chick and juvenile seabirds were sourced from coastal habitats including the CFR Estuary, Massachusetts Bay, and Narragansett Bay. Tissues analyzed included brain, heart, kidney, liver, lungs, muscles, and spleen. Other biological samples analyzed included blood, fat, preen, and feces. The studied analyzed samples for four Table 3+ PFAS (HFPO-DA, PFO4DA, PFO5DA and PFESA-BP2) and non-Table 3+ PFAS (PFOS and other PFSAs, PFCAs, perfluorooctane sulfonaminde). While raw data has been made available for review, based on the presentation of data in Robuck et al. (2019) HFPO-DA was not detected in significant quantities; PFESA-BP2, PFO5DA, and PFO4DA were detected in all CFR Estuary seabirds tissue samples. The relative contributions of these Table 3+ PFAS to total PFAS was highly variable between samples, particularly for PFESA-BP2; however, the study concluded that PFOS is the predominantly accumulated PFAS in all habitats.

The data from this Ecological SLEA indicate that fish are not experiencing high rates of HFPO-DA bioaccumulation, though detectable concentrations were observed in some samples. One composite sample of seven Red-ear sunfish caught the Cape Fear River near the Site also had detectable levels of HFPO-DA, though none of the other fish samples collected during that sampling event had measurable levels of HFPO-DA (NCDEQ, 2018). Guillette et al. (2019) also reported detectable concentrations of HFPO-DA and PFESA-BP2 in the serum of Striped bass (*Morone saxatilis*) and American alligators (*Alligator mississippiensis*) in the Cape Fear River. However, PFOS was overwhelmingly the largest contributor of the total PFAS body burden in both species (Guillette et al., 2019).

Lastly, a human biomonitoring study conducted near the Fayetteville production facility did not find HFPO-DA in blood serum, despite documented community-wide exposure to HFPO-DA via impacted drinking water (Kotlarz et al., 2019). However, other Table 3+ PFAS were detected at a high frequency, including PFESA-BP2, PFO4DA, PFO5DA, and Hydro-Eve. This supports the conclusion that HFPO-DA does not appear to be strongly bioaccumulative or have a long half-life in humans, and that other Table 3+ PFAS may be more frequently detected in upper trophic levels.

5 UNCERTAINTIES

There are a number of uncertainties related to all SLEAs/SLERAs, based on the use of assumed parameters for ecological modeling, spatial variation of chemicals in media, and organism habitat use patterns, among other uncertainties. While these uncertainties are relevant, the assumptions used in the Ecological SLEA aimed to provide additional conservatism where there was significant uncertainty. For example, exposure parameters were selected to provide reasonable maximum exposure estimates by selecting maximum reported consumption rates, minimum body weight estimates, small home range estimates, and by selecting EPCs based on maximum EPCs in varying diet items (i.e. the highest fish species EPC was selected to represent all fish). The remainder of this section focuses more on project specific uncertainties, such as analytical or field sampling related uncertainties, uncertainties in the analyses and uncertainties in the CSM.

Analytical Uncertainties:

For Table 3+ analyses the laboratory runs both a primary and laboratory replicate sample and reports the average of the two runs. In some fish tissue and invertebrate samples too small a mass of tissue was available to run both. As noted above in Section 4.1, this does not add additional uncertainty to the analytical results, and the results from the primary are considered usable.

Many Table 3+ PFAS were not detected in all media however EPCs are needed for all Table 3+ PFAS to estimate TDI. If a Table 3+ PFAS was not detected in any exposure media in an EU, it was not included in the calculation of exposures. However, if a Table 3+ PFAS was detected in some media of an EU, it was carried forward in the quantification of exposures using the RL as the EPC for media where that compound was not detected. The use of the RL as EPCs will lead to overestimates of exposures. In some instances with a high frequency of non-detect results (e.g. benthic invertebrates, offsite vegetation) substituting zeros for the RLs for non-detect results reduces TDI estimates for these receptors by up to 90%.

Uncertainties in the Ecological SLEA Analysis:

This analysis did not assess hazards to exposed receptors for Table 3+ PFAS outside of HFPO-DA due to the lack of Table 3+ PFAS specific TRVs. Under Paragraph 14 of the CO, Chemours is evaluating toxicity of PFMOAA, PMPA, PFO2HxA, PEPA, and PFESA-BP2 to mammalian and aquatic life receptors. These tests include mammalian repeated dose and immunotoxicity studies and aquatic toxicity testing. These results will enable an evaluation hazard for these Table 3+ PFAS. The potential for toxicity of individual Table 3+ PFAS to be influenced by the composition of Table 3+ PFAS mixtures is considered an uncertainty, but this is an uncertainty that occurs with the

majority of multichemical hazard assessments and in particular hazard assessments related to any PFAS.

The southern hognose snake is a listed species at risk that may potentially be found in the Site. This species is primarily a carnivore and likely has similar exposure to a carnivorous or invertivorous mammal or bird so it is unlikely that an evaluation would indicate potential hazard given the low HQs for HFPO-DA noted herein, but this is considered an uncertainty as no reptiles were evaluated in the Ecological SLEA. Toxicity data on reptiles for any PFAS is scarce (McCarthy et al., 2019; Conder et al., 2019).

Larger ranging carnivores that consume small birds and mammals were not included in this evaluation as the collection of small bird and mammal tissue samples to understand exposure to these receptors is a significant undertaking and was not feasible in the SLEA development timeframe. Typically, large ranging carnivores have low exposures due to their large home ranges relative to impacted areas of sites. However, given the large area of detectable Table 3+ PFAS in offsite groundwater and vegetation samples, exposure to these receptors could be significant for Table 3+ PFAS that are not metabolized by small birds and mammals. Based on the available supporting lines of evidence, Table 3+ PFAS to which carnivores may be exposed are primarily PFESA-BP2, PFO4DA, PFO5DA.

Vegetation samples were collected from the offsite area to represent terrestrial exposures and from the Cape Fear River to represent aquatic exposures. However, this SLEA did not include the collection of plant samples from the onsite area. Considering elevated concentrations in soil and earthworms near the onsite seeps, this is considered an uncertainty that may underestimate exposure to onsite herbivores.

Asian clam samples were collected as they were highly abundant in the aquatic EU and sediment grab samples did not indicate sufficient mass of invertebrate tissues of other species could be collected for analysis in the available time frame. Since Asian clams are abundant, it is likely they are being consumed by wildlife, however they may not represent the highest exposure for benthic invertivores as clams derive their exposure from the overlying water in addition to sediment and porewater. Benthic invertebrates with burrowing or tube-forming feeding habits may have higher exposures due to a closer association with sediment porewater.

Uncertainties in the CSM:

The higher detection frequency of Table 3+ PFAS in vegetation and insects from the offsite EU and the high detection frequencies of PMPA and HFPO-DA, which are markers for air emission (Geosyntec, 2019b, c) supports that aerial emissions were the migration pathway to the offsite area. It is unclear if the presence of Table 3+ PFAS in plants and insects resulted from both aerial deposition on to the organism directly or from

the aerial deposition to soil and subsequent uptake from soil pore water into plants, and consumption of those plants by insects. Understanding the relative contribution of each pathway is complicated by the low frequency of detection in offsite soils. The detection limits in soil are not as sensitive as water (by 2-3 orders of magnitude), and potentially less sensitive than wet weight tissue analysis, therefore the higher detection frequencies in these media may be an artifact of RLs. Alternatively, due to the low log K_{oc} of most Table 3+ PFAS, compounds in soil may rapidly partition to groundwater resulting in non-detects for soil samples but may remain on the tissues of plants and insects resulting in higher detection frequencies.

Studies from a PFAS manufacturing facility in the Netherlands with similar release mechanisms provides some indication that these two pathways are both important contributors. Concentrations of HFPO-DA in plant samples from offsite areas were reduced by about half after washing (Mengelers et al., 2018). These results may also suggest that exposure to Table 3+ PFAS may be reduced by washing vegetation; based on this, natural weathering/raining may reduce exposure to ecological herbivores as well, though this has not been studied The similar profiles between plants and insects indicates that air emissions is the primary source regardless of specific uptake pathways into organisms, though no information regarding the timing of deposition either onto organism tissues or in soil porewater for subsequent uptake into organisms is available and may have occurred prior to emission reduction controls put in place by Chemours.

The sediment samples collected from the Cape Fear River were widely non-detect for Table 3+ PFAS indicating bulk sediment is not a sink or potential long-term source of Table 3+ PFAS. However, given the noted analytical sensitivities between soil and aqueous matrices and the lower organic carbon partitioning of Table 3+ PFAS there is uncertainty in the potential for Table 3+ PFAS to be present in sediment porewater at detectable concentrations while at concentrations lower than the reporting limit for Table 3+ PFAS in sediment. This could result in exposures to benthic invertebrates that may not be accounted for by the bulk sediment analyses.

PFESA-BP2 has been detected by other studies in human blood serum and alligator blood serum (Kotlarz et al, 2019; Guillette et al. 2019; Robuck et al. 2019). However, in this evaluation PFESA-BP2 was not detected in plants from offsite and aquatic areas or in Cape Fear River surface water (but was detected in onsite and offsite Pond water) and was not detected in fish tissue samples. BSAF for earthworm were moderate but complicated by non-detect results in soil and therefore possibly underestimated. The high frequency of detection (FOD) in blood with present information appears to be inconsistent with the low FOD in environment.

6 SUMMARY

This Ecological SLEA evaluated the presence of Table 3+ PFAS in multiple abiotic and biotic media in the terrestrial areas on and surrounding the Site and in the adjacent Cape Fear River. Ecological hazard and exposure assessments for all PFAS, especially for more recently studied PFAS such as the Table 3+ PFAS, are in their infancy, and a number of uncertainties remain. Overall this Ecological SLEA aimed to evaluate the extent and magnitude of exposures with a reasonable degree of confidence, but conclusions resulting from the data, analyses and interpretation described herein are presented in the context of the uncertainties described above.

Up to 17 individual Table 3+ PFAS were detected in samples of onsite soils, invertebrates, terrestrial and aquatic vegetation and fish. Very few (less than two) Table 3+ PFAS were detected in sediment, benthic invertebrates and offsite soils. Concentrations were generally highest in the onsite area relative to the Cape Fear River and offsite terrestrial areas, and predominant exposures are related to consumption of terrestrial and aquatic plants by herbivorous wildlife like rabbits and muskrats. NVHOS, PFMOAA, PMPA, Byproduct4, and PFO2HxA represent the highest exposures to these receptors, and mammalian toxicity evaluation of PFMOAA, PMPA, and PFO2HxA will be very helpful in evaluating the potential hazards of these exposures. Sediment sampled in Cape Fear River and soil sampled in offsite area were primarily non-detect for Table 3+ PFAS, though due to difference between soil and sediment analytical method sensitivities compared to aqueous samples Table 3+ PFAS may be present in these samples where aqueous phases are present (groundwater, porewater).

No adverse hazards were identified to ecological receptors from current exposures to HFPO-DA onsite or offsite. The primary exposures are related to the onsite seep areas and consumption of plants in the offsite area. Under the CO, Chemours is implementing significant source control of air emissions and discharges to the Cape Fear River which will significantly reduce exposures to ecological receptors.

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NC License No.: C-3500 and C-295

TABLES

TABLE 2-1
REGIONAL LISTED SPECIES
Chemours Fayetteville Works, North Carolina

Common Name	Scientific Name	Status	Habitat/Presence	Potential for Critical Habitat/Presence On-Site	Source of Habitat Info
VERTEBRATES					
Atlantic sturgeon	*Acipenser oxyrinchus oxyrinchus*	Endangered	Spend majority of life in saltwater; spawn in freshwater.	Unlikely to occur by project Site; reported distribution does not include Bladen/Cumberland counties.	Fishbase.org http://explorer.natureserve.org/
American Alligator	*Alligator mississippiensis*	Threatened [1]	Inhabit fresh and brackish marshes, ponds, lakes, rivers,etc. They often bask on partially submerged logs or on land next to the water. They make dens on river or lake margins or in marshes; they spend cold winter and drought periods in the dens. Reproduce in shallow water; less active from November to March.	Distribution reported to include Bladen/Cumberland counties but unlikely to be commonly found in the section of CFR adjacent to Site due to steep banks, deep water depths (up to 30 ft), and lack of habitat for dens.	http://explorer.natureserve.org/
Bald Eagle	*Haliaeetus leucocephalus*	BPGA [2]	Typically inhabit forested areas often near water, avoiding areas of significant human activity; migrate to warmer areas in winter	May be found in forested areas within the Site. Distribution reported to include Bladen County.	http://explorer.natureserve.org/
Cape Fear Shiner	*Notropis mekistocholas*	Endangered	Small rivers to medium-sized creeks near the Fall Line; areas of moderate gradient and riffles alternating with long deep pools, and substrate a mixture of sand-gravel, rubble, and boulders. Occurs in slow pools, riffles, slow runs. Juveniles occupy slackwater, areas near rock outcrops, and flooded areas.	Unlikely to be found in CFR near Site; documented in counties with critical habitat, near Fall line northwest of Fayetteville.	http://explorer.natureserve.org/ https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=6063
Carolina gopher frog	*Rana capito capito*	At Risk Species	Found in mixed forest habitats (pines, oaks), often where there are gopher tortoises. Breeds in ephemeral wetlands, ditches, borrow pits (in early spring).	Distribution reported to include Bladen and Cumberland counties. Unlikely to be commonly found due to lack of gopher tortoises in NC.	http://explorer.natureserve.org/
Northern long-eared bat	*Myotis septentrionalis*	Threatened	This species hibernates in caves in winter and roosts in trees in summer and forages in upland forests and wooded areas.	Distribution reported to include Bladen county. No critical habitat has been identified in Bladen and Cumberland counties. May be found in summer in this area.	http://explorer.natureserve.org/
Red-cockaded woodpecker	*Picoides borealis*	Endangered	Preferred habitat is open, pine woodlands with sparse midstory vegetation. Nest in pines and cypress trees and reproduce in Spring.	Distribution reported to include Bladen and Cumberland counties. May be found in vicinity of project Site.	http://explorer.natureserve.org/

TABLE 2-1
REGIONAL LISTED SPECIES
Chemours Fayetteville Works, North Carolina

Common Name	Scientific Name	Status	Habitat/Presence	Potential for Critical Habitat/Presence On-Site	Source of Habitat Info
Shortnose sturgeon	*Acipenser brevirostrum*	Endangered	Adults inhabit rivers, estuaries, and the sea but they move upstream as much as 200 km to spawn.	Unlikely to be commonly found in CFR as they are estuarine/marine species except during spawning season (Spring). Distribution reported to include Bladen county.	http://explorer.natureserve.org/
Southern hognose snake	*Heterodon simus*	At Risk Species	Inhabit mixed woodlands and grasslands and riparian habitats.	Distribution reported to include Bladen and Cumberland counties. May be found in vicinity of project Site.	http://explorer.natureserve.org/
Wood stork	*Mycteria americana*	Threatened	Preferred habitat is forested wetlands, ponds, lagoons (mostly freshwater)	Distribution reported to include Bladen and Cumberland county. May be found in the vicinity of the project Site.	http://explorer.natureserve.org/ https://www.fws.gov/raleigh/species/es_wood_stork.html
INVERTEBRATES					
Atlantic pigtoe	*Fusconaia masoni*	At Risk Species	Preferred habitat includes high/moderate gradient rivers, riffles with relatively fast flowing watersand coarse sand/gravel.	May occur in CFR near Site although flow is variable; distribution reported to occur in the northern half of Cumberland county and beyond; other sources indicate its potential presence in Bladen county.	https://ecos.fws.gov/ipac/location/T7OPL7SFMVFTXO4WZVI2WGLLWM/resources https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=F03K http://explorer.natureserve.org/
Saint Francis' satyr butterfly	*Neonympha mitchellii francisci*	Endangered	Habitat includes wet meadows dominated by a high diversity of sedges and other wetland grasses; a single metapopulation was noted to occur in the sandhills of North Carolina, which falls in both Cumberland and Hoke Counties. See map to right. This is more than 10 km north of the Site.	Unlikely to occur near Site based on NatureServe Explorer database information.	https://www.fws.gov/raleigh/species/es_st_francis_satyr.html https://www.researchgate.net/publication/260105848_Pine_barrens_and_possum%27s_rations_Early_Archaic_settlement_in_the_North_Carolina_Sandhills/figures?lo=1
Variegated clubtail (Belle's Sanddragon)	*Progomphus bellei*	At Risk Species	Preferred habitat is shallow water of sand-bottomed lakes and trickles.	Distribution reported to include Bladen county. May occur in vicinity of Site.	http://explorer.natureserve.org/ https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=2344
VASCULAR PLANT					
American chaffseed	*Schwalbea americana*	Endangered	Frequently grows in the transitional area between peaty wetlands and dry sandy soils; may grow in acidic, sandy or peaty soils within lowland pine forests, bogs, or areas where grassy communities are dominant. Known to be prevalent in the NC Sandhills.	Unlikely to occur near the Site based on information provided in NatureServe Explorer database which indicates that these plants occur at the Western edge of the coastal plain which is West of Fayetteville and the project Site.	http://explorer.natureserve.org/
Bog spicebush	*Lindera subcoriacea*	At Risk Species	Inhabits permanently moist to wet, shrub-dominated seepage wetlands; In the NC Sandhills, it occurs in streamhead pocosins (wetland bogs with sandy peat soil and woody shrubs throughout) that border headwater streams.	Distribution reported to occur in Cumberland county. Possible it occurs near Site; known to occur in NC sandhills (Cumberland county).	http://explorer.natureserve.org/ https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=879

TABLE 2-1
REGIONAL LISTED SPECIES
Chemours Fayetteville Works, North Carolina

Common Name	Scientific Name	Status	Habitat/Presence	Potential for Critical Habitat/Presence On-Site	Source of Habitat Info
Boykin's lobelia	*Lobelia boykinii*	At Risk Species	Habitat includes cypress-gum depressions or ponds, wet pine savannahs and flatwoods. Preferred habitat may have continuous, shallow standing water or may only be seasonally very moist or inundated.	Distribution reported to include Bladen and Cumberland counties. Maybe be present in the vicinity of the Site.	http://explorer.natureserve.org/
Georgia lead-plant	*Amorpha georgiana* var. *georgiana*	At Risk Species	Habitat is pine/shrub/wiregrass terraces along rivers and large streams.	Unlikely to occur near project Site. NatureServe Explorer database indicates that distribution reported to include Cumberland county but nearly all North Carolina occurrences are scattered along the Little River (found in SW N. Carolina); other occurrences are in the Fall-line Sandhills of N. and S. Carolina (northwest of project Site).	http://explorer.natureserve.org/ https://www.ncwildlife.org/Conserving/Habitats
Carolina bogmint	*Macbridea caroliniana*	At Risk Species	Habitat incldues longleaf or pond pine savannas, acidic forests/bogs/wetlands.	May be found within the Site. Distribution reported to include Bladen County.	http://explorer.natureserve.org/
Michaux's sumac	*Rhus michauxii*	Endangered	Habitat includes sandy or rocky open woods; mixed woodlands.	May be found within the Site. Distribution reported to include Cumberland county.	http://explorer.natureserve.org/
Pondberry	*Lindera melissifolia*	Endangered	Habitats include seasonally flooded wetlands/ forests, shallow seasonal ponds/pools.	May be found within the Site. Distribution reported to include Bladen and Cumberland counties.	http://explorer.natureserve.org/
Rough-leaved loosestrife	*Lysimachia asperulaefolia*	Endangered	Preferred habitat is in the transition zone between longleaf pine uplands and pond pine wetalnds with sandy/peat soils. Sufficient sun required.	May be found within the Site. Distribution reported to include Bladen and Cumberland counties.	http://explorer.natureserve.org/
Venus' fly-trap	*Dionaea muscipula*	At Risk Species	Habitat include the transition zone between the pine savannas and the bogs, areas with moist soils for much of the year; also found in acidic loamy sands in the Sandhill region.	May be found within the Site. Distribution reported to include Bladen and Cumberland counties.	http://explorer.natureserve.org/

Sources:
US Fish and Wildlife Service. North Carolina Natural Heritgage Program, County List. https://www.fws.gov/raleigh/species/cntylist/bladen.html.
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Center for Biological Diversity. Map of US Threatened and Endangered Species by County.
https://www.biologicaldiversity.org/programs/population_and_sustainability/T_and_E_map/.

US Fish and Wildlife Service. IPaCInformation for Planning and Consultation
Powered by ECOS - the Environmental Conservation Online System

https://ecos.fws.gov/ipac/

http://explorer.natureserve.org/

Notes:

[1] This species is threatened due to its similarity in appearance to another listed species and is therefore included on the federal list of threatened and endangered species for the other species' protection.

[2] The bald eagle was declared recoved and removed from the federal list of threatened and endangered species but is protected under the Bald and Golden Eagle Protection Act.

BPGA = Bald and Golden Eagle Protection Act
CFR = Cape Fear River
NC = North Carolina

TABLE 2-2
TABLE 3+ PFAS
Chemours Fayetteville Works, North Carolina

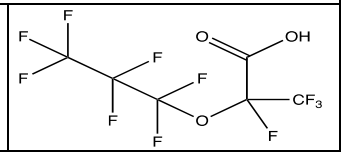
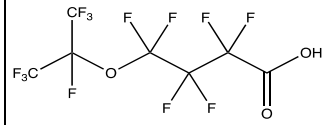
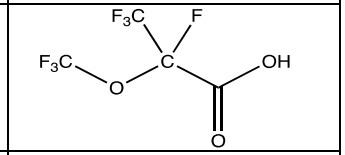
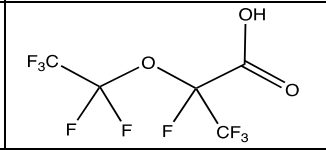
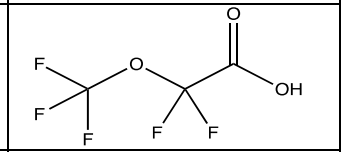
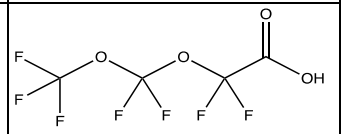
Common Name	Chemical Name	CAS #	Formula	Degree of Fluorination	Ether Bonds	Isomer type	Functional Groups			Diprotic[d]	Structure
							R-C=C[a]	R-CO_2H[b]	R-SO_3H[c]		
Per- and polyfluoroalkyl ether carboxylic acids (PFECAs)											
HFPO-DA	Hexafluoropropylene oxide dimer acid	13252-13-6	$C_6HF_{11}O_3$	Per	1	Branched	--	✓	--	--	
PFECA-G	Perfluoro-4-isopropoxybutanoic acid	801212-59-9	$C_7H_1F_{13}O_1$	Per	1	Branched	--	✓	--	--	
PMPA	Perfluoromethoxypropyl carboxylic acid	13140-29-9	$C_4HF_7O_3$	Per	1	Branched	--	✓	--	--	
PEPA	Perfluoroethoxypropyl carboxylic acid	267239-61-2	$C_5HF_9O_3$	Per	1	Branched	--	✓	--	--	
PFMOAA	Perfluoro-2-methoxyacetic acid	674-13-5	$C_3HF_5O_3$	Per	1	Linear	--	✓	--	--	
PFO2HxA	Perfluoro(3,5-dioxahexanoic) acid	39492-88-1	$C_4HF_7O_4$	Per	2	Linear	--	✓	--	--	

TABLE 2-2
TABLE 3+ PFAS
Chemours Fayetteville Works, North Carolina

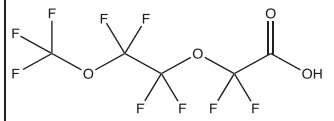
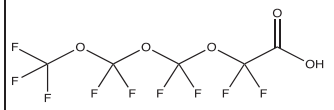
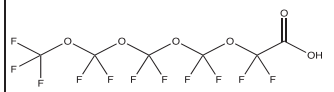
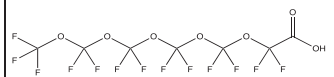
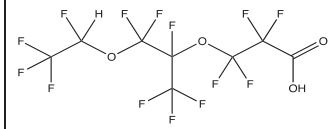
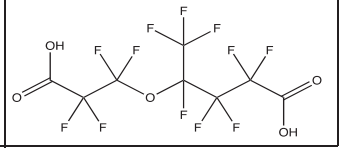
Common Name	Chemical Name	CAS #	Formula	Degree of Fluorination	Ether Bonds	Isomer type	Functional Groups			Diprotic[d]	Structure
							R-C=C[a]	$R\text{-}CO_2H$[b]	$R\text{-}SO_3H$[c]		
PFECA B	Perfluoro-3,6-dioxaheptanoic acid	151772-58-6	$C_5HF_9O_4$	Per	2	Linear	--	✓	--	--	
PFO3OA	Perfluoro(3,5,7-trioxaoctanoic) acid	39492-89-2	$C_5HF_9O_5$	Per	3	Linear	--	✓	--	--	
PFO4DA	Perfluoro(3,5,7,9-tetraoxadecanoic) acid	39492-90-5	$C_6HF_{11}O_6$	Per	4	Linear	--	✓	--	--	
PFO5DA	Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	39492-91-6	$C_7HF_{13}O_7$	Per	5	Linear	--	✓	--	--	
Hydro-EVE Acid	Perfluoroethoxsypropanoic acid	773804-62-9	$C_8H_2F_{14}O_4$	Poly	2	Branched	--	✓	--	--	
EVE Acid	Perfluoroethoxypropionic acid	69087-46-3	$C_8HF_{13}O_4$	Per	2	Branched	✓	✓	--	--	
R-EVE	R-EVE	N/A	$C_8H_2F_{12}O_5$	Per	1	Branched	--	✓	--	✓	

TABLE 2-2
TABLE 3+ PFAS
Chemours Fayetteville Works, North Carolina

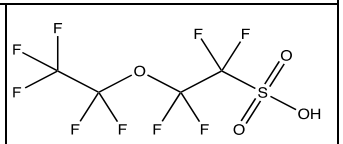
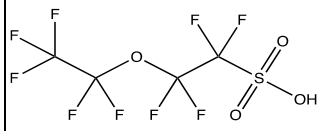
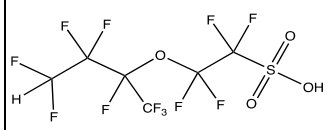
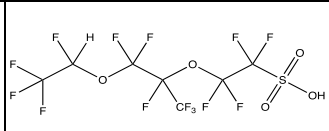
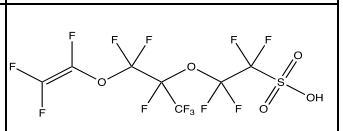
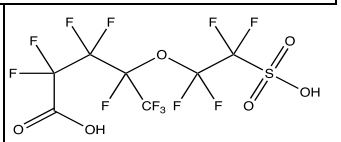
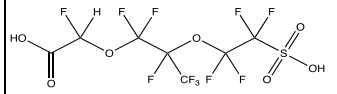
Common Name	Chemical Name	CAS #	Formula	Degree of Fluorination	Ether Bonds	Isomer type	Functional Groups			Diprotic[d]	Structure
							R-C=C[a]	R-CO_2H[b]	R-SO_3H[c]		
Per- and polyfluoroalkyl ether sulfonic acids (PFESAs)											
PES	Perfluoroethoxyethanesulfonic acid	113507-82-7	$C_4HF_9O_4S$	Per	1	Linear	--	--	✓	--	
NVHOS	Perfluoroethoxysulfonic acid	1132933-86-8	$C_4H_2F_8O_4S$	Poly	1	Linear	--	--	✓	--	
Byproduct 6	Byproduct 6	N/A	$C_6H_2F_{12}O_4S$	Poly	1	Branched	--	--	✓	--	
PFESA-BP2	Byproduct 2	749836-20-2	$C_7H_2F_{14}O_5S$	Poly	2	Branched	--	--	✓	--	
PFESA-BP1	Byproduct 1	29311-67-9	$C_7HF_{13}O_5S$	Per	2	Branched	✓	--	✓	--	

TABLE 2-2
TABLE 3+ PFAS
Chemours Fayetteville Works, North Carolina

Common Name	Chemical Name	CAS #	Formula	Degree of Fluorination	Ether Bonds	Isomer type	Functional Groups			Diprotic[d]	Structure
							R-C=C[a]	R-CO_2H[b]	R-SO_3H[c]		
Per- and polyfluoroalkyl ether sulfonic and carboxylic acids (PFES-CAs)											
Byproduct 4	Byproduct 4	N/A	$C_7H_2F_{12}O_6S$	Per	1	Branched	--	✓	✓	✓	
Byproduct 5	Byproduct 5	N/A	$C_7H_3F_{11}O_7S$	Poly	2	Branched	--	✓	✓	✓	

Notes:

[a] Carbon double bond functional group

[b] Carboxylic acid functional group

[c] Sulfonic acid functional group

[d] Compound with two acid functional groups

Abbreviations:

N/A- Not available

-- - Not applicable

TABLE 2-3
PHYSICAL AND CHEMICAL PROPERTIES FOR RELEVENT TABLE 3+ PFAS
Chemours Fayetteville Works, North Carolina

Common Name	Chemical Name	CAS #	Formula	Predicted Log P [a] (L/kg)	Predicted Log K_{OC} [a] (L/kg)	Predicted Log K_{OA} [a]	Henry's Law [a] (atm-m^3/mole)	BCF [a] (L/kg)	Experimental Log P [b] (pH 5)	Calculated Log P [b] (pH 8)	Calculated Log K_{OC} [b]
PFMOAA	Perfluoro-2-methoxyacetic acid	674-13-5	$C_3HF_5O_3$	1.75	0.68	3	3.56E-06	2.71	< 2.82 (2.45)	< 2.83 (2.43)	0.89
R-EVE	R-EVE	NA	$C_8H_2F_{12}O_5$	--	--	--	--	--	3.04	3.14	1.01
Byproduct 4	Byproduct 4	NA	$C_7H_2F_{12}O_6S$	--	--	--	--	--	3.09	3.19	1.04
Byproduct 5	Byproduct 5	NA	$C_7H_3F_{11}O_7S$	--	--	--	--	--	3.14	3.23	1.07
PMPA	Perfluoromethoxypropyl carboxylic acid	13140-29-9	$C_4HF_7O_3$	1.86	1.53	2.97	5.15E-05	5.47	3.05	3.05	1.02
PFO2HxA	Perfluoro(3,5-dioxahexanoic) acid	39492-88-1	$C_4HF_7O_4$	2.12	1.69	3.68	5.39E-05	4.96	3.32	3.3	1.17
NVHOS	Perfluoroethoxysulfonic acid	1132933-86-8	$C_4H_2F_8O_4S$	--	--	--	--	--	2.92	2.93	0.95
PEPA	Perfluoroethoxypropyl carboxylic acid	267239-61-2	$C_5HF_9O_3$	2.87	1.51	3.4	3.12E-10	6.27	3.63	3.6	1.35
PFECA B	Perfluoro-3,6-dioxaheptanoic acid	151772-58-6	$C_5HF_9O_4$	4.17	1.71	3.8	1.14E-10	25.8	3.98	3.95	1.54
PFO3OA	Perfluoro(3,5,7-trioxaoctanoic) acid	39492-89-2	$C_5HF_9O_5$	3.2	1.54	3.95	4.91E-04	2.87	4.17	4.13	1.65
PES	Perfluoroethoxyethanesulfonic acid	113507-82-7	$C_4HF_9O_4S$	2.75	2.55	4.2	2.23E-10	34.2	3.8	3.78	1.44
HFPO-DA	Hexafluoropropylene oxide dimer acid	13252-13-6	$C_6HF_{11}O_3$	1.98	2.61	3.74	2.37E-10	6.27	4.24	4.23	1.69
PFECA G	Perfluoro-4-isoproproxybutanoic acid	801212-59-9	$C_7HF_{13}O_3$	4.86	3.06	4.08	6.29E-04	617	4.79	4.77	2.00
PFO4DA	Perfluoro(3,5,7,9-tetraoxadecanoic) acid	39492-90-5	$C_6HF_{11}O_6$	6.99	2.94	4.1	5.47E-05	21.1	4.98	4.95	2.11
Hydro-EVE Acid	Perfluoroethoxypropanoic acid	773804-62-9	$C_8H_2F_{14}O_4$	2.93	3.40	4.24	2.70E-07	5.41	4.68	4.66	1.94
EVE Acid	Perfluoroethoxypropionic acid	69087-46-3	$C_8HF_{13}O_4$	2.88	3.24	4.77	2.94E-09	5.42	5.10	5.06	2.17
Byproduct 6	Byproduct 6	NA	$C_6H_2F_{12}O_4S$	--	--	--	--	--	4.61	4.57	1.9
PFESA-BP1	Byproduct 1	29311-67-9	$C_7HF_{13}O_5S$	4.4	2.92	5.87	1.45E-08	5.39	5.09	5.06	2.17
PFESA-BP2	Byproduct 2	749836-20-2	$C_7H_2F_{14}O_5S$	3.86	2.90	4.78	2.35E-08	4.32	4.72	4.68	1.96
PFO5DA	Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	39492-91-6	$C_7HF_{13}O_7$	8.46	2.75	4.29	3.87E-08	15.9	5.78	5.72	2.56

Notes:

[a] Values retrieved from the US EPA Chemistry Dashboard. (comptox.epa.gov/dashboard)

[b] Values are from the Geosyntec Consultants Draft Corrective Action Plan- Chemours Fayetteville Works. December, 2019.

Abbreviations:

US EPA- United States Environmental Protection Agency
CAS # - Unique identifier assigned by the Chemical Abstracts Service (CAS)
Log P - Logarithm of the octanol- water partition coefficient (i.e., the ratio of the concentration of a compound between aqueous and lipophilic phases)
Log Koc - Logarithm of the organic carbon-water partitioning coefficient
Log Koa - Logarithm of the octanol-air partitioning coefficient
BCF - Bioconcentration Factor
atm - Atmosphere
L/kg - liter per kilogram
-- - no data available

TABLE 3-1
ECOLOGICAL SLEA DATASET - OFFSITE SOIL
Chemours Fayetteville Works, North Carolina

Date	Sample ID	Location ID	Eco-SLEA EU	Sample Description	Data Use
8/14/2019	EU-1-DISCRETESOIL-0-.5-081419	EU-01	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
9/12/2019	EU-1-SOIL-0-.5-091219	EU-01	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/21/2019	EU-10-SOIL-0-.5-082119	EU-10	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
7/31/2019	EU-11-SOIL-0-0.5	EU-11	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/20/2019	EU-12-SOIL-0-.5-082019	EU-12	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/20/2019	EU-12-SOIL-0-.5-082019-D	EU-12	Offsite Terrestrial	Field duplicate	Offsite Soil EPC
7/25/2019	EU2-SOIL-0-0.5	EU-2	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
7/31/2019	EU-3-SOIL-0-0.5	EU-3	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/19/2019	EU-4-SOIL-0-.5-081919	EU-4	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/23/2019	EU-5-SOIL-0-.5-082319	EU-5	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
7/25/2019	EU6-SOIL-0-0.5	EU-6	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/19/2019	EU-7-SOIL-0-.5-081919	EU-7	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/16/2019	EU-8-SOIL-0-.5-081619	EU-8	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC
8/21/2019	EU-9-SOIL-0-.5-082119	EU-9	Offsite Terrestrial	ISM Surface soil composite	Offsite Soil EPC

Notes:

1: All surface soil represented the top 0 to 6 inches of soil

Abbreviations:

EU - Exposure Unit

ISM - Incremental Sampling Methodology

EPC - Exposure Point Concentration

SLEA - Screening Level Exposure Assessment

TABLE 3-2
ECOLOGICAL SLEA DATASET - OFFSITE VEGETATION AND INVERTEBRATES
Chemours Fayetteville Works, North Carolina

Date	Sample ID	EU	Sample Description [a]	Data Use
9/12/2019	EU-1-VEG-091219	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
7/25/2019	EU2-VEG	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
7/31/2019	EU-3-VEG	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/19/2019	EU-4-VEG-081919	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/23/2019	EU-5-VEG-082319	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
7/25/2019	EU6-VEG	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/19/2019	EU-7-VEG-081919	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/16/2019	EU-8-VEG-081619	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/21/2019	EU-9-VEG-082119	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/21/2019	EU-10-VEG-082119	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
7/31/2019	EU-11-VEG	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
8/20/2019	EU-12-VEG-082019	Offsite Terrestrial	Plant Tissue	Offsite plant EPC
9/12/2019	EU-1-INV-091219	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC
7/25/2019	EU2-INV	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC
8/19/2019	EU-4-INV-081919	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC
8/23/2019	EU-5-INV-082319	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC [b]
7/25/2019	EU6-INV	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC [b]
8/19/2019	EU-7-INV-081919	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC
8/16/2019	EU-8-INV-081619	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC
8/21/2019	EU-9-INV-082119	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC [b]
8/21/2019	EU-10-INV-082119	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC [b]
7/31/2019	EU-11-INV	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC [b]
8/20/2019	EU-12-INV-082019	Offsite Terrestrial	Invertebrate	Offsite invertebrate EPC

Notes:

a: Plant tissue represents broadleaf plants with non-waxy leaves, seeded grasses (fescues, ryegrass, wheatgrass) and berries or fruit within 1 to 2 feet of the ground surface. Terrestrial invertebrate samples were primarily composed of grasshoppers, crickets, and dragonflies.

b: Insufficient mass to run all analyses; only a single run of Table 3+ SOPs were analyzed.

Abbreviations:

EU - Exposure Unit

EPC - Exposure Point Concentration

TABLE 3-3
ECOLOGICAL SLEA DATASET - OFFSITE, ONSITE AND CFR SURFACE WATER
Chemours Fayetteville Works, North Carolina

Date	Sample ID	Location ID	Eco-SLEA EU	Sample Description	Data Use
9/12/2019	POND-B-EAST-091219	Pond B (EU2)	Offsite Terrestrial	Discrete SW sample	Offsite SW EPC
9/12/2019	POND-B-SOUTH-091219	Pond B (EU2)	Offsite Terrestrial	Discrete SW sample	Offsite SW EPC
9/12/2019	POND-B-WEST-091219	Pond B (EU2)	Offsite Terrestrial	Discrete SW sample	Offsite SW EPC
7/24/2019	POND-1-NE-072419	Pond 1	Onsite Terrestrial	Surface Water	Onsite SW EPC
7/24/2019	POND-1-NW-072419	Pond 1	Onsite Terrestrial	Surface Water	Onsite SW EPC
7/24/2019	POND-1-SE-072419	Pond 1	Onsite Terrestrial	Surface Water	Onsite SW EPC
7/24/2019	POND-1-SE-072419-2	Pond 1	Onsite Terrestrial	Surface Water	Field Duplicate/EPC
7/25/2019	CFR-04-CM-072519	CFR-04	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-04-CT-072519	CFR-04	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-04-E-072519	CFR-04	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-04-W-072519	CFR-04	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-07-CM-072519	CFR-07	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-07-CT-072519	CFR-07	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-07-E-072519	CFR-07	CFR	Surface Water	CFR SW EPC
7/25/2019	CFR-07-W-072519	CFR-07	CFR	Surface Water	CFR SW EPC

Abbreviations:
CFR - Cape Fear River
EPC - Exposure Point Concentration
SLEA EU - Screening Level Exposure Assessment Exposure Unit
SW - Surface water

TABLE 3-4
ECOLOGICAL SLEA DATASET - ONSITE SOIL AND CO-LOCATED SOIL AND EARTHWORM
Chemours Fayetteville Works, North Carolina

Date	Sample ID	Location ID	EU	Matrix	Data Use
9/25/2019	SEEP-B-SOIL-092519	SEEP-B	Onsite Terrestrial	Composite soil sample	EPC
9/25/2019	SEEP-B-WORMSOIL-092519	SEEP-B	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	EPC/BSAF
9/26/2019	SEEP-C-SOIL-092619	SEEP-C	Onsite Terrestrial	Composite soil sample	EPC
9/26/2019	SEEP-C-WORMSOIL-092619	SEEP-C	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	EPC/BSAF
9/26/2019	SEEP-D-WORMSOIL-092619	SEEP-D	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	EPC/BSAF
9/24/2019	WC-SOIL-092419	Willis Creek	Onsite Terrestrial	Composite soil sample	EPC
9/24/2019	WC-WORMSOIL-092419	Willis Creek	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	EPC/BSAF
9/13/2019	SEEP-A-RIVERSOIL-091319	SEEP-A	Onsite Terrestrial	Composite soil sample	EPC
9/13/2019	SEEP-A-WORMSOIL-091319	SEEP-A	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	EPC/BSAF
9/11/2019	SEEP-D-RIVERSOIL-091119	SEEP-D	Onsite Terrestrial	Composite soil sample	EPC
9/24/2019	INTAKE-WORM-SOIL-092419	INTAKE	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	EPC/BSAF
9/24/2019	INTAKE-WORMSOIL-092419-D	INTAKE	Onsite Terrestrial	Composite soil sample with corresponding tissue composite	Field Duplicate/EPC
9/13/2019	SEEP-A-WORMS-091319	SEEP-A	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Invertebrate EPC
9/25/2019	SEEP-B-WORMS-092519	SEEP-B	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Invertebrate EPC
9/26/2019	SEEP-C-WORM-092619	SEEP-C	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Invertebrate EPC
9/26/2019	SEEP-D-WORM-092619	SEEP-D	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Invertebrate EPC
9/24/2019	WC-WORM-092419	Willis Creek	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Invertebrate EPC
9/24/2019	INTAKE-WORM-092419	INTAKE	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Invertebrate EPC
9/24/2019	INTAKE-WORM-092419-D	INTAKE	Onsite Terrestrial	Composite earthworm tissue sample	BSAF/Field Duplicate/EPC

Abbreviations:
BSAF - biota-soil accumulation factors
EU - Exposure Unit
EPC - Exposure Point Concentration

TABLE 3-5
ECOLOGICAL SLEA DATASET - CAPE FEAR RIVER SEDIMENT
Chemours Fayetteville Works, North Carolina

Date	Sample ID	Location ID	EU	Sample Description	Data Use
10/21/2019	SED1-20191021	SED-1	CFR	Composite sediment sample	EPC
10/21/2019	SED2-20191021	SED-2	CFR	Composite sediment sample	EPC
10/21/2019	SED3-20191021	SED-3	CFR	Composite sediment sample	EPC
10/21/2019	SED4-20191021	SED-4	CFR	Composite sediment sample	EPC
10/21/2019	SED5-20191021	SED-5	CFR	Composite sediment sample	EPC
10/21/2019	SED6-20191021	SED-6	CFR	Composite sediment sample	EPC
10/21/2019	SED3-20191021-DUP	SED-3	CFR	Composite sediment sample	Field duplicate/EPC

Notes:

1: CFR EU includes all sample locations within the CFR collected between Willis Creek and Georgia Branch Creek

Abbreviations:

CFR - Cape Fear River

EU - Exposure Unit

EPC - Exposure Point Concentration

TABLE 3-6
ECOLOGICAL SLEA DATASET - CAPE FEAR RIVER INVERTEBRATES AND VEGETATION
Chemours Fayetteville Works, North Carolina

Date	Sample ID	Location ID	Sample Description	Data Use
10/21/2019	CFR-AC-INV-01-20191021	CFR	Asian clam[a]	EPC
10/21/2019	CFR-AC-INV-02-20191021	CFR	Asian clam[a]	EPC
10/21/2019	CFR-AC-INV-03-20191021	CFR	Asian clam[a]	EPC
10/21/2019	CFR-INV-01-20191021	CFR	Benthic invertebrates[b]	EPC[d]
10/21/2019	CFR-INV-02-20191021	CFR	Benthic invertebrates[b]	EPC
10/21/2019	CFR-INV-03-20191021	CFR	Benthic invertebrates[b]	EPC
10/21/2019	CFR-INV-04-20191021	CFR	Benthic invertebrates[c]	EPC[d]
10/21/2019	SED1-VEG-20191021	CFR	Aquatic vegetation[d]	EPC
10/21/2019	SED2-VEG-20191021	CFR	Aquatic vegetation	EPC
10/21/2019	SED3-VEG-20191021	CFR	Aquatic vegetation	EPC
10/21/2019	SED4-VEG-20191021	CFR	Aquatic vegetation	EPC
10/21/2019	SED5-VEG-20191021	CFR	Aquatic vegetation	EPC
10/21/2019	SED6-VEG-20191021	CFR	Aquatic vegetation	EPC

Notes:

a: Discrete Asian clam shallow water sample from single location

b: Primarily Asian clams; represents deeper water and spatial composite samples that were combined into a single composite at the lab.

c: Primarily aquatic larvae and a leech.

d: Insufficient mass to run all analyses, only a single run of Table 3+ SOPs were analyzed.

Abbreviations:

CFR - Cape Fear River

EPC - Exposure Point Concentration

TABLE 3-7
ECOLOGICAL SLEA DATASET - FISH TISSUE
Chemours Fayetteville Works, North Carolina

Date Caught	Sample ID	Location	Common Name	Scientific Name	Sample Description	Analyzed Portion	Weight (grams)	Length (mm)[a]	Data Use
7/30/2019	DERC-1 LMB	Pond 1	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Fillet only	816	343	EPC
7/30/2019	DERC-2 LMB	Pond 1	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Fillet only	1270	406	EPC
7/30/2019	DERC-3 LMB	Pond 1	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Fillet only	998	394	EPC/Whole-body to fillet ratio
7/30/2019	DERC-3 LMB-Carcass	Pond 1	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Carcass (fillet removed)	998	394	Whole-body to fillet ratio
7/31/2019	CFR-06-1 BC	CFR-07[d]	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Fillet only	4899	660	EPC
7/31/2019	CFR-06-2 BC	CFR-07[d]	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Fillet only	2812	597	EPC/Whole-body to fillet ratio
7/31/2019	CFR-06-2 BC-Carcass	CFR-07[d]	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Carcass (fillet removed)	2812	597	Whole-body to fillet ratio
7/31/2019	CFR-06-3 BC	CFR-07[d]	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Fillet only	4354	622	EPC
7/31/2019	CFR-09-2 BC	CFR-09	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Fillet only	2903	663	Whole-body to fillet ratio
7/31/2019	CFR-09-2 BC-Carcass	CFR-09	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Carcass (fillet removed)	2903	663	Whole-body to fillet ratio
8/1/2019	CFR-05-1 LMB	CFR-06[c]	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Fillet only	631	358	EPC/Whole-body to fillet ratio
8/1/2019	CFR-05-1 LMB-Carcass	CFR-06[c]	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Carcass (fillet removed)	631	358	Whole-body to fillet ratio
8/1/2019	CFR-05-2 FH	CFR-06[c]	Flathead catfish	*Pylodictis olivaris*	individual, whole fish	Fillet only	5262	747	EPC
8/1/2019	CFR-05-3 BC	CFR-06[c]	Blue catfish	*Ictalurus furcatus*	individual, whole fish	Fillet only	5262	767	EPC
8/1/2019	CFR-05-4 CC	CFR-06[c]	Channel catfish	*Ictalurus punctatus*	individual, whole fish	Fillet only	607	445	EPC/Whole-body to fillet ratio
8/1/2019	CFR-05-4 CC-Carcass	CFR-06[c]	Channel catfish	*Ictalurus punctatus*	individual, whole fish	Carcass (fillet removed)	607	445	Whole-body to fillet ratio
8/2/2019	MM-68-4 LMB	MM-68	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Fillet only	380	318	Whole-body to fillet ratio
8/2/2019	MM-68-4 LMB-Carcass	MM-68	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Carcass (fillet removed)	380	318	Whole-body to fillet ratio
9/24/2019	SeepA-01-Redbreast Sunfish	SEEP A	Redbreast sunfish	*Lepomis auritus*	comp, whole fish	Whole-body	11	[38]	EPC
9/24/2019	SeepB-01-Spotted Bass	SEEP B	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Whole-body	5	58	EPC
9/24/2019	SeepC-01-Largemouth Bass	SEEP C	Largemouth bass	*Micropterus salmoides*	individual, fillet	None - discarded due to sampling error	102	305	None
9/25/2019	CFR07-01Comely Shiner	CFR07	Comely shiner	*Notropis amoenus*	comp, whole fish	Whole-body	4	[45]	EPC[b]
9/25/2019	CFR07-01-Lamprey	CFR07	American eel	*Anguilla rostrata*	individual, whole fish	Whole-body	3	107	EPC[b]
9/26/2019	SeepA-02-Redbreast Sunfish	SEEP A	Redbreast sunfish	*Lepomis auritus*	comp, whole fish	Whole-body	17	[48]	EPC
9/26/2019	SeepB-02-Redbreast Sunfish	SEEP B	Redbreast sunfish	*Lepomis auritus*	individual, whole fish	Whole-body	15	42	EPC
9/26/2019	SeepC-02-Redbreast Sunfish	SEEP C	Redbreast sunfish	*Lepomis auritus*	individual, whole fish	Whole-body	16	44	EPC
9/26/2019	WC-01-LMB	Willis Creek	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Whole-body	2	53	EPC[b]
9/26/2019	WC-02-Dusky Shiner	Willis Creek	Dusky shiner	*Notropis cummingsae*	individual, whole fish	Whole-body	2	61	EPC[b]
9/27/2019	CFRBladen-01-LMB	Bladen Bluffs	Largemouth bass	*Micropterus salmoides*	individual, whole fish	Whole-body	78	191	Downstream Whole-body Sample

Notes:

1: While upstream or downstream samples were collected at Bladen Bluffs, MM-68 and CFR-09 for the Human Health SLEA, only samples within the Aquatic EU as defined in the Ecological SLEA were included in EPC calculations.

a: Values in square brackets [X] represent average length of fish for composite sample; non-bracketed values indicate whole fish specimen length.
b: Insufficient mass to run all analyses; only a single run of Table 3+ SOPs were analyzed.
c: Field staff mistakenly labeled samples as location 05. Coordinates confirmed Location 06 was correct.
d: Field staff mistakenly labeled samples as location 06. Coordinates confirmed Location 07 was correct.

Abbreviations:

EPC - Exposure Point Concentration
mm - millimeter
CFR-Cape Fear River
comp - composite sample

TABLE 3-8
WILDLIFE EXPOSURE FACTORS FOR TERRESTRIAL RECEPTORS
Chemours Fayetteville Works, North Carolina

Parameter	Parameter Definition		Units	Birds		Mammals	
				Bobwhite Quail	**Woodcock**	**Eastern Cottontail Rabbit**	**Southern Short-tailed Shrew**
				Colinus virginianus	*Scolopax minor*	*Sylvilagus floridanus*	*Blarina carolinensis*
				Avian Consumer (Herbivore)	Avian Consumer (Invertivore)	Mammalian Consumer (Herbivore)	Mammalian Consumer (Invertivore)
BW	Body Weight	[1]	kg	0.1	0.1	0.9	0.02
FIR	Daily Food Ingestion Rate (dry matter)	[2a]	kg, dw/day	0.01	0.02	0.06	0.002
FIR	Daily Food Ingestion Rate (wet matter)	[2b]	kg, ww/day	0.01	0.11	0.19	0.006
P_{veg}	Proportion of Diet - Vegetation	[3]	kg diet item, ww/kg diet, ww	1	0	1	0
P_{inv}	Proportion of Diet - Invertebrates	[3]	kg diet item, ww/kg diet, ww	0	1	0	1
P_{so}	Proportion of Diet - Soil	[4]	kg diet item, dw/kg diet, dw	0.034	0.10	0.02	0.02
DWI	Daily Water Ingestion	[5]	L/kg-day	0.02	0.01	0.09	0.003
HR	Home Range	[6]	acres	9	8	2.0	1.0
Site	Total Site Area	[7]	acres	700	700	700	700
AUF	Area Use Factor	[8]	proportion	1	1	1	1

TABLE 3-8
WILDLIFE EXPOSURE FACTORS FOR TERRESTRIAL RECEPTORS
Chemours Fayetteville Works, North Carolina

Notes:

[1] As reported in North Carolina Wildlife Resources Commission Wildlife Profiles https://www.ncwildlife.org/Learning/Species; and in USEPA (1993) for Short-tailed shrew.

[2a] Calculated using allometric equations from Nagy (2001) for dry weight diet as follows:

Bobwhite Quail - equation for Galliform birds: FIR (dw) = 0.088 x $BW^{0.891}$

Woodcock - equation for insectivore birds: FIR (dw) = 0.540 x $BW^{0.705}$

Cottontail Rabbit - equation for herbivorous mammals: FIR (dw) =0.859 x $BW^{0.628}$

Short-tailed Shrew - equation for invertivore mammals: FIR (dw) = 0.373 x $BW^{0.622}$

[2b] Maximum rate reported in EPA (1993) for Woodcock and Bobwhite quail.

Cottontail Rabbit - calculated using allometric equations from Nagy (2001) for fresh weight diet for herbivorous mammals: FIR (ww) = 2.606 x $BW^{0.628}$

Short-tailed shrew - calculated using allometric equations from Nagy (2001) for fresh weight diet for invertivore mammals: FIR (ww) = 1.33 x $BW^{0.622}$

[3] Diet = Assumed based on feeding guilds

[4] Soil ingestion proportion:

Bobwhite Quail and Woodcock - as reported in USEPA (1993). Woodcock value from Table 4-4. Quail value from pg. 2-122.

Cottontail Rabbit and Short-tailed shrew assumed similar to white-footed mouse and meadow voles as reported in USEPA (1993) Table 4.4.

[5] As reported by USEPA (1993).

[6] Home range all value represent the smallest home ranges reported by USEPA (1993).

[7] The on-Site forest area is approximately 700 acres.

[8] AUF = Calculated via EU ÷ HR. Maximum AUF assumed to be 1.0.

Abbreviations:

AUF - area use factor
BW - body weight
dw/day - dry weight per day
dw/kg - dry weight per kilogram
DWI - drinking water intake
EPA - Environmental Protection Agency
EU - Exposure Unit
FIR - food ingestion rate
HR - home range
kg - kilogram
L/kg - liter per kilogram
USEPA - United States Environmental Protection Agency
ww/day - wet weight per day

TABLE 3-9
WILDLIFE EXPOSURE FACTORS FOR AQUATIC RECEPTORS
Chemours Fayetteville Works, North Carolina

Parameter	Parameter Definition		Units	Birds			Mammals		
				Wood Duck	**Mallard Duck**	**Great Blue Heron**	**Muskrat**	**Mink**	**River Otter**
				Aix sponsa	*Anas platyrhynchos*	*Egretta thula*	*Ondatra zibethicus*	*Mustela vison*	*Lontra canadensis*
				Avian Consumer (Herbivore)	Avian Consumer (Invertivore)	Avian Consumer (Piscivore)	Mammalian Consumer (Herbivore)	Mammalian Consumer (Invertivore)	Mammalian Consumer (Piscivore)
BW	Body Weight	[1]	kg	0.7	1.1	2.5	0.9	0.5	5.0
FIR	Daily Food Ingestion Rate (dry matter)	[2a]	kg, dw/day	0.04	0.05	0.15	0.06	0.02	0.19
FIR	Daily Food Ingestion Rate (wet matter)	[2b]	kg, ww/day	0.13	0.17	0.45	0.31	0.11	0.64
P_{veg}	Proportion of Diet - Vegetation	[3]	kg diet item, ww/kg diet, ww	1	0	0	1	0	0
P_{inv}	Proportion of Diet - Benthic Invertebrates	[3]	kg diet item, ww/kg diet, ww	0	1	0	0	1	0
P_{mam}	Proportion of Diet - Fish	[3]	kg diet item, ww/kg diet, ww	0	0	1	0	0	1
P_{so}	Proportion of Diet - Sediment	[4]	kg diet item, dw/kg diet, dw	0.11	0.02	0	0.02	0.03	0.02
DWI	Daily Water Ingestion	[5]	L/kg-day	0.04	0.06	0.11	0.87	0.055	0.40
HR	Home Range	[6]	acres	275	275	1.5	0.1	61	1384
Site	Total Site Area	[7]	acres	297	297	297	297	297	297
AUF	Area Use Factor	[8]	proportion	1	1	1	1	1	0.21

TABLE 3-9
WILDLIFE EXPOSURE FACTORS FOR AQUATIC RECEPTORS
Chemours Fayetteville Works, North Carolina

Notes:

[1] Lowest body weights reported in North Carolina Wildlife Resources Commission Wildlife Profiles https://www.ncwildlife.org/Learning/Species

[2a] Calculated using allometric equations from Nagy (2001) for dry weight diet as follows:

Wood duck and Mallard duck - equation for omnivorous birds: FIR (dw) = 0.67 x $BW^{0.627}$

Great Blue Heron - equation for carnivorous birds: FIR (dw) = 0.849 x $BW^{0.663}$

Mink - equation for invertivore mammals: FIR (dw) = 0.373 x $BW^{0.622}$

Muskrat - equation for herbivorous mammals: FIR (dw) =0.859 x $BW^{0.628}$

River Otter - equation for carnivorous mammals: FIR (dw) = 0.153 x $BW^{0.834}$

[2b] Maximum rate reported in EPA (1993) for Mink, Muskrat and Great Blue Heron.
Calculated using allometric equations from Nagy (2001) for fresh weight diet as follows:

Wood duck and Mallard duck - equation for omnivorous birds: FIR (ww) = 2.094 x $BW^{0.627}$

River Otter - equation for carnivorous mammals: FIR (ww) = 0.469 x $BW^{0.848}$

[3] Diet = Assumed based on feeding guilds

[4] Soil ingestion proportion:
Mallard and Wood ducks - as reported in Table 4.4 of USEPA (1993).
Great Blue Heron - assumed to be insignificant based on feeding methods.
Muskrat - assumed similar to Meadow vole, as reported in USEPA (1993)
Mink - assumed similar to Weasel, reported as 2.8% in Sample et al. (1997) based on red fox.
River Otter - limited data, assumed low (< 2%) based on feeding habits.

[5] Highest daily water ingestion rates are from EPA (1993). The DWI value for Mallards was used for Wood Ducks.

[6] Home range all value represent the smallest home ranges reported by USEPA (1993).
For Wood duck, the HR for Mallard duck is assumed.
For Mink and River otter, linear river-based home ranges were converted to areas assuming receptors stay within 200m of river banks (as reported by USEPA, 1993 for Mink).

[7] The stretch of the Cape Fear River encompassing the preliminary area evaluated includes 6 km of river, which was converted to a bank habitat assuming receptors primarily forage in the 200 meters adjacent to the bank (based on Mink as reported in USEPA, 1993).

[8] AUF = Calculated via EU ÷ HR. Maximum AUF assumed to be 1.0.

Abbreviations:

AUF - area use factor
BW - body weight
dw/day - dry weight per day
dw/kg - dry weight per kilogram
DWI - drinking water intake
EPA - Environmental Protection Agency
EU - Exposure Unit
FIR - food ingestion rate
HR - home range
kg - kilogram
L/kg - liter per kilogram
USEPA - United States Environmental Protection Agency
ww/day - wet weight per day

TABLE 3-10
TOXICITY REFERENCE VALUES FOR HFPO-DA
Chemours Fayetteville Works, North Carolina

Receptor	TRV Values	TRV Units	Description and Reference
Invertebrates	0.518	mg/kg dw	Freshwater benthic invertebrate PNEC from ECHA (2019)
Aquatic Plants	10.6	mg/L	NOEC for freshwater algae of 106 mg/L from ECHA (2019) with UF=10 applied.
Aquatic Life	0.89	mg/L	Freshwater chronic NOEC for Rainbow trout of 8.89 mg/L (Hoke et al. 2016) with UF=10 applied.
Bird	84.5	mg/kg bw-day	Unbounded NOAEL from chronic bobwhite quail reproduction study (as reported in ECHA 2019). As this was the highest measured dose, no LOAELs were reported.
Mammals	0.5	mg/kg bw-day	NOAEL for decreased F1 generation pup weights in chronic reproductive study (EPA, 2019). The bounded LOAEL was 5 mg/kg/day and resulted in decreased weight in male and female F1 pups.

Abbreviations:
dw - dry weight
NOAEL - no observed adverse effect level
NOEC - no effect concentration
UF - uncertainty factor
mg/kg - milligram per kilogram
mg/kg/day - milligram per kilogram per day
PNEC - probable no effects concentrations
TRV - Toxicity Reference Value

TABLE 4-1
SUMMARY STATISTICS - ONSITE SOIL
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg dw)	Maximum RL (ng/kg dw)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	11	0	11	100%	0	0%	N/A	N/A	1.1E+04	9.2E+07	9.6E+03	0.91
PFMOAA	11	0	11	100%	0	0%	N/A	N/A	2.6E+04	2.1E+09	4.5E+04	1.74
PFO2HxA	11	0	11	100%	0	0%	N/A	N/A	1.4E+04	1.6E+08	1.3E+04	0.91
PFO3OA	11	0	9	82%	2	18%	1,000	2,800	3.9E+03	1.0E+07	3.2E+03	0.84
PFO4DA	11	0	8	73%	3	27%	1,000	2,800	2.2E+03	2.4E+06	1.5E+03	0.70
PFO5DA	11	0	10	91%	1	9%	1,000	1,000	3.0E+03	6.4E+06	2.5E+03	0.83
PMPA	11	0	8	73%	3	27%	1,000	2,800	4.7E+03	2.6E+07	5.1E+03	1.07
PEPA	11	0	6	55%	5	45%	1,000	2,800	1.9E+03	2.2E+06	1.5E+03	0.77
PFESA-BP1	11	0	1	9%	10	91%	1,000	2,800	1.2E+03	3.3E+05	5.8E+02	0.49
PFESA-BP2	11	0	4	36%	7	64%	1,000	2,800	1.3E+03	1.8E+05	4.2E+02	0.33
Byproduct 4	11	0	2	18%	9	82%	1,000	2,800	1.2E+03	1.7E+05	4.2E+02	0.36
Byproduct 5	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A
Byproduct 6	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A
NVHOS	11	0	1	9%	10	91%	1,000	2,800	1.0E+03	8.1E+03	9.0E+01	0.09
EVE Acid	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A
Hydro-EVE Acid	11	0	2	18%	9	82%	1,000	2,800	1.0E+03	6.4E+03	8.0E+01	0.08
R-EVE	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A
PES	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A
PFECA B	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A
PFECA-G	11	0	0	0%	11	100%	1,000	2,800	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
dw - dry weight
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit

TABLE 4-1
SUMMARY STATISTICS - ONSITE SOIL
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/kg dw)	Maximum Detect (ng/kg dw)	Mean Detect (ng/kg dw)	Median Detect (ng/kg dw)	90th percentile[a] (ng/kg dw)	95UCL[b] (ng/kg dw)	95UCL Basis	EPC (ng/kg dw)	EPC Basis	EPC (mg/kg, dw)
HFPO-DA	1,300	29,500	10,564	7,900	25,000	15,816	95% Student's-t UCL	15,816	95UCL	0.016
PFMOAA	1,100	150,000	26,036	7,500	68,000	76,001	95% Adjusted Gamma UCL	76,001	95UCL	0.076
PFO2HxA	2,200	47,000	13,936	9,300	24,000	20,838	95% Student's-t UCL	20,838	95UCL	0.021
PFO3OA	1,500	12,000	4,422	2,200	7,700	7,346	95% KM Adjusted Gamma UCL	7,346	95UCL	0.007
PFO4DA	1,200	5,400	2,625	1,800	5,100	3,117	95% KM (t) UCL	3,117	95UCL	0.003
PFO5DA	1,000	10,000	3,240	2,200	4,700	4,496	95% KM (t) UCL	4,496	95UCL	0.004
PMPA	1,000	19,000	6,050	4,850	7,800	7,679	95% KM (t) UCL	7,679	95UCL	0.008
PEPA	1,300	6,150	2,592	2,050	2,800	2,803	95% KM (t) UCL	2,803	95UCL	0.003
PFESA-BP1	3,000	3,000	3,000	3,000	2,800	N/A	N/A	3,000	Maximum Detected	0.003
PFESA-BP2	1,100	2,100	1,700	1,800	2,100	1,560	95% KM (t) UCL	1,560	95UCL	0.002
Byproduct 4	1,200	2,400	1,800	1,800	2,400	1,498	95% KM (t) UCL	2,400	Maximum Detected	0.002
Byproduct 5	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
NVHOS	1,300	1,300	1,300	1,300	1,300	N/A	N/A	1,300	Maximum Detected	0.001
EVE Acid	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	1,200	1,200	1,200	1,200	1,200	N/A	N/A	1,200	Maximum Detected	0.001
R-EVE	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PES	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFECA B	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFECA-G	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
dw - dry weight
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit

TABLE 4-2
SUMMARY STATISTICS - OFFSITE SOIL
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg dw)	Maximum RL (ng/kg dw)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	12	0	2	17%	10	83%	250	250	4.6E+02	4.2E+05	6.5E+02	1.42
PFMOAA	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFO2HxA	12	0	2	17%	10	83%	1,000	1,000	1.1E+03	1.3E+05	3.7E+02	0.32
PFO3OA	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFO4DA	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFO5DA	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PMPA	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PEPA	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFESA-BP1	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFESA-BP2	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
Byproduct 4	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
Byproduct 5	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
Byproduct 6	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
NVHOS	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
EVE Acid	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
R-EVE	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PES	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFECA B	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A
PFECA-G	12	0	0	0%	12	100%	1,000	1,000	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
dw - dry weight
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit

TABLE 4-2
SUMMARY STATISTICS - OFFSITE SOIL
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/kg dw)	Maximum Detect (ng/kg dw)	Mean Detect (ng/kg dw)	Median Detect (ng/kg dw)	90th percentile[a] (ng/kg dw)	95UCL[b] (ng/kg dw)	95UCL Basis	EPC (ng/kg dw)	EPC Basis	EPC (mg/kg dw)
HFPO-DA	360	2,600	1,480	1,480	349	1,607	95% KM (Chebyshev) UCL	2,600	Max Detect	0.0026
PFMOAA	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO2HxA	1,400	2,300	1,850	1,850	1,360	1,410	95% KM (t) UCL	2,300	Max Detect	0.0023
PFO3OA	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO5DA	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PMPA	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PEPA	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP2	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 4	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 5	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
NVHOS	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
R-EVE	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PES	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFECA B	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFECA-G	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
dw - dry weight
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit

TABLE 4-3
SUMMARY STATISTICS - ONSITE SURFACE WATER
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/L)	Maximum RL (ng/L)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	3	0	3	100%	0	0%	N/A	N/A	8.1E+02	1.3E+04	1.1E+02	0.14
PFMOAA	3	0	3	100%	0	0%	N/A	N/A	2.5E+02	5.8E+01	7.6E+00	0.03
PFO2HxA	3	0	3	100%	0	0%	N/A	N/A	7.1E+02	3.3E+02	1.8E+01	0.03
PFO3OA	3	0	3	100%	0	0%	N/A	N/A	9.2E+01	1.0E+01	3.2E+00	0.03
PFO4DA	3	0	3	100%	0	0%	N/A	N/A	3.8E+01	2.3E+00	1.5E+00	0.04
PFO5DA	3	0	3	100%	0	0%	N/A	N/A	9.9E+00	2.3E-02	1.5E-01	0.02
PMPA	3	0	3	100%	0	0%	N/A	N/A	8.3E+02	3.0E+02	1.7E+01	0.02
PEPA	3	0	3	100%	0	0%	N/A	N/A	2.8E+02	1.6E+02	1.3E+01	0.04
PFESA-BP1	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
PFESA-BP2	3	0	3	100%	0	0%	N/A	N/A	3.2E+01	7.5E-01	8.7E-01	0.03
Byproduct 4	3	0	3	100%	0	0%	N/A	N/A	9.4E+01	1.3E+01	3.6E+00	0.04
Byproduct 5	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
Byproduct 6	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
NVHOS	3	0	3	100%	0	0%	N/A	N/A	6.0E+00	1.2E-01	3.4E-01	0.06
EVE Acid	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
Hydro-EVE Acid	3	0	3	100%	0	0%	N/A	N/A	3.5E+00	7.5E-03	8.7E-02	0.03
R-EVE	3	0	3	100%	0	0%	N/A	N/A	5.5E+01	7.6E+00	2.8E+00	0.05
PES	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
PFECA B	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
PFECA-G	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/L - nanogram per litre
ND - non detects
No. - number
mg/L - milligram per litre
RL - reporting limit

TABLE 4-3
SUMMARY STATISTICS - ONSITE SURFACE WATER
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/L)	Maximum Detect (ng/L)	Mean Detect (ng/L)	Median Detect (ng/L)	90th percentile[a] (ng/L)	95UCL[b] (ng/L)	95UCL Basis	EPC (ng/L)	EPC Basis	EPC (mg/L)
HFPO-DA	730	940	812	765	905	1,001	95% Student's-t UCL	940	Maximum Detected	0.00094
PFMOAA	240	255	248	250	254	261	95% Student's-t UCL	255	Maximum Detected	0.00026
PFO2HxA	690	725	705	700	720	735	95% Student's-t UCL	725	Maximum Detected	0.00073
PFO3OA	90	96	92	91	95	98	95% Student's-t UCL	96	Maximum Detected	0.00010
PFO4DA	37	40	38	38	40	41	95% Student's-t UCL	40	Maximum Detected	0.00004
PFO5DA	10	10	10	10	10	10	95% Student's-t UCL	10	Maximum Detected	0.00001
PMPA	820	850	830	820	844	859	95% Student's-t UCL	850	Maximum Detected	0.00085
PEPA	270	295	282	280	292	303	95% Student's-t UCL	295	Maximum Detected	0.00030
PFESA-BP1	N/A	N/A	N/A	N/A	2	N/A	N/A	2	Minimum RL	0.000002
PFESA-BP2	31	33	32	31	32	33	95% Student's-t UCL	33	Maximum Detected	0.00003
Byproduct 4	90	97	94	96	96	100	95% Student's-t UCL	97	Maximum Detected	0.00010
Byproduct 5	N/A	N/A	N/A	N/A	2	N/A	N/A	2	Minimum RL	0.000002
Byproduct 6	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
NVHOS	6	6	6	6	6	7	95% Student's-t UCL	6	Maximum Detected	0.00001
EVE Acid	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	3	4	3	3	4	4	95% Student's-t UCL	4	Maximum Detected	0.000004
R-EVE	52	58	55	55	57	59	95% Student's-t UCL	58	Maximum Detected	0.00006
PES	N/A	N/A	N/A	N/A	2	N/A	N/A	2	Minimum RL	0.000002
PFECA B	N/A	N/A	N/A	N/A	2	N/A	N/A	2	Minimum RL	0.000002
PFECA-G	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/L - nanogram per litre
ND - non detects
No. - number
mg/L - milligram per litre
RL - reporting limit

TABLE 4-4
SUMMARY STATISTICS - OFFSITE SURFACE WATER
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/L)	Maximum RL (ng/L)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	3	0	3	100%	0	0%	N/A	N/A	3.0E+02	1.3E+02	1.2E+01	0.04
PFMOAA	3	0	3	100%	0	0%	N/A	N/A	6.8E+01	9.3E+00	3.1E+00	0.05
PFO2HxA	3	0	3	100%	0	0%	N/A	N/A	2.2E+02	3.3E+01	5.8E+00	0.03
PFO3OA	3	0	3	100%	0	0%	N/A	N/A	2.6E+01	3.3E-01	5.8E-01	0.02
PFO4DA	3	0	3	100%	0	0%	N/A	N/A	8.7E+00	6.3E-02	2.5E-01	0.03
PFO5DA	3	0	2	67%	1	33%	2	2	2.1E+00	2.2E-03	4.7E-02	0.02
PMPA	3	0	3	100%	0	0%	N/A	N/A	3.5E+02	3.3E+01	5.8E+00	0.02
PEPA	3	0	3	100%	0	0%	N/A	N/A	1.1E+02	3.3E+01	5.8E+00	0.05
PFESA-BP1	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
PFESA-BP2	3	0	3	100%	0	0%	N/A	N/A	2.5E+01	0.0E+00	0.0E+00	N/A
Byproduct 4	3	0	3	100%	0	0%	N/A	N/A	1.4E+02	1.0E+02	1.0E+01	0.07
Byproduct 5	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
Byproduct 6	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
NVHOS	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
EVE Acid	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
Hydro-EVE Acid	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
R-EVE	3	0	3	100%	0	0%	N/A	N/A	5.3E+01	3.3E-01	5.8E-01	0.01
PES	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
PFECA B	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A
PFECA-G	3	0	0	0%	3	100%	2	2	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/L - nanogram per litre
ND - non detects
No. - number
mg/L - milligram per litre
RL - reporting limit

TABLE 4-4
SUMMARY STATISTICS - OFFSITE SURFACE WATER
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/L)	Maximum Detect (ng/L)	Mean Detect (ng/L)	Median Detect (ng/L)	90th percentile[a] (ng/L)	95UCL[b] (ng/L)	95UCL Basis	EPC (ng/L)	EPC Basis	EPC (mg/L)
HFPO-DA	290	310	303	310	133	323	95% Student's-t UCL	310	Maximum Detected	0.00031
PFMOAA	65	71	68	67	9	73	95% Student's-t UCL	71	Maximum Detected	0.00007
PFO2HxA	210	220	217	220	33	226	95% Student's-t UCL	220	Maximum Detected	0.00022
PFO3OA	26	27	26	26	0	27	95% Student's-t UCL	27	Maximum Detected	0.00003
PFO4DA	8	9	9	9	0	9	95% Student's-t UCL	9	Maximum Detected	0.00001
PFO5DA	2	2	2	2	N/A	N/A	N/A	2	Maximum Detected	0.000002
PMPA	340	350	347	350	33	356	95% Student's-t UCL	350	Maximum Detected	0.00035
PEPA	100	110	107	110	33	116	95% Student's-t UCL	110	Maximum Detected	0.00011
PFESA-BP1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	Minimum RL	0.000002
PFESA-BP2	25	25	25	25	N/A	N/A	N/A	25	Maximum Detected	0.00003
Byproduct 4	130	150	140	140	100	157	95% Student's-t UCL	150	Maximum Detected	0.00015
Byproduct 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	Minimum RL	0.000002
Byproduct 6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
NVHOS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	Minimum RL	0.000002
EVE Acid	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
R-EVE	52	53	53	53	0	54	95% Student's-t UCL	53	Maximum Detected	0.00005
PES	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	Minimum RL	0.000002
PFECA B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	Minimum RL	0.000002
PFECA-G	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/L - nanogram per litre
ND - non detects
No. - number
mg/L - milligram per litre
RL - reporting limit

TABLE 4-5
SUMMARY STATISTICS - TERRESTRIAL VEGETATION
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg ww)	Maximum RL (ng/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	12	0	12	100%	0	0%	N/A	N/A	9.4E+03	2.9E+08	1.7E+04	1.84
PFMOAA	12	0	3	25%	9	75%	1,000	5,700	7.4E+03	2.7E+08	1.6E+04	2.22
PFO2HxA	12	0	9	75%	3	25%	1,000	1,000	2.4E+03	4.4E+06	2.1E+03	0.88
PFO3OA	12	0	1	8%	11	92%	1,000	5,700	2.2E+02	N/A	N/A	N/A
PFO4DA	12	0	2	17%	10	83%	1,000	5,700	4.0E+02	1.8E+04	1.4E+02	0.34
PFO5DA	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A
PMPA	12	0	12	100%	0	0%	N/A	N/A	1.0E+04	2.6E+08	1.6E+04	1.56
PEPA	12	0	5	42%	7	58%	1,000	5,700	8.5E+02	3.9E+05	6.2E+02	0.74
PFESA-BP1	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A
PFESA-BP2	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A
Byproduct 4	12	0	8	67%	4	33%	1,000	1,000	4.4E+03	5.3E+07	7.3E+03	1.65
Byproduct 5	12	0	2	17%	10	83%	1,000	5,700	4.7E+02	1.0E+04	1.0E+02	0.21
Byproduct 6	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A
NVHOS	12	0	10	83%	2	17%	1,000	5,000	6.8E+04	4.0E+10	2.0E+05	2.92
EVE Acid	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A
Hydro-EVE Acid	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A
R-EVE	12	0	9	75%	3	25%	1,000	1,000	2.5E+03	5.5E+06	2.3E+03	0.95
PES	12	0	4	33%	8	67%	1,000	5,000	6.8E+02	5.9E+05	7.6E+02	1.12
PFECA B	12	0	2	17%	10	83%	1,000	5,700	6.0E+02	7.0E+05	8.3E+02	1.40
PFECA-G	12	0	0	0%	12	100%	1,000	5,700	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-5
SUMMARY STATISTICS - TERRESTRIAL VEGETATION
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/kg ww)	Maximum Detect (ng/kg ww)	Mean Detect (ng/kg ww)	Median Detect (ng/kg ww)	90th percentile[a] (ng/kg ww)	95UCL[b] (ng/kg ww)	95UCL Basis	EPC (ng/kg ww)	EPC Basis	EPC (mg/kg ww)
HFPO-DA	540	55,000	9,351	1,850	31,490	30,951	95% Chebyshev (Mean, Sd) UCL	30,951	95UCL	0.031
PFMOAA	970	59,000	26,657	20,000	18,570	17,816	95% KM (t) UCL	59,000	Maximum Detected	0.059
PFO2HxA	790	6,600	2,910	1,500	5,970	4,477	95% KM Adjusted Gamma UCL	4,477	95UCL	0.004
PFO3OA	220	220	220	220	4,600	N/A	N/A	220	Maximum Detected	0.0002
PFO4DA	260	530	395	395	4,600	984	95% KM (Chebyshev) UCL	530	Maximum Detected	0.001
PFO5DA	N/A	N/A	N/A	N/A	4,600	N/A	N/A	1,000	Minimum RL	0.001
PMPA	390	52,000	10,335	3,300	31,800	26,235	95% Adjusted Gamma UCL	26,235	95UCL	0.026
PEPA	410	2,300	1,134	850	4,730	1,268	95% KM (t) UCL	1,268	95UCL	0.001
PFESA-BP1	N/A	N/A	N/A	N/A	4,600	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP2	N/A	N/A	N/A	N/A	4,600	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 4	600	22,000	6,239	1,650	17,440	33,483	95% KM Bootstrap t UCL	33,483	95UCL	0.033
Byproduct 5	370	570	470	470	4,600	650	95% KM (t) UCL	570	Maximum Detected	0.001
Byproduct 6	N/A	N/A	N/A	N/A	4,600	N/A	N/A	Not detected in any EU media		
NVHOS	650	730,000	81,845	5,850	25,800	447,843	97.5% KM (Chebyshev) UCL	447,843	95UCL	0.448
EVE Acid	N/A	N/A	N/A	N/A	4,600	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	N/A	N/A	N/A	N/A	4,600	N/A	N/A	Not detected in any EU media		
R-EVE	240	8,500	3,204	3,100	4,370	3,750	95% KM (t) UCL	3,750	95UCL	0.004
PES	300	2,900	1,350	1,100	2,720	1,160	95% KM (t) UCL	1,160	95UCL	0.001
PFECA B	320	3,100	1,710	1,710	4,810	2,927	95% KM (Chebyshev) UCL	3,100	Maximum Detected	0.003
PFECA-G	N/A	N/A	N/A	N/A	4,600	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-6
SUMMARY STATISTICS - OFFSITE TERRESTRIAL INVERTEBRATES
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg ww)	Maximum RL (ng/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	11	0	2	18%	9	82%	1,000	12,000	1.4E+03	1.3E+06	1.1E+03	0.80
PFMOAA	11	0	1	9%	10	91%	1,000	12,000	1.4E+03	1.2E+06	1.1E+03	0.79
PFO2HxA	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
PFO3OA	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
PFO4DA	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
PFO5DA	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
PMPA	11	0	3	27%	8	73%	1,000	12,000	2.7E+03	2.7E+07	5.2E+03	1.90
PEPA	11	0	1	9%	10	91%	1,000	12,000	1.1E+03	3.6E+04	1.9E+02	0.18
PFESA-BP1	11	0	1	9%	10	91%	1,000	1,700	1.2E+03	5.2E+05	7.2E+02	0.59
PFESA-BP2	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
Byproduct 4	11	0	1	9%	10	91%	1,000	12,000	1.5E+03	1.9E+06	1.4E+03	0.95
Byproduct 5	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
Byproduct 6	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
NVHOS	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
EVE Acid	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
R-EVE	11	0	2	18%	9	82%	1,000	12,000	5.4E+02	6.8E+04	2.6E+02	0.48
PES	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
PFECA B	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A
PFECA-G	11	0	0	0%	11	100%	1,000	12,000	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-6
SUMMARY STATISTICS - OFFSITE TERRESTRIAL INVERTEBRATES
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/kg ww)	Maximum Detect (ng/kg ww)	Mean Detect (ng/kg ww)	Median Detect (ng/kg ww)	90th percentile[a] (ng/kg ww)	95UCL[b] (ng/kg ww)	95UCL Basis	EPC (ng/kg ww)	EPC Basis	EPC (mg/kg ww)
HFPO-DA	1,200	4,800	3,000	3,000	4,800	3,619	95% KM (Chebyshev) UCL	4,800	Maximum Detected	0.005
PFMOAA	4,600	4,600	4,600	4,600	4,600	N/A	N/A	4,600	Maximum Detected	0.005
PFO2HxA	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFO5DA	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PMPA	1,300	19,000	7,233	1,400	12,000	6,157	95% KM (t) UCL	19,000	Maximum Detected	0.019
PEPA	1,600	1,600	1,600	1,600	1,700	N/A	N/A	1,600	Maximum Detected	0.002
PFESA-BP1	3,500	3,500	3,500	3,500	1,700	N/A	N/A	3,500	Maximum Detected	0.004
PFESA-BP2	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 4	5,600	5,600	5,600	5,600	5,600	N/A	N/A	5,600	Maximum Detected	0.006
Byproduct 5	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		
NVHOS	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		
R-EVE	280	800	540	540	1,700	1,673	95% KM (Chebyshev) UCL	800	Maximum Detected	0.001
PES	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFECA B	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFECA-G	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-7
SUMMARY STATISTICS - ONSITE TERRESTRIAL INVERTEBRATES
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg ww)	Maximum RL (ng/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	6	0	6	100%	0	0%	N/A	N/A	7.1E+03	3.7E+07	6.1E+03	0.86
PFMOAA	6	0	2	33%	4	67%	1,000	1,200	1.3E+04	4.2E+08	2.1E+04	1.56
PFO2HxA	6	0	4	67%	2	33%	1,000	1,200	3.9E+03	2.2E+07	4.7E+03	1.22
PFO3OA	6	0	6	100%	0	0%	N/A	N/A	2.4E+03	6.2E+06	2.5E+03	1.06
PFO4DA	6	0	3	50%	3	50%	1,000	1,200	3.4E+02	2.9E+03	5.4E+01	0.16
PFO5DA	6	0	6	100%	0	0%	N/A	N/A	4.3E+03	2.6E+07	5.1E+03	1.20
PMPA	6	0	3	50%	3	50%	1,000	1,200	1.3E+03	2.1E+05	4.6E+02	0.34
PEPA	6	0	6	100%	0	0%	N/A	N/A	1.1E+03	1.5E+05	3.9E+02	0.35
PFESA-BP1	6	0	2	33%	4	67%	1,000	1,200	4.3E+02	4.2E+04	2.1E+02	0.48
PFESA-BP2	6	0	6	100%	0	0%	N/A	N/A	1.5E+03	2.4E+06	1.5E+03	1.05
Byproduct 4	6	0	6	100%	0	0%	N/A	N/A	1.6E+04	2.0E+08	1.4E+04	0.87
Byproduct 5	6	0	5	83%	1	17%	1,100	1,100	4.9E+03	5.0E+07	7.0E+03	1.43
Byproduct 6	6	0	0	0%	6	100%	1,000	2,200	N/A	N/A	N/A	N/A
NVHOS	6	0	4	67%	2	33%	1,000	1,200	1.9E+03	6.4E+06	2.5E+03	1.36
EVE Acid	6	0	0	0%	6	100%	1,000	2,200	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	3	50%	3	50%	1,000	1,200	5.7E+02	6.5E+04	2.5E+02	0.45
R-EVE	6	0	6	100%	0	0%	N/A	N/A	4.9E+03	8.0E+06	2.8E+03	0.58
PES	6	0	0	0%	6	100%	1,000	2,200	N/A	N/A	N/A	N/A
PFECA B	6	0	0	0%	6	100%	1,000	2,200	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	0%	6	100%	1,000	2,200	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-7
SUMMARY STATISTICS - ONSITE TERRESTRIAL INVERTEBRATES
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/kg ww)	Maximum Detect (ng/kg ww)	Mean Detect (ng/kg ww)	Median Detect (ng/kg ww)	90th percentile[a] (ng/kg ww)	95UCL[b] (ng/kg ww)	95UCL Basis	EPC (ng/kg ww)	EPC Basis	EPC (mg/kg ww)
HFPO-DA	1,400	19,000	7,093	5,450	12,600	21,269	95% Adjusted Gamma UCL	19,000	Maximum Detected	0.019
PFMOAA	18,000	57,000	37,500	37,500	37,500	64,914	95% KM (Chebyshev) UCL	57,000	Maximum Detected	0.057
PFO2HxA	870	14,000	5,343	3,250	9,100	8,310	95% KM (t) UCL	14,000	Maximum Detected	0.014
PFO3OA	232	6,700	2,360	1,605	5,100	4,414	95% Student's-t UCL	6,700	Maximum Detected	0.007
PFO4DA	280	410	340	330	1,200	416	95% KM (t) UCL	410	Maximum Detected	0.0004
PFO5DA	383	14,000	4,272	2,450	9,750	8,474	95% Student's-t UCL	14,000	Maximum Detected	0.014
PMPA	1,100	2,156	1,685	1,800	1,978	1,811	95% KM (t) UCL	2,156	Maximum Detected	0.002
PEPA	520	1,444	1,116	1,300	1,422	1,436	95% Student's-t UCL	1,444	Maximum Detected	0.001
PFESA-BP1	220	630	425	425	1,200	1,319	95% KM (Chebyshev) UCL	630	Maximum Detected	0.0006
PFESA-BP2	209	4,200	1,465	960	3,150	2,727	95% Student's-t UCL	4,200	Maximum Detected	0.004
Byproduct 4	3,800	44,000	16,458	11,500	30,973	28,163	95% Student's-t UCL	44,000	Maximum Detected	0.044
Byproduct 5	450	20,000	5,823	1,984	13,100	11,403	95% KM (t) UCL	20,000	Maximum Detected	0.020
Byproduct 6	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		
NVHOS	420	7,500	2,450	940	4,350	17,081	Gamma Adjusted KM-UCL	7,500	Maximum Detected	0.008
EVE Acid	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	380	930	570	400	1,200	933	95% KM (t) UCL	930	Maximum Detected	0.001
R-EVE	1,100	9,500	4,865	4,695	7,750	7,188	95% Student's-t UCL	9,500	Maximum Detected	0.010
PES	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFECA B	N/A	N/A	N/A	N/A	1,700	N/A	N/A	1,000	Minimum RL	0.001
PFECA-G	N/A	N/A	N/A	N/A	1,700	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-8
SUMMARY STATISTICS - SEDIMENT
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (µg/kg dw)	Maximum RL (µg/kg dw)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	6	0	1	17%	5	83%	0.25	0.25	2.5E-01	1.4E-05	3.7E-03	0.01
PFMOAA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFO2HxA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFO3OA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFO4DA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFO5DA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PMPA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PEPA	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFESA-BP1	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFESA-BP2	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
Byproduct 4	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
Byproduct 5	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
Byproduct 6	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
NVHOS	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
EVE Acid	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
R-EVE	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PES	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFECA B	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	0%	6	100%	1.00	1.00	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
dw - dry weight
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
µg/kg - microgram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit

TABLE 4-8
SUMMARY STATISTICS - SEDIMENT
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (µg/kg dw)	Maximum Detect (µg/kg dw)	Mean Detect (µg/kg dw)	Median Detect (µg/kg dw)	90th percentile[a] (µg/kg dw)	95UCL[b] (µg/kg dw)	95UCL Basis	EPC (µg/kg dw)	EPC Basis	EPC (mg/kg dw)
HFPO-DA	0.26	0.26	0.26	0.26	0.26	N/A	N/A	0.26	Maximum Detected	0.0003
PFMOAA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PFO2HxA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PFO3OA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PFO4DA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PFO5DA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PMPA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PEPA	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PFESA-BP1	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
PFESA-BP2	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
Byproduct 4	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
Byproduct 5	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
Byproduct 6	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
NVHOS	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
EVE Acid	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
R-EVE	N/A	N/A	N/A	N/A	1.00	N/A	N/A	1.00	Minimum RL	0.001
PES	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
PFECA B	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		
PFECA-G	N/A	N/A	N/A	N/A	1.00	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
dw - dry weight
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
µg/kg - microgram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit

TABLE 4-9
SUMMARY STATISTICS - CAPE FEAR RIVER SURFACE WATER
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/L)	Maximum RL (ng/L)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	9	0	7	78%	2	22%	2	2	5.3E+00	1.7E+01	4.2E+00	0.78
PFMOAA	9	0	6	67%	3	33%	5	5	1.9E+01	4.2E+02	2.1E+01	1.07
PFO2HxA	9	0	9	100%	0	0%	N/A	N/A	7.4E+00	5.6E+01	7.5E+00	1.02
PFO3OA	9	0	3	33%	6	67%	2	2	2.6E+00	1.9E+00	1.4E+00	0.53
PFO4DA	9	0	1	11%	8	89%	2	2	2.0E+00	8.9E-03	9.4E-02	0.05
PFO5DA	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
PMPA	9	0	3	33%	6	67%	10	10	1.2E+01	8.0E+00	2.8E+00	0.25
PEPA	9	0	0	0%	9	100%	20	20	N/A	N/A	N/A	N/A
PFESA-BP1	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
PFESA-BP2	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
Byproduct 4	9	0	8	89%	1	11%	2	2	6.1E+00	3.6E+00	1.9E+00	0.31
Byproduct 5	9	0	6	67%	3	33%	2	2	5.5E+00	2.9E+01	5.3E+00	0.97
Byproduct 6	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
NVHOS	9	0	9	100%	0	0%	N/A	N/A	6.5E+00	1.4E-01	3.8E-01	0.06
EVE Acid	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
Hydro-EVE Acid	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
R-EVE	9	0	7	78%	2	22%	2	2	2.9E+00	3.5E-01	5.9E-01	0.21
PES	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
PFECA B	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A
PFECA-G	9	0	0	0%	9	100%	2	2	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/L - nanogram per litre
ND - non detects
No. - number
mg/L - milligram per litre
RL - reporting limit

TABLE 4-9
SUMMARY STATISTICS - CAPE FEAR RIVER SURFACE WATER
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (ng/L)	Maximum Detect (ng/L)	Mean Detect (ng/L)	Median Detect (ng/L)	90th percentile[a] (ng/L)	95UCL[b] (ng/L)	95UCL Basis	EPC (ng/L)	EPC Basis	EPC (mg/L)
HFPO-DA	2	15	6	4	11	8	95% KM (t) UCL	8	95UCL	0.000008
PFMOAA	9	71	26	17	43	33	95% KM (t) UCL	33	95UCL	0.000033
PFO2HxA	2	25	7	5	15	16	95% Adjusted Gamma UCL	16	95UCL	0.000016
PFO3OA	2	6	4	3	4	4	95% KM (t) UCL	6	Maximum Detected	0.000006
PFO4DA	2	2	2	2	2	N/A	N/A	2	Maximum Detected	0.000002
PFO5DA	N/A	N/A	N/A	N/A	2	N/A	N/A	2	Minimum RL	0.000002
PMPA	12	19	15	13	14	14	95% KM (t) UCL	19	Maximum Detected	0.000019
PEPA	N/A	N/A	N/A	N/A	20	N/A	N/A	20	Minimum RL	0.000020
PFESA-BP1	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
PFESA-BP2	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
Byproduct 4	5	9	7	7	8	7	95% KM (t) UCL	7	95UCL	0.000007
Byproduct 5	3	19	7	5	11	9	95% KM (t) UCL	9	95UCL	0.000009
Byproduct 6	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
NVHOS	6	7	7	7	7	7	95% Student's-t UCL	7	95UCL	0.000007
EVE Acid	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
Hydro-EVE Acid	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
R-EVE	3	4	3	3	4	3	95% KM (t) UCL	3	95UCL	0.000003
PES	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
PFECA B	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	
PFECA-G	N/A	N/A	N/A	N/A	2	N/A	N/A		Not detected in any EU media	

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/L - nanogram per litre
ND - non detects
No. - number
mg/L - milligram per litre
RL - reporting limit

TABLE 4-10
SUMMARY STATISTICS - AQUATIC VEGETATION
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (µg/kg ww)	Maximum RL (µg/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]
HFPO-DA	6	0	4	67%	2	33%	1.3	1.3	7.8E+00	8.3E+01	9.1E+00	1.16
PFMOAA	6	0	2	33%	4	67%	1.0	1.0	8.4E+01	1.9E+04	1.4E+02	1.62
PFO2HxA	6	0	2	33%	4	67%	1.0	1.0	1.2E+01	2.4E+02	1.6E+01	1.31
PFO3OA	6	0	1	17%	5	83%	1.0	2.4	1.0E+00	1.9E-03	4.3E-02	0.04
PFO4DA	6	0	2	33%	4	67%	1.0	2.4	1.1E+00	7.8E-02	2.8E-01	0.25
PFO5DA	6	0	2	33%	4	67%	1.0	2.4	1.2E+00	5.0E-02	2.2E-01	0.19
PMPA	6	0	2	33%	4	67%	1.0	1.0	2.2E+01	8.6E+02	2.9E+01	1.35
PEPA	6	0	1	17%	5	83%	1.0	2.4	2.8E+00	1.7E+01	4.1E+00	1.45
PFESA-BP1	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
PFESA-BP2	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
Byproduct 4	6	0	3	50%	3	50%	1.0	1.0	1.6E+00	6.7E-01	8.2E-01	0.52
Byproduct 5	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
Byproduct 6	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
NVHOS	6	0	1	17%	5	83%	1.0	2.4	6.5E+00	1.5E+02	1.2E+01	1.89
EVE Acid	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
R-EVE	6	0	2	33%	4	67%	1.0	1.0	1.4E+00	4.5E-01	6.7E-01	0.47
PES	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
PFECA B	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	0%	6	100%	1.0	2.4	N/A	N/A	N/A	N/A

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
µg/kg - microgram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-10
SUMMARY STATISTICS - AQUATIC VEGETATION
Chemours Fayetteville Works, North Carolina

Analyte	Minimum Detect (µg/kg ww)	Maximum Detect (µg/kg ww)	Mean Detect (µg/kg ww)	Median Detect (µg/kg ww)	90th percentile[a] (µg/kg ww)	95UCL[b] (µg/kg ww)	95UCL Basis	EPC (µg/kg ww)	EPC Basis	EPC (mg/kg ww)
HFPO-DA	2	26	11	8	20	16	95% KM (t) UCL	26	Maximum Detected	0.026
PFMOAA	130	370	250	250	250	427	95% KM (Chebyshev) UCL	370	Maximum Detected	0.370
PFO2HxA	29	38	34	34	34	30	95% KM (t) UCL	38	Maximum Detected	0.038
PFO3OA	1	1	1	1	2	N/A	N/A	1	Maximum Detected	0.001
PFO4DA	1	2	1	1	2	1	95% KM (t) UCL	2	Maximum Detected	0.002
PFO5DA	1	2	1	1	2	1	95% KM (t) UCL	2	Maximum Detected	0.002
PMPA	60	66	63	63	63	56	95% KM (t) UCL	66	Maximum Detected	0.066
PEPA	12	12	12	12	7	N/A	N/A	12	Maximum Detected	0.012
PFESA-BP1	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
PFESA-BP2	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
Byproduct 4	1	3	2	2	3	2	95% KM (t) UCL	3	Maximum Detected	0.003
Byproduct 5	N/A	N/A	N/A	N/A	2	N/A	N/A	1	Minimum RL	0.001
Byproduct 6	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
NVHOS	34	34	34	34	18	N/A	N/A	34	Maximum Detected	0.034
EVE Acid	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
R-EVE	2	3	2	2	2	2	95% KM (t) UCL	3	Maximum Detected	0.003
PES	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
PFECA B	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		
PFECA-G	N/A	N/A	N/A	N/A	2	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
µg/kg - microgram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-11
SUMMARY STATISTICS - FISH
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg ww)	Maximum RL (ng/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]	Minimum Detect (ng/kg ww)	Maximum Detect (ng/kg ww)	Mean Detect (ng/kg ww)	Median Detect (ng/kg ww)	90th percentile[a] (ng/kg ww)	95UCL[b] (ng/kg ww)	95UCL Basis	EPC (ng/kg ww)	EPC Basis	EPC (mg/kg ww)
Species:	***Largemouth bass (fillet only)***																					
HFPO-DA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFMOAA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFO2HxA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	4	0	2	50%	2	50%	1,000	1,000	8.5E+02	1.0E+06	1.0E+03	1.18	270	2,600	1,435	1,435	2,120	5,308	975% KM (Chebyshev) UCL	2,600	Maximum Detected	0.0026
PFO5DA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PMPA	4	0	2	50%	2	50%	1,000	1,000	3.2E+02	2.5E+03	5.0E+01	0.16	270	370	320	320	1,000	438	95% KM (t) UCL	370	Maximum Detected	0.00037
PEPA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
PFESA-BP2	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
Byproduct 4	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 5	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
NVHOS	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
R-EVE	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PES	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
PFECA B	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
PFECA-G	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
Species:	***Catfish spp. (fillet only)***																					
HFPO-DA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PFMOAA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PFO2HxA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PFO5DA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PMPA	6	0	2	33%	4	67%	1,000	1,000	2.8E+02	2.5E+01	5.0E+00	0.02	270	280	275	275	1,000	285	95% KM (t) UCL	280	Maximum Detected	0.00028
PEPA	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
PFESA-BP2	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
Byproduct 4	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 5	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
NVHOS	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
R-EVE	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	1,000	Minimum RL	0.001
PES	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
PFECA B	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		
PFECA-G	6	0	0	0%	6	100%	1,000	1,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,100	N/A	N/A	Not detected in any EU media		

TABLE 4-11
SUMMARY STATISTICS - FISH
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg ww)	Maximum RL (ng/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]	Minimum Detect (ng/kg ww)	Maximum Detect (ng/kg ww)	Mean Detect (ng/kg ww)	Median Detect (ng/kg ww)	90th percentile[a] (ng/kg ww)	95UCL[b] (ng/kg ww)	95UCL Basis	EPC (ng/kg ww)	EPC Basis	EPC (mg/kg ww)
Species:	***Redbreasted Sunfish (whole body)***																					
HFPO-DA	4	0	0	0%	4	100%	2,200	10,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8,560	N/A	N/A	2,200	Minimum RL	0.0022
PFMOAA	4	0	4	100%	0	0%	N/A	N/A	4.1E+03	5.9E+05	7.7E+02	0.19	3,000	4,700	4,125	4,400	4,640	5,028	95% Student's-t UCL	4,700	Maximum Detected	0.0047
PFO2HxA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	4	0	4	100%	0	0%	N/A	N/A	1.8E+04	4.3E+08	2.1E+04	1.12	580	41,000	18,420	16,050	38,000	42,786	95% Student's-t UCL	41,000	Maximum Detected	0.041
PFO5DA	4	0	4	100%	0	0%	N/A	N/A	8.8E+02	3.1E+05	5.5E+02	0.63	470	1,700	883	680	1,403	1,535	95% Student's-t UCL	1,700	Maximum Detected	0.0017
PMPA	4	0	3	75%	1	25%	1,000	1,000	6.7E+02	5.0E+05	7.1E+02	1.06	240	1,900	807	280	1,630	1,694	95% KM (t) UCL	1,900	Maximum Detected	0.0019
PEPA	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
PFESA-BP2	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
Byproduct 4	4	0	3	75%	1	25%	1,000	1,000	5.3E+02	2.1E+04	1.5E+02	0.28	400	730	527	450	919	768	95% KM (t) UCL	730	Maximum Detected	0.00073
Byproduct 5	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
NVHOS	4	0	1	25%	3	75%	1,000	1,000	7.1E+02	0.0E+00	0.0E+00	N/A	710	710	710	710	1,000	N/A	N/A	710	Maximum Detected	0.00071
EVE Acid	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
R-EVE	4	0	3	75%	1	25%	1,000	1,000	1.1E+03	8.4E+05	9.1E+02	0.80	450	2,700	1,310	780	2,190	2,462	95% KM (t) UCL	2,700	Maximum Detected	0.0027
PES	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
PFECA B	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
PFECA-G	4	0	0	0%	4	100%	1,000	1,100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,070	N/A	N/A	Not detected in any EU media		
Species:	***Largemouth Bass Young of Year (whole body)***																					
HFPO-DA	2	0	0	0%	2	100%	1,000	1,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,300	N/A	N/A	1,000	Minimum RL	0.001
PFMOAA	2	0	1	50%	1	50%	1,000	1,000	3.1E+03	4.2E+06	2.1E+03	0.67	5,100	5,100	5,100	5,100	4,690	N/A	N/A	5,100	Maximum Detected	0.0051
PFO2HxA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	2	0	2	100%	0	0%	N/A	N/A	1.7E+03	8.0E+04	2.8E+02	0.17	1,500	1,900	1,700	1,700	1,860	N/A	N/A	1,900	Maximum Detected	0.0019
PFO5DA	2	0	1	50%	1	50%	1,000	1,000	1.1E+03	2.5E+03	5.0E+01	0.05	1,100	1,100	1,100	1,100	1,090	N/A	N/A	1,100	Maximum Detected	0.0011
PMPA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PEPA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
PFESA-BP2	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Byproduct 4	2	0	1	50%	1	50%	1,000	1,000	3.7E+03	7.3E+06	2.7E+03	0.73	6,400	6,400	6,400	6,400	5,860	N/A	N/A	6,400	Maximum Detected	0.0064
Byproduct 5	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
NVHOS	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
R-EVE	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PES	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
PFECA B	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
PFECA-G	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		

TABLE 4-11
SUMMARY STATISTICS - FISH
Chemours Fayetteville Works, North Carolina

Analyte	No. Samples	No. Missing	No. Detects	% Detects	No. NDs	% NDs	Minimum RL (ng/kg ww)	Maximum RL (ng/kg ww)	KM Mean[a]	KM Variance[a]	KM Standard Deviation[a]	KM CV[a]	Minimum Detect (ng/kg ww)	Maximum Detect (ng/kg ww)	Mean Detect (ng/kg ww)	Median Detect (ng/kg ww)	90th percentile[a] (ng/kg ww)	95UCL[b] (ng/kg ww)	95UCL Basis	EPC (ng/kg ww)	EPC Basis	EPC (mg/kg ww)
Species:	***Shiners (whole body)***																					
HFPO-DA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFMOAA	2	0	1	50%	1	50%	1,000	1,000	2.1E+03	1.2E+06	1.1E+03	0.52	3,200	3,200	3,200	3,200	2,980	N/A	N/A	3,200	Maximum Detected	0.0032
PFO2HxA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	2	0	2	100%	0	0%	N/A	N/A	5.6E+03	1.1E+06	1.1E+03	0.19	4,800	6,300	5,550	5,550	6,150	N/A	N/A	6,300	Maximum Detected	0.0063
PFO5DA	2	0	2	100%	0	0%	N/A	N/A	2.4E+03	9.8E+05	9.9E+02	0.41	1,700	3,100	2,400	2,400	2,960	N/A	N/A	3,100	Maximum Detected	0.0031
PMPA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PEPA	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
PFESA-BP2	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Byproduct 4	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 5	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
NVHOS	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
R-EVE	2	0	1	50%	1	50%	1,000	1,000	2.6E+03	2.6E+06	1.6E+03	0.62	4,200	4,200	4,200	4,200	3,880	N/A	N/A	4,200	Maximum Detected	0.0042
PES	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
PFECA B	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
PFECA-G	2	0	0	0%	2	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	N/A	N/A	Not detected in any EU media		
Species:	***American Eel***																					
HFPO-DA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PFMOAA	1	0	1	100%	0	0%	1,000	1,000	N/A	N/A	N/A	N/A	13,000	13,000	13,000	13,000	N/A	N/A	N/A	13,000	Maximum Detected	0.013
PFO2HxA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PFO3OA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PFO4DA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PFO5DA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PMPA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PEPA	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PFESA-BP1	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
PFESA-BP2	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
Byproduct 4	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 5	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
Byproduct 6	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
NVHOS	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
EVE Acid	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
Hydro-EVE Acid	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
R-EVE	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,000	Minimum RL	0.001
PES	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
PFECA B	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		
PFECA-G	1	0	0	0%	1	100%	1,000	1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Not detected in any EU media		

Notes:
a: values include both detected and non-detected results
b: where analytes have < 3 distinct and detected results, ProUCL does not consider this a meaningful statistic
Abbreviations:
95UCL - 95% Upper Confidence Limit
CV - Coefficient of Variation
EPC - Exposure Point Concentration
KM - Kaplan-Meier
N/A - not applicable
ng/kg - nanogram per kilogram
ND - non detects
No. - number
mg/kg - milligram per kilogram
RL - reporting limit
ww - wet weight

TABLE 4-12
BIOTA SOIL ACCUMULATION FACTORS
Chemours Fayetteville Works, North Carolina

Analyte	SEEP-A			SEEP-B			SEEP-C			SEEP-D			WILLIS CREEK			INTAKE AREA			
	[PFAS] in Worm Tissue	[PFAS] in Soil	BSAF	[PFAS] in Worm Tissue	[PFAS] in Soil	BSAF	[PFAS] in Worm Tissue	[PFAS] in Soil	BSAF	[PFAS] in Worm Tissue	[PFAS] in Soil	BSAF	[PFAS] in Worm Tissue	[PFAS] in Soil	BSAF	[PFAS] in Worm Tissue	[PFAS] in Soil	BSAF	
Units	µg/kg ww	µg/kg dw	kg dw/ kg ww	µg/kg ww	µg/kg dw	kg dw/ kg ww	µg/kg ww	µg/kg dw	kg dw/ kg ww	µg/kg ww	µg/kg dw	kg dw/ kg ww	µg/kg ww	µg/kg dw	kg dw/ kg ww	µg/kg ww	µg/kg dw	kg dw/ kg ww	Mean BSAF
Table 3+ Lab SOP																			
HFPO-DA	6.2	13	0.47	19	25	0.78	1.4	6.3	0.23	5.2	7.9	0.66	5.7	8.1	0.70	5.1	30	0.17	0.5
PFMOAA	18	21	0.88	57	150	0.38	-- [a]	67	--	-- [a]	17	--	-- [a]	1.6	0.14	-- [a]	3.4	--	0.5
PFO2HxA	4.2	12	0.35	14	47	0.29	0.87	24	0.04	2.3	15	0.15	< 1	8.6	0.12	< 1.2	18	0.07	0.2
PFO3OA	2.6	5.1	0.52	6.7	12	0.56	0.52	5.2	0.10	3.5	7.7	0.45	0.61	2.1	0.29	0.23	2.2	0.11	0.3
PFO4DA	0.41	5.1	0.08	0.28	3.0	0.09	< 1.2	2.2	0.55	0.33	5.4	0.06	< 1	1.4	0.71	-- [a]	1.3	--	0.3
PFO5DA	14	10	1.4	5.5	3.7	1.5	0.85	1.5	0.57	3.1	4.2	0.73	1.82	2.2	0.83	0.38	1.4	0.27	0.9
PMPA	1.8	6.0	0.31	1.1	7.8	0.14	< 1.2	6.0	0.20	< 1	2.1	0.48	< 1	3.7	0.27	2.2	19	0.11	0.3
PEPA	1.3	2.6	0.49	1.4	2.7	0.52	0.52	1.5	0.35	0.73	< 1	0.73	1.3	1.3	0.98	1.4	6.2	0.23	0.6
PFESA-BP1	0.22	< 1	0.22	0.63	< 1	0.63	< 1.2	3.0	0.40	< 1	< 1	--	< 1	< 1	--	< 1.2	< 1	--	0.4
PFESA-BP2	1.5	2.0	0.76	4.2	2.1	2.0	0.42	1.1	0.38	2.1	1.6	1.3	0.36	< 1	0.36	0.21	< 1	0.21	0.8
Byproduct 4	3.8	< 1	3.8	44	2.4	18.52	10	< 1	10	12.3	< 1	12	11	< 1	11	18	1.2	15	**12**
Byproduct 5	6.2	< 1	6.2	20	< 1	19.59	0.45	< 1	0.45	0.48	< 1	0.48	< 1.1	< 1	--	2.0	< 1	2.0	**5.8**
Byproduct 6	< 2.2	< 1	--	< 1	< 1	--	< 1.2	< 1	--	< 1	< 1	--	< 1	< 1	--	< 1.2	< 1	--	--
NVHOS	1.0	< 1	1.0	7.5	1.3	5.7	0.42	< 1	0.42	0.88	< 1	0.88	< 1	< 1	--	< 1.2	< 1	--	**2.0**
EVE Acid	< 2.2	< 1	--	< 1	< 1	--	< 1.2	< 1	--	< 1	< 1	--	< 1	< 1	--	< 1.2	< 1	--	--
Hydro-EVE Acid	0.38	1.2	0.32	0.93	1.2	0.77	< 1.2	< 1	--	0.40	< 1	0.40	< 1	< 1	--	< 1.2	< 1	--	0.50
R-EVE	1.1	< 1	1.1	9.5	< 1	9.5	4.9	< 1	4.9	6.0	< 1	6.0	3.2	< 1	3.2	4.5	< 1	4.5	**4.9**
PES	< 2.2	< 1	--	< 1	< 1	--	< 1.2	< 1	--	< 1	< 1	--	< 1	< 1	--	< 1.2	< 1	--	--
PFECA B	< 2.2	< 1	--	< 1	< 1	--	< 1.2	< 1	--	< 1	< 1	--	< 1	< 1	--	< 1.2	< 1	--	--
PFECA-G	< 2.2	< 1	--	-- [a]	< 1	--	< 1.2	< 1	--	< 1	< 1	--	-- [a]	< 1	--	-- [a]	< 1	--	--

Notes:
a: rejected result
1. Results not detected about reporting limits (RLs) are shown as < RL.
2. If a Site-associated PFAS was detected in one media but not the other, the RL was used to calculate the BSAF.

Abbreviations:
µg/kg - microgram per kilogram
dw - dry weight
kg - kilogram
ww- wet weight
BSAF - Biota-Sediment Accumulation Factor
PFAS - per- and polyfluoroalkyl substances

TABLE 4-13
FILLET TO WHOLE-BODY RATIO CALCULATIONS
Chemours Fayetteville Works, North Carolina

Analyte	CFR-05-1-LMB				CFR-05-4 CC				CFR-06-2 BC				CFR-09-2 BC				DERC-3 LMB				MM-68-4 LMB				LMB Mean WB:Fillet Ratio	Catfish Mean WB:Fillet Ratio	All Species Mean WB:Fillet Ratio
	Carcass [PFAS] (µg/kg)	Fillet [PFAS] (µg/kg)	Estimated WB [PFAS] (µg/kg)	WB:Fillet Ratio	Carcass [PFAS] (µg/kg)	Fillet [PFAS] (µg/kg)	Estimated WB [PFAS] (µg/kg)	WB:Fillet Ratio	Carcass [PFAS] (µg/kg)	Fillet [PFAS] (µg/kg)	Estimated WB [PFAS] (µg/kg)	WB:Fillet Ratio	Carcass [PFAS] (µg/kg)	Fillet [PFAS] (µg/kg)	Estimated WB [PFAS] (µg/kg)	WB:Fillet Ratio	Carcass [PFAS] (µg/kg)	Fillet [PFAS] (µg/kg)	Estimated WB [PFAS] (µg/kg)	WB:Fillet Ratio	Carcass [PFAS] (µg/kg)	Fillet [PFAS] (µg/kg)	Estimated WB [PFAS] (µg/kg)	WB:Fillet Ratio			
Sample Mass (g)	**444**	**215**	**659**	**-**	**503**	**85**	**588**	**-**	**378**	**2021**	**2400**	**-**	**2319**	**347**	**2666**	**-**	**400**	**191**	**591**	**-**	**248**	**98**	**346**	**-**			
Table 3+ Lab SOP																											
HFPO-DA	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFMOAA	(a)	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFO2HxA	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFO3OA	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFO4DA	1.0	2.6	1.5	0.6	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	1.7	1.1	0.6	1.0	0.3	0.7	2.7	0.9	< 1.1	0.9	0.9	**1.4**	**0.6**	**1.2**
PFO5DA	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	0.8	< 1	0.9	4.6	< 1	< 1.1	--	--	**4.6**	**--**	**4.6**
PMPA	0.9	0.4	0.7	2.0	< 1	0.27	0.9	3.3	0.3	0.3	0.3	1.0	< 1	0.3	0.9	3.0	0.6	0.3	0.5	1.9	1.1	< 1.1	1.1	1.0	**1.6**	**2.4**	**2.0**
PEPA	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFESA-BP1	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFESA-BP2	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	0.3	< 1	0.5	0.5	< 1	< 1.1	--	--	**0.5**	**--**	**0.5**
Byproduct 4	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	0.5	< 1	0.6	3.6	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**3.6**	**3.6**
Byproduct 5	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
Byproduct 6	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
NVHOS	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
EVE Acid	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
Hydro-EVE Acid	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
R-EVE	3.3	< 1.1	2.6	2.4	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	2.5	< 1	2.0	2.0	4.6	< 1.1	3.6	3.3	**2.5**	**--**	**2.5**
PES	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFECA B	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	**--**	**--**	**--**
PFECA-G	< 1	< 1.1	--	--	< 1	< 1.2	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1	--	--	< 1	< 1.1	--	--	--	--	--

Notes:
(a) Data was rejected during data validation process and is not suitable for use.
Results not detected above RLs are presented as < RL.
If a compound was only detected in one media, the RLwas used to represent concentrations for the result not-detected above RLs.
Abbreviations:
µg/kg - nanogram per kilogram
PFAS - per- and polyfluoroalkyl substances
RL - Reporting limit
WB - whole body
CFR - Cape Fear River
LMB - large mouth bass
BC - Black catfish
CC - channel catfish
g - grams

TABLE 4-14
EXPOSURE POINT CONCENTRATIONS - ONSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Analyte	Soil EPC (mg/kg dw)	Surface Water (mg/L)	Offsite Terrestrial Plant EPC (mg/kg, ww)	Aquatic Plant EPC (mg/kg, ww)	Onsite Terrestrial Plant EPC [1] (mg/kg, ww)	Onsite Terrestrial Invertebrate EPC (mg/kg, ww)
Table 3+ Lab SOP						
HFPO-DA	0.016	0.000940	0.031	0.026	0.031	0.019
PFMOAA	0.076	0.000255	0.059	0.37	0.370	0.057
PFO2HxA	0.021	0.000725	0.004	0.038	0.038	0.014
PFO3OA	0.007	0.000096	0.000	0.0011	0.001	0.007
PFO4DA	0.003	0.000040	0.001	0.0017	0.002	0.000
PFO5DA	0.004	0.000010	0.001	0.0015	0.002	0.014
PMPA	0.008	0.000850	0.026	0.066	0.066	0.002
PEPA	0.003	0.000295	0.001	0.012	0.012	0.001
PFESA-BP1	0.003	0.000002	0.001	NC	0.001	0.001
PFESA-BP2	0.002	0.000033	0.001	NC	0.001	0.004
Byproduct 4	0.002	0.000097	0.033	0.0033	0.033	0.044
Byproduct 5	0.001	0.000002	0.001	0.001	0.001	0.020
NVHOS	0.001	0.000006	0.448	0.034	0.448	0.008
Hydro-EVE Acid	0.001	0.000004	0.001	NC	0.001	0.001
R-EVE	0.001	0.000058	0.004	0.0028	0.004	0.010
PES	0.001	0.000002	0.001	NC	0.001	0.001
PFECA B	0.001	0.000002	0.003	NC	0.003	0.001

Notes:
1: Onsite Plant EPC is max of the aquatic or offsite plant EPCs

Abbreviations:
EPC - Exposure Point Concentration
dw - dry weight
NC - not calculated for the Aquatic EU due to lack of detctions in aquatic media
mg/kg - milligram per kilogram
mg/L - milligram per liter
ww - wet weight
SOP - Standard Operating Procedure

TABLE 4-15
DIRECT CONTACT EXPOSURES - ONSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Analyte	Soil EPC (mg/kg dw)	Terrestrial Invertebrates TRV (mg/kg dw)	Terrestrial Plants TRV (mg/kg dw)	Hazard Quotient for Invertebrates	Hazard Quotient for Plants
Table 3+ Lab SOP					
HFPO-DA	0.016	0.066	0.066	0.24	0.24
PFMOAA	0.076	--	--	--	--
PFO2HxA	0.021	--	--	--	--
PFO3OA	0.007	--	--	--	--
PFO4DA	0.003	--	--	--	--
PFO5DA	0.004	--	--	--	--
PMPA	0.008	--	--	--	--
PEPA	0.003	--	--	--	--
PFESA-BP1	0.003	--	--	--	--
PFESA-BP2	0.002	--	--	--	--
Byproduct 4	0.002	--	--	--	--
Byproduct 5	0.001	--	--	--	--
NVHOS	0.001	--	--	--	--
Hydro-EVE Acid	0.001	--	--	--	--
R-EVE	0.001	--	--	--	--
PES	0.001	--	--	--	--
PFECA B	0.001	--	--	--	--

Abbreviations:
-- - No TRV available
dw - dry weight
EPC - Exposure Point Concentration
mg/kg - milligrams per kilogram
TRV - Toxicity Reference Value
SOP - Standard Operating Procedure

TABLE 4-16a
TOTAL DAILY INTAKE FOR BOBWHITE QUAIL - ONSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Bobwhite Quail** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	1.6E-02	2.8E-05	9.4E-04	1.2E-04	3.1E-02	2.9E-03	1.9E-02	NA	3.0E-03	8.5E+01	3.6E-05
PFMOAA	7.6E-02	1.3E-04	2.6E-04	3.3E-05	3.7E-01	3.4E-02	5.7E-02	NA	3.5E-02	--	--
PFO2HxA	2.1E-02	3.6E-05	7.3E-04	9.4E-05	3.8E-02	3.5E-03	1.4E-02	NA	3.7E-03	--	--
PFO3OA	7.3E-03	1.3E-05	9.6E-05	1.2E-05	1.1E-03	1.0E-04	6.7E-03	NA	1.3E-04	--	--
PFO4DA	3.1E-03	5.4E-06	4.0E-05	5.2E-06	1.7E-03	1.6E-04	4.1E-04	NA	1.7E-04	--	--
PFO5DA	4.5E-03	7.8E-06	1.0E-05	1.3E-06	1.5E-03	1.4E-04	1.4E-02	NA	1.5E-04	--	--
PMPA	7.7E-03	1.3E-05	8.5E-04	1.1E-04	6.6E-02	6.1E-03	2.2E-03	NA	6.3E-03	--	--
PEPA	2.8E-03	4.9E-06	3.0E-04	3.8E-05	1.2E-02	1.1E-03	1.4E-03	NA	1.2E-03	--	--
PFESA-BP1	3.0E-03	5.2E-06	2.0E-06	2.6E-07	1.0E-03	9.3E-05	6.3E-04	NA	9.8E-05	--	--
PFESA-BP2	1.6E-03	2.7E-06	3.3E-05	4.2E-06	1.0E-03	9.3E-05	4.2E-03	NA	1.0E-04	--	--
Byproduct 4	2.4E-03	4.2E-06	9.7E-05	1.3E-05	3.3E-02	3.1E-03	4.4E-02	NA	3.1E-03	--	--
Byproduct 5	1.0E-03	1.7E-06	2.0E-06	2.6E-07	1.0E-03	9.3E-05	2.0E-02	NA	9.5E-05	--	--
NVHOS	1.3E-03	2.3E-06	6.3E-06	8.1E-07	4.5E-01	4.2E-02	7.5E-03	NA	4.2E-02	--	--
Hydro-EVE Acid	1.2E-03	2.1E-06	3.6E-06	4.6E-07	1.0E-03	9.3E-05	9.3E-04	NA	9.6E-05	--	--
R-EVE	1.0E-03	1.7E-06	5.8E-05	7.5E-06	3.8E-03	3.5E-04	9.5E-03	NA	3.6E-04	--	--
PES	1.0E-03	1.7E-06	2.0E-06	2.6E-07	1.2E-03	1.1E-04	1.0E-03	NA	1.1E-04	--	--
PFECA B	1.0E-03	1.7E-06	2.0E-06	2.6E-07	3.1E-03	2.9E-04	1.0E-03	NA	2.9E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.14.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) \times (1/BW) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
TRV - Toxicity Reference Value
SOP - Standard Operating Procedure

TABLE 4-16b
TOTAL DAILY INTAKE FOR WOODCOCK - ONSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Woodcock** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	1.6E-02	2.1E-04	9.4E-04	9.4E-05	3.1E-02	NA	1.9E-02	1.5E-02	1.5E-02	8.5E+01	1.8E-04
PFMOAA	7.6E-02	9.9E-04	2.6E-04	2.6E-05	3.7E-01	NA	5.7E-02	4.4E-02	4.5E-02	--	--
PFO2HxA	2.1E-02	2.7E-04	7.3E-04	7.3E-05	3.8E-02	NA	1.4E-02	1.1E-02	1.1E-02	--	--
PFO3OA	7.3E-03	9.6E-05	9.6E-05	9.6E-06	1.1E-03	NA	6.7E-03	5.2E-03	5.3E-03	--	--
PFO4DA	3.1E-03	4.1E-05	4.0E-05	4.0E-06	1.7E-03	NA	4.1E-04	3.2E-04	3.6E-04	--	--
PFO5DA	4.5E-03	5.9E-05	1.0E-05	1.0E-06	1.5E-03	NA	1.4E-02	1.1E-02	1.1E-02	--	--
PMPA	7.7E-03	1.0E-04	8.5E-04	8.5E-05	6.6E-02	NA	2.2E-03	1.7E-03	1.8E-03	--	--
PEPA	2.8E-03	3.7E-05	3.0E-04	3.0E-05	1.2E-02	NA	1.4E-03	1.1E-03	1.2E-03	--	--
PFESA-BP1	3.0E-03	3.9E-05	2.0E-06	2.0E-07	1.0E-03	NA	6.3E-04	4.9E-04	5.2E-04	--	--
PFESA-BP2	1.6E-03	2.0E-05	3.3E-05	3.3E-06	1.0E-03	NA	4.2E-03	3.2E-03	3.3E-03	--	--
Byproduct 4	2.4E-03	3.1E-05	9.7E-05	9.7E-06	3.3E-02	NA	4.4E-02	3.4E-02	3.4E-02	--	--
Byproduct 5	1.0E-03	1.3E-05	2.0E-06	2.0E-07	1.0E-03	NA	2.0E-02	1.5E-02	1.5E-02	--	--
NVHOS	1.3E-03	1.7E-05	6.3E-06	6.3E-07	4.5E-01	NA	7.5E-03	5.8E-03	5.8E-03	--	--
Hydro-EVE Acid	1.2E-03	1.6E-05	3.6E-06	3.6E-07	1.0E-03	NA	9.3E-04	7.2E-04	7.3E-04	--	--
R-EVE	1.0E-03	1.3E-05	5.8E-05	5.8E-06	3.8E-03	NA	9.5E-03	7.3E-03	7.3E-03	--	--
PES	1.0E-03	1.3E-05	2.0E-06	2.0E-07	1.2E-03	NA	1.0E-03	7.7E-04	7.8E-04	--	--
PFECA B	1.0E-03	1.3E-05	2.0E-06	2.0E-07	3.1E-03	NA	1.0E-03	7.7E-04	7.8E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.14.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) \times (1/BW) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
TRV - Toxicity Reference Value
SOP - Standard Operating Procedure

TABLE 4-16c
TOTAL DAILY INTAKE FOR EASTERN COTTONTAIL RABBIT - ONSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Eastern Cottontail Rabbit** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	1.6E-02	2.2E-05	9.4E-04	9.1E-05	3.1E-02	6.4E-03	1.9E-02	NA	6.5E-03	5.0E-01	1.3E-02
PFMOAA	7.6E-02	1.0E-04	2.6E-04	2.5E-05	3.7E-01	7.7E-02	5.7E-02	NA	7.7E-02	--	--
PFO2HxA	2.1E-02	2.9E-05	7.3E-04	7.0E-05	3.8E-02	7.9E-03	1.4E-02	NA	8.0E-03	--	--
PFO3OA	7.3E-03	1.0E-05	9.6E-05	9.3E-06	1.1E-03	2.3E-04	6.7E-03	NA	2.5E-04	--	--
PFO4DA	3.1E-03	4.3E-06	4.0E-05	3.9E-06	1.7E-03	3.5E-04	4.1E-04	NA	3.6E-04	--	--
PFO5DA	4.5E-03	6.1E-06	1.0E-05	9.7E-07	1.5E-03	3.1E-04	1.4E-02	NA	3.2E-04	--	--
PMPA	7.7E-03	1.1E-05	8.5E-04	8.2E-05	6.6E-02	1.4E-02	2.2E-03	NA	1.4E-02	--	--
PEPA	2.8E-03	3.8E-06	3.0E-04	2.9E-05	1.2E-02	2.5E-03	1.4E-03	NA	2.5E-03	--	--
PFESA-BP1	3.0E-03	4.1E-06	2.0E-06	1.9E-07	1.0E-03	2.1E-04	6.3E-04	NA	2.1E-04	--	--
PFESA-BP2	1.6E-03	2.1E-06	3.3E-05	3.2E-06	1.0E-03	2.1E-04	4.2E-03	NA	2.1E-04	--	--
Byproduct 4	2.4E-03	3.3E-06	9.7E-05	9.4E-06	3.3E-02	6.9E-03	4.4E-02	NA	7.0E-03	--	--
Byproduct 5	1.0E-03	1.4E-06	2.0E-06	1.9E-07	1.0E-03	2.1E-04	2.0E-02	NA	2.1E-04	--	--
NVHOS	1.3E-03	1.8E-06	6.3E-06	6.1E-07	4.5E-01	9.3E-02	7.5E-03	NA	9.3E-02	--	--
Hydro-EVE Acid	1.2E-03	1.6E-06	3.6E-06	3.4E-07	1.0E-03	2.1E-04	9.3E-04	NA	2.1E-04	--	--
R-EVE	1.0E-03	1.4E-06	5.8E-05	5.6E-06	3.8E-03	7.8E-04	9.5E-03	NA	7.9E-04	--	--
PES	1.0E-03	1.4E-06	2.0E-06	1.9E-07	1.2E-03	2.4E-04	1.0E-03	NA	2.4E-04	--	--
PFECA B	1.0E-03	1.4E-06	2.0E-06	1.9E-07	3.1E-03	6.4E-04	1.0E-03	NA	6.4E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.14.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) \times (1/BW) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
TRV - Toxicity Reference Value
SOP - Standard Operating Procedure

TABLE 4-16d
TOTAL DAILY INTAKE FOR SOUTHERN SHORT-TAILED SHREW - ONSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Southern Short-tailed Shrew** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	1.6E-02	5.1E-05	9.4E-04	2.1E-04	3.1E-02	NA	1.9E-02	7.7E-03	8.0E-03	5.0E-01	1.6E-02
PFMOAA	7.6E-02	2.4E-04	2.6E-04	5.7E-05	3.7E-01	NA	5.7E-02	2.3E-02	2.3E-02	--	--
PFO2HxA	2.1E-02	6.7E-05	7.3E-04	1.6E-04	3.8E-02	NA	1.4E-02	5.7E-03	5.9E-03	--	--
PFO3OA	7.3E-03	2.4E-05	9.6E-05	2.1E-05	1.1E-03	NA	6.7E-03	2.7E-03	2.8E-03	--	--
PFO4DA	3.1E-03	1.0E-05	4.0E-05	8.9E-06	1.7E-03	NA	4.1E-04	1.7E-04	1.9E-04	--	--
PFO5DA	4.5E-03	1.4E-05	1.0E-05	2.2E-06	1.5E-03	NA	1.4E-02	5.7E-03	5.7E-03	--	--
PMPA	7.7E-03	2.5E-05	8.5E-04	1.9E-04	6.6E-02	NA	2.2E-03	8.8E-04	1.1E-03	--	--
PEPA	2.8E-03	9.0E-06	3.0E-04	6.6E-05	1.2E-02	NA	1.4E-03	5.9E-04	6.6E-04	--	--
PFESA-BP1	3.0E-03	9.6E-06	2.0E-06	4.5E-07	1.0E-03	NA	6.3E-04	2.6E-04	2.7E-04	--	--
PFESA-BP2	1.6E-03	5.0E-06	3.3E-05	7.2E-06	1.0E-03	NA	4.2E-03	1.7E-03	1.7E-03	--	--
Byproduct 4	2.4E-03	7.7E-06	9.7E-05	2.2E-05	3.3E-02	NA	4.4E-02	1.8E-02	1.8E-02	--	--
Byproduct 5	1.0E-03	3.2E-06	2.0E-06	4.5E-07	1.0E-03	NA	2.0E-02	8.1E-03	8.1E-03	--	--
NVHOS	1.3E-03	4.2E-06	6.3E-06	1.4E-06	4.5E-01	NA	7.5E-03	3.0E-03	3.1E-03	--	--
Hydro-EVE Acid	1.2E-03	3.9E-06	3.6E-06	7.9E-07	1.0E-03	NA	9.3E-04	3.8E-04	3.8E-04	--	--
R-EVE	1.0E-03	3.2E-06	5.8E-05	1.3E-05	3.8E-03	NA	9.5E-03	3.9E-03	3.9E-03	--	--
PES	1.0E-03	3.2E-06	2.0E-06	4.5E-07	1.2E-03	NA	1.0E-03	4.1E-04	4.1E-04	--	--
PFECA B	1.0E-03	3.2E-06	2.0E-06	4.5E-07	3.1E-03	NA	1.0E-03	4.1E-04	4.1E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.14.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) \times (1/BW) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
TRV - Toxicity Reference Value
SOP - Standard Operating Procedure

TABLE 4-17
EXPOSURE POINT CONCENTRATIONS - OFFSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Analyte	Soil EPC (mg/kg dw)	Surface Water (mg/L)	Terrestrial Plant EPC (mg/kg, ww)	Terrestrial Emergent Insect EPC (mg/kg, ww)	Earthworm BSAF (kg ww/kg dw)	Off-Site Earthworm EPC [1] (mg/kg, ww)	Terrestrial Invertebrate EPC [2] (mg/kg, ww)
Table 3+ Lab SOP							
HFPO-DA	0.003	0.00031	0.031	0.005	0.50	0.001	0.005
PFMOAA	0.001	0.00007	0.059	0.005	0.47	0.0005	0.005
PFO2HxA	0.002	0.0002	0.004	0.001	0.17	0.0004	0.001
PFO3OA	0.001	0.00003	0.000	0.001	0.34	0.0003	0.001
PFO4DA	0.001	0.00001	0.001	0.001	0.30	0.0003	0.001
PFO5DA	0.001	0.000002	0.001	0.001	0.87	0.001	0.001
PMPA	0.001	0.00035	0.026	0.019	0.25	0.0003	0.019
PEPA	0.001	0.00011	0.001	0.002	0.55	0.001	0.002
PFESA-BP1	0.001	0.000002	0.001	0.004	0.42	0.0004	0.004
PFESA-BP2	0.001	0.00003	0.001	0.001	0.84	0.001	0.001
Byproduct 4	0.001	0.00015	0.033	0.006	11.8	0.012	0.012
Byproduct 5	0.001	0.000002	0.001	0.001	5.8	0.006	0.006
NVHOS	0.001	0.000002	0.448	0.001	2.0	0.002	0.002
R-EVE	0.001	0.00005	0.004	0.001	4.9	0.005	0.005
PES	0.001	0.000002	0.001	0.001	--	--	0.001
PFECA B	0.001	0.000002	0.003	0.001	--	--	0.001

Notes:
1. The Offsite worm EPC is the Soil EPC x BSAF for each Table 3+ PFAS
2. The Terrestrial Invertebrate EPC was selected as the higher of the Emergent Insect and Earthworm EPCs.

Abbreviations:
BSAF - Soil-to-Earthworm Bioaccumulation Factor
dw - dry weight
EPC - Exposure Point Concentration
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
ww- wet weight
ww/kg - wet weight per kilogram

TABLE 4-18
DIRECT CONTACT EXPOSURES - OFFSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Analyte	Soil EPC (mg/kg dw)	Terrestrial Invertebrates TRV (mg/kg dw)	Terrestrial Plants TRV (mg/kg dw)	Hazard Quotient for Invertebrates	Hazard Quotient for Plants
Table 3+ Lab SOP					
HFPO-DA	0.003	0.066	0.066	0.04	0.04
PFMOAA	0.001	--	--	--	--
PFO2HxA	0.002	--	--	--	--
PFO3OA	0.001	--	--	--	--
PFO4DA	0.001	--	--	--	--
PFO5DA	0.001	--	--	--	--
PMPA	0.001	--	--	--	--
PEPA	0.001	--	--	--	--
PFESA-BP1	0.001	--	--	--	--
PFESA-BP2	0.001	--	--	--	--
Byproduct 4	0.001	--	--	--	--
Byproduct 5	0.001	--	--	--	--
NVHOS	0.001	--	--	--	--
R-EVE	0.001	--	--	--	--
PES	0.001	--	--	--	--
PFECA B	0.001	--	--	--	--

Abbreviations:
dw - dry weight
EPC - Exposure Point Concentration
mg/kg - milligram per kilogram
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-19a
TOTAL DAILY INTAKE FOR BOBWHITE QUAIL - OFFSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Bobwhite Quail** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	2.6E-03	4.5E-06	3.1E-04	4.0E-05	3.1E-02	2.9E-03	4.8E-03	NA	2.9E-03	8.5E+01	3.5E-05
PFMOAA	1.0E-03	1.7E-06	7.1E-05	9.2E-06	5.9E-02	5.5E-03	4.6E-03	NA	5.5E-03	--	--
PFO2HxA	2.3E-03	4.0E-06	2.2E-04	2.9E-05	4.5E-03	4.2E-04	1.0E-03	NA	4.5E-04	--	--
PFO3OA	1.0E-03	1.7E-06	2.7E-05	3.5E-06	2.2E-04	2.0E-05	1.0E-03	NA	2.6E-05	--	--
PFO4DA	1.0E-03	1.7E-06	8.9E-06	1.2E-06	5.3E-04	4.9E-05	1.0E-03	NA	5.2E-05	--	--
PFO5DA	1.0E-03	1.7E-06	2.1E-06	2.7E-07	1.0E-03	9.3E-05	1.0E-03	NA	9.5E-05	--	--
PMPA	1.0E-03	1.7E-06	3.5E-04	4.6E-05	2.6E-02	2.4E-03	1.9E-02	NA	2.5E-03	--	--
PEPA	1.0E-03	1.7E-06	1.1E-04	1.4E-05	1.3E-03	1.2E-04	1.6E-03	NA	1.3E-04	--	--
PFESA-BP1	1.0E-03	1.7E-06	2.0E-06	2.6E-07	1.0E-03	9.3E-05	3.5E-03	NA	9.5E-05	--	--
PFESA-BP2	1.0E-03	1.7E-06	2.5E-05	3.3E-06	1.0E-03	9.3E-05	1.0E-03	NA	9.8E-05	--	--
Byproduct 4	1.0E-03	1.7E-06	1.5E-04	2.0E-05	3.3E-02	3.1E-03	1.2E-02	NA	3.1E-03	--	--
Byproduct 5	1.0E-03	1.7E-06	2.0E-06	2.6E-07	5.7E-04	5.3E-05	5.8E-03	NA	5.5E-05	--	--
NVHOS	1.0E-03	1.7E-06	2.0E-06	2.6E-07	4.5E-01	4.2E-02	2.0E-03	NA	4.2E-02	--	--
R-EVE	1.0E-03	1.7E-06	5.3E-05	6.9E-06	3.8E-03	3.5E-04	4.9E-03	NA	3.6E-04	--	--
PES	1.0E-03	1.7E-06	2.0E-06	2.6E-07	1.2E-03	1.1E-04	1.0E-03	NA	1.1E-04	--	--
PFECA B	1.0E-03	1.7E-06	2.0E-06	2.6E-07	3.1E-03	2.9E-04	1.0E-03	NA	2.9E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.17.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-19b
TOTAL DAILY INTAKE FOR WOODCOCK - OFFSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Woodcock** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	2.6E-03	3.4E-05	3.1E-04	3.1E-05	3.1E-02	NA	4.8E-03	3.7E-03	3.8E-03	8.5E+01	4.5E-05
PFMOAA	1.0E-03	1.3E-05	7.1E-05	7.1E-06	5.9E-02	NA	4.6E-03	3.5E-03	3.6E-03	--	--
PFO2HxA	2.3E-03	3.0E-05	2.2E-04	2.2E-05	4.5E-03	NA	1.0E-03	7.7E-04	8.2E-04	--	--
PFO3OA	1.0E-03	1.3E-05	2.7E-05	2.7E-06	2.2E-04	NA	1.0E-03	7.7E-04	7.9E-04	--	--
PFO4DA	1.0E-03	1.3E-05	8.9E-06	8.9E-07	5.3E-04	NA	1.0E-03	7.7E-04	7.8E-04	--	--
PFO5DA	1.0E-03	1.3E-05	2.1E-06	2.1E-07	1.0E-03	NA	1.0E-03	7.7E-04	7.8E-04	--	--
PMPA	1.0E-03	1.3E-05	3.5E-04	3.5E-05	2.6E-02	NA	1.9E-02	1.5E-02	1.5E-02	--	--
PEPA	1.0E-03	1.3E-05	1.1E-04	1.1E-05	1.3E-03	NA	1.6E-03	1.2E-03	1.3E-03	--	--
PFESA-BP1	1.0E-03	1.3E-05	2.0E-06	2.0E-07	1.0E-03	NA	3.5E-03	2.7E-03	2.7E-03	--	--
PFESA-BP2	1.0E-03	1.3E-05	2.5E-05	2.5E-06	1.0E-03	NA	1.0E-03	7.7E-04	7.9E-04	--	--
Byproduct 4	1.0E-03	1.3E-05	1.5E-04	1.5E-05	3.3E-02	NA	1.2E-02	9.1E-03	9.1E-03	--	--
Byproduct 5	1.0E-03	1.3E-05	2.0E-06	2.0E-07	5.7E-04	NA	5.8E-03	4.4E-03	4.4E-03	--	--
NVHOS	1.0E-03	1.3E-05	2.0E-06	2.0E-07	4.5E-01	NA	2.0E-03	1.6E-03	1.6E-03	--	--
R-EVE	1.0E-03	1.3E-05	5.3E-05	5.3E-06	3.8E-03	NA	4.9E-03	3.7E-03	3.8E-03	--	--
PES	1.0E-03	1.3E-05	2.0E-06	2.0E-07	1.2E-03	NA	1.0E-03	7.7E-04	7.8E-04	--	--
PFECA B	1.0E-03	1.3E-05	2.0E-06	2.0E-07	3.1E-03	NA	1.0E-03	7.7E-04	7.8E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.17.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc}$ = (EPC_{copc} x RB x FIR x P_i) + (DWI x EPC) x AUF x (1/BW), *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-19c
TOTAL DAILY INTAKE FOR EASTERN COTTONTAIL RABBIT - OFFSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Eastern Cottontail Rabbit** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	2.6E-03	3.6E-06	3.1E-04	3.0E-05	3.1E-02	6.4E-03	4.8E-03	NA	6.5E-03	5.0E-01	1.3E-02
PFMOAA	1.0E-03	1.4E-06	7.1E-05	6.9E-06	5.9E-02	1.2E-02	4.6E-03	NA	1.2E-02	--	--
PFO2HxA	2.3E-03	3.1E-06	2.2E-04	2.1E-05	4.5E-03	9.3E-04	1.0E-03	NA	9.5E-04	--	--
PFO3OA	1.0E-03	1.4E-06	2.7E-05	2.6E-06	2.2E-04	4.6E-05	1.0E-03	NA	5.0E-05	--	--
PFO4DA	1.0E-03	1.4E-06	8.9E-06	8.6E-07	5.3E-04	1.1E-04	1.0E-03	NA	1.1E-04	--	--
PFO5DA	1.0E-03	1.4E-06	2.1E-06	2.0E-07	1.0E-03	2.1E-04	1.0E-03	NA	2.1E-04	--	--
PMPA	1.0E-03	1.4E-06	3.5E-04	3.4E-05	2.6E-02	5.4E-03	1.9E-02	NA	5.5E-03	--	--
PEPA	1.0E-03	1.4E-06	1.1E-04	1.1E-05	1.3E-03	2.6E-04	1.6E-03	NA	2.8E-04	--	--
PFESA-BP1	1.0E-03	1.4E-06	2.0E-06	1.9E-07	1.0E-03	2.1E-04	3.5E-03	NA	2.1E-04	--	--
PFESA-BP2	1.0E-03	1.4E-06	2.5E-05	2.4E-06	1.0E-03	2.1E-04	1.0E-03	NA	2.1E-04	--	--
Byproduct 4	1.0E-03	1.4E-06	1.5E-04	1.5E-05	3.3E-02	6.9E-03	1.2E-02	NA	7.0E-03	--	--
Byproduct 5	1.0E-03	1.4E-06	2.0E-06	1.9E-07	5.7E-04	1.2E-04	5.8E-03	NA	1.2E-04	--	--
NVHOS	1.0E-03	1.4E-06	2.0E-06	1.9E-07	4.5E-01	9.3E-02	2.0E-03	NA	9.3E-02	--	--
R-EVE	1.0E-03	1.4E-06	5.3E-05	5.1E-06	3.8E-03	7.8E-04	4.9E-03	NA	7.8E-04	--	--
PES	1.0E-03	1.4E-06	2.0E-06	1.9E-07	1.2E-03	2.4E-04	1.0E-03	NA	2.4E-04	--	--
PFECA B	1.0E-03	1.4E-06	2.0E-06	1.9E-07	3.1E-03	6.4E-04	1.0E-03	NA	6.4E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.17.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc}$ = (EPC_{copc} x RB x FIR x P_i) + (DWI x EPC) x AUF x (1/BW), *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-19d
TOTAL DAILY INTAKE FOR SOUTHERN SHORT-TAILED SHREW - OFFSITE TERRESTRIAL
Chemours Fayetteville Works, North Carolina

Receptor: **Southern Short-tailed Shrew** **AUF:** **1**

Analyte	Soil		Surface Water		Vegetation		Terrestrial Invertebrate		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}			
	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP											
HFPO-DA	2.6E-03	8.4E-06	3.1E-04	6.9E-05	3.1E-02	NA	4.8E-03	1.9E-03	2.0E-03	5.0E-01	4.1E-03
PFMOAA	1.0E-03	3.2E-06	7.1E-05	1.6E-05	5.9E-02	NA	4.6E-03	1.9E-03	1.9E-03	--	--
PFO2HxA	2.3E-03	7.4E-06	2.2E-04	4.9E-05	4.5E-03	NA	1.0E-03	4.1E-04	4.6E-04	--	--
PFO3OA	1.0E-03	3.2E-06	2.7E-05	6.0E-06	2.2E-04	NA	1.0E-03	4.1E-04	4.2E-04	--	--
PFO4DA	1.0E-03	3.2E-06	8.9E-06	2.0E-06	5.3E-04	NA	1.0E-03	4.1E-04	4.1E-04	--	--
PFO5DA	1.0E-03	3.2E-06	2.1E-06	4.7E-07	1.0E-03	NA	1.0E-03	4.1E-04	4.1E-04	--	--
PMPA	1.0E-03	3.2E-06	3.5E-04	7.8E-05	2.6E-02	NA	1.9E-02	7.7E-03	7.8E-03	--	--
PEPA	1.0E-03	3.2E-06	1.1E-04	2.5E-05	1.3E-03	NA	1.6E-03	6.5E-04	6.8E-04	--	--
PFESA-BP1	1.0E-03	3.2E-06	2.0E-06	4.5E-07	1.0E-03	NA	3.5E-03	1.4E-03	1.4E-03	--	--
PFESA-BP2	1.0E-03	3.2E-06	2.5E-05	5.6E-06	1.0E-03	NA	1.0E-03	4.1E-04	4.1E-04	--	--
Byproduct 4	1.0E-03	3.2E-06	1.5E-04	3.3E-05	3.3E-02	NA	1.2E-02	4.8E-03	4.8E-03	--	--
Byproduct 5	1.0E-03	3.2E-06	2.0E-06	4.5E-07	5.7E-04	NA	5.8E-03	2.3E-03	2.3E-03	--	--
NVHOS	1.0E-03	3.2E-06	2.0E-06	4.5E-07	4.5E-01	NA	2.0E-03	8.2E-04	8.2E-04	--	--
R-EVE	1.0E-03	3.2E-06	5.3E-05	1.2E-05	3.8E-03	NA	4.9E-03	2.0E-03	2.0E-03	--	--
PES	1.0E-03	3.2E-06	2.0E-06	4.5E-07	1.2E-03	NA	1.0E-03	4.1E-04	4.1E-04	--	--
PFECA B	1.0E-03	3.2E-06	2.0E-06	4.5E-07	3.1E-03	NA	1.0E-03	4.1E-04	4.1E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.17.

[2] Media-specific Total Daily Intake is calculated using the following general equation and receptor specific parameters in Table 3.8.

$TDI_{i,copc}$ = (EPC_{copc} x RB x FIR x P_i) + (DWI x EPC) x AUF x (1/BW), *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	$TDI_{i,x}$ = Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

ADD = Average Daily Dose (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-20
EXPOSURE POINT CONCENTRATIONS - AQUATIC
Chemours Fayetteville Works, North Carolina

Analyte	Sediment EPC (mg/kg)	Surface Water (mg/L)	Aquatic Plant EPC (mg/kg, dw)	Asian clam EPC (mg/kg, dw)	Mixed Benthic Invertebrate EPC (mg/kg, dw)	Highest Benthic Invertebrate EPC	Catfish Fillet EPC	Catfish WB:F Ratio	Catfish EPC_{WB}	LMB Fillet [PFAS]	LMB WB:F Ratio	Largemouth Bass EPC_{WB}	YOY Largemouth Bass EPC_{WB}	Sunfish EPC_{WB}	American Eel EPC_{WB}	Shiner EPC_{WB}	Highest Fish EPC
Table 3+ Lab SOP																	
HFPO-DA	0.00026	0.0000081	0.026	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.001	0.002	0.001	0.001	0.002
PFMOAA	0.001	0.0000333	0.37	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.005	0.005	0.013	0.003	0.013
PFO2HxA	0.001	0.0000156	0.038	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.001	0.001	0.001	0.001	0.001
PFO3OA	0.001	0.0000064	0.0011	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.001	0.001	0.001	0.001	0.001
PFO4DA	0.001	0.0000023	0.0017	0.001	0.001	0.001	0.001	0.63	0.001	0.003	2.50	0.0065	0.002	0.041	0.001	0.006	0.041
PFO5DA	0.001	0.000002	0.0015	0.001	0.001	0.001	0.001	--	0.001	0.001	4.57	0.001	0.001	0.002	0.001	0.003	0.003
PMPA	0.001	0.000019	0.066	0.001	0.001	0.001	0.0003	2.45	0.001	0.0004	2.93	0.0011	0.001	0.002	0.001	0.001	0.002
PEPA	0.001	0.00002	0.012	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.001	0.001	0.001	0.001	0.001
Byproduct 4	0.001	0.0000074	0.0033	0.001	0.001	0.001	0.001	3.63	0.001	0.001	--	0.001	0.006	0.001	0.001	0.001	0.006
Byproduct 5	0.001	0.0000092	0.001	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.001	0.001	0.001	0.001	0.001
NVHOS	0.001	0.0000068	0.034	0.001	0.001	0.001	0.001	--	0.001	0.001	--	0.001	0.001	0.001	0.001	0.001	0.001
R-EVE	0.001	0.0000033	0.0028	0.001	0.001	0.001	0.001	--	0.001	0.001	9.63	0.001	0.001	0.003	0.001	0.001	0.003

Notes:
Catfish and LMB Wholebody EPCs were estimated from concentrations measured in fillets and whole-body to fillet ratios. Only detected results were adjusted to wholebody estimates, RLs were left as reported.
The highest fish EPC for any species was used to represent this diet item.
Abbreviations:
dw - dry weight
EPC - exposure point concentration
LMB - largemouth bass
mg/kg - milligram per kilogram
mg/L - milligram per litre
PFAS - per - and polyfluoroalkyl substances
WB:F - wholebody to fillet
ww - wet weight
YOY - young of the year

TABLE 4-21
DIRECT CONTECT EXPOSURES - AQUATIC
Chemours Fayetteville Works, North Carolina

Analyte	Sediment EPC (mg/kg dw)	Benthic Invertebrates TRV (mg/kg dw)	Hazard Quotient for Invertebrates	Surface Water EPC (mg/L)	Aquatic Life TRV [1] (mg/L)	Aquatic Plants TRV (mg/L)	Hazard Quotient for Aquatic Life	Hazard Quotient for Aquatic Plants
Table 3+ Lab SOP								
HFPO-DA	0.0003	0.518	0.001	0.0000081	0.89	106	9E-06	8E-08
PFMOAA	0.001	--	--	0.0000333	--	--		--
PFO2HxA	0.001	--	--	0.0000156	--	--		--
PFO3OA	0.001	--	--	0.0000064	--	--		--
PFO4DA	0.001	--	--	0.0000023	--	--		--
PFO5DA	0.001	--	--	0.000002	--	--		--
PMPA	0.001	--	--	0.000019	--	--		--
PEPA	0.001	--	--	0.00002	--	--		--
Byproduct 4	0.001	--	--	0.0000074	--	--		--
NVHOS	0.001	--	--	0.0000068	--	--		--
R-EVE	0.001	--	--	0.0000033	--	--		--

Notes:

1. As noted in Section 4.4, a more conservative aquatic life TRV of 0.108 mg/L is available and would also result in an HQ < 1.

Abbreviations:

dw - dry weight
EPC - Exposure Point Concentration
mg/kg - milligram per kilogram
mg/L - milligram per liter
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-22a
TOTAL DAILY INTAKE FOR WOOD DUCK - AQUATIC
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Receptor: **Wood Duck** **AUF:** **1**

Analyte	Sediment		Surface Water		Vegetation		Benthic Invertebrate		Fish		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}	EPC_{fish} [1]	TDI_{fish}			
	mg/kg dw	mg/kg-day	mg/L	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP													
HFPO-DA	2.6E-04	1.7E-06	8.1E-06	4.5E-07	2.6E-02	4.7E-03	1.0E-03	NA	2.2E-03	NA	4.7E-03	8.5E+01	5.6E-05
PFMOAA	1.0E-03	6.4E-06	3.3E-05	1.8E-06	3.7E-01	6.7E-02	1.0E-03	NA	1.3E-02	NA	6.7E-02	--	--
PFO2HxA	1.0E-03	6.4E-06	1.6E-05	8.6E-07	3.8E-02	6.9E-03	1.0E-03	NA	1.0E-03	NA	6.9E-03	--	--
PFO3OA	1.0E-03	6.4E-06	6.4E-06	3.5E-07	1.1E-03	2.0E-04	1.0E-03	NA	1.0E-03	NA	2.1E-04	--	--
PFO4DA	1.0E-03	6.4E-06	2.3E-06	1.3E-07	1.7E-03	3.1E-04	1.0E-03	NA	4.1E-02	NA	3.2E-04	--	--
PFO5DA	1.0E-03	6.4E-06	2.0E-06	1.1E-07	1.5E-03	2.7E-04	1.0E-03	NA	3.1E-03	NA	2.8E-04	--	--
PMPA	1.0E-03	6.4E-06	1.9E-05	1.0E-06	6.6E-02	1.2E-02	1.0E-03	NA	1.9E-03	NA	1.2E-02	--	--
PEPA	1.0E-03	6.4E-06	2.0E-05	1.1E-06	1.2E-02	2.2E-03	1.0E-03	NA	1.0E-03	NA	2.2E-03	--	--
Byproduct 4	1.0E-03	6.4E-06	7.4E-06	4.1E-07	3.3E-03	6.0E-04	1.0E-03	NA	6.4E-03	NA	6.1E-04	--	--
Byproduct 5	1.0E-03	6.4E-06	9.2E-06	5.1E-07	1.0E-03	1.8E-04	1.0E-03	NA	1.0E-03	NA	1.9E-04	--	--
NVHOS	1.0E-03	6.4E-06	6.8E-06	3.7E-07	3.4E-02	6.2E-03	1.0E-03	NA	1.0E-03	NA	6.2E-03	--	--
R-EVE	1.0E-03	6.4E-06	3.3E-06	1.8E-07	2.8E-03	5.1E-04	1.0E-03	NA	2.7E-03	NA	5.2E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.20

[2] Media-specific Total Daily Dose (TDI) is calculated using the following general equation and receptor specific parameters in Table 3.9:

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (only for soil portion of diet; assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{fish}	proportion	Proportion of Diet -- Fish
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

TDI = Total Daily Intake (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-22b
TOTAL DAILY INTAKE FOR MALLARD DUCK - AQUATIC
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Receptor: **Mallard Duck** **AUF:** **1**

Analyte	Sediment		Surface Water		Vegetation		Benthic Invertebrate		Fish		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}	EPC_{fish} [1]	TDI_{fish}			
	mg/kg dw	mg/kg-day	mg/L	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP													
HFPO-DA	2.6E-04	2.6E-07	8.1E-06	4.5E-07	2.6E-02	NA	1.0E-03	1.5E-04	2.2E-03	NA	1.5E-04	8.5E+01	1.8E-06
PFMOAA	1.0E-03	9.8E-07	3.3E-05	1.8E-06	3.7E-01	NA	1.0E-03	1.5E-04	1.3E-02	NA	1.6E-04	--	--
PFO2HxA	1.0E-03	9.8E-07	1.6E-05	8.6E-07	3.8E-02	NA	1.0E-03	1.5E-04	1.0E-03	NA	1.6E-04	--	--
PFO3OA	1.0E-03	9.8E-07	6.4E-06	3.5E-07	1.1E-03	NA	1.0E-03	1.5E-04	1.0E-03	NA	1.5E-04	--	--
PFO4DA	1.0E-03	9.8E-07	2.3E-06	1.3E-07	1.7E-03	NA	1.0E-03	1.5E-04	4.1E-02	NA	1.5E-04	--	--
PFO5DA	1.0E-03	9.8E-07	2.0E-06	1.1E-07	1.5E-03	NA	1.0E-03	1.5E-04	3.1E-03	NA	1.5E-04	--	--
PMPA	1.0E-03	9.8E-07	1.9E-05	1.0E-06	6.6E-02	NA	1.0E-03	1.5E-04	1.9E-03	NA	1.6E-04	--	--
PEPA	1.0E-03	9.8E-07	2.0E-05	1.1E-06	1.2E-02	NA	1.0E-03	1.5E-04	1.0E-03	NA	1.6E-04	--	--
Byproduct 4	1.0E-03	9.8E-07	7.4E-06	4.1E-07	3.3E-03	NA	1.0E-03	1.5E-04	6.4E-03	NA	1.6E-04	--	--
NVHOS	1.0E-03	9.8E-07	6.8E-06	3.7E-07	3.4E-02	NA	1.0E-03	1.5E-04	1.0E-03	NA	1.6E-04	--	--
R-EVE	1.0E-03	9.8E-07	3.3E-06	1.8E-07	2.8E-03	NA	1.0E-03	1.5E-04	2.7E-03	NA	1.5E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.20

[2] Media-specific Total Daily Dose (TDI) is calculated using the following general equation and receptor specific parameters in Table 3.9:

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (only for soil portion of diet; assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{fish}	proportion	Proportion of Diet -- Fish
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

TDI = Total Daily Intake (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-22c
TOTAL DAILY INTAKE FOR GREAT BLUE HERON - AQUATIC
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Receptor: **Great Blue Heron** **AUF:** **1**

Analyte	Sediment		Surface Water		Vegetation		Benthic Invertebrate		Fish		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}	EPC_{fish} [1]	TDI_{fish}			
	mg/kg dw	mg/kg-day	mg/L	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP													
HFPO-DA	2.6E-04	NA	8.1E-06	3.6E-07	2.6E-02	NA	1.0E-03	NA	2.2E-03	4.0E-04	4.0E-04	8.5E+01	4.7E-06
PFMOAA	1.0E-03	NA	3.3E-05	1.5E-06	3.7E-01	NA	1.0E-03	NA	1.3E-02	2.3E-03	2.3E-03	--	--
PFO2HxA	1.0E-03	NA	1.6E-05	7.0E-07	3.8E-02	NA	1.0E-03	NA	1.0E-03	1.8E-04	1.8E-04	--	--
PFO3OA	1.0E-03	NA	6.4E-06	2.9E-07	1.1E-03	NA	1.0E-03	NA	1.0E-03	1.8E-04	1.8E-04	--	--
PFO4DA	1.0E-03	NA	2.3E-06	1.0E-07	1.7E-03	NA	1.0E-03	NA	4.1E-02	7.4E-03	7.4E-03	--	--
PFO5DA	1.0E-03	NA	2.0E-06	9.0E-08	1.5E-03	NA	1.0E-03	NA	3.1E-03	5.6E-04	5.6E-04	--	--
PMPA	1.0E-03	NA	1.9E-05	8.6E-07	6.6E-02	NA	1.0E-03	NA	1.9E-03	3.4E-04	3.4E-04	--	--
PEPA	1.0E-03	NA	2.0E-05	9.0E-07	1.2E-02	NA	1.0E-03	NA	1.0E-03	1.8E-04	1.8E-04	--	--
Byproduct 4	1.0E-03	NA	7.4E-06	3.3E-07	3.3E-03	NA	1.0E-03	NA	6.4E-03	1.2E-03	1.2E-03	--	--
Byproduct 5	1.0E-03	NA	9.2E-06	4.1E-07	1.0E-03	NA	1.0E-03	NA	1.0E-03	1.8E-04	1.8E-04	--	--
NVHOS	1.0E-03	NA	6.8E-06	3.1E-07	3.4E-02	NA	1.0E-03	NA	1.0E-03	1.8E-04	1.8E-04	--	--
R-EVE	1.0E-03	NA	3.3E-06	1.5E-07	2.8E-03	NA	1.0E-03	NA	2.7E-03	4.9E-04	4.9E-04	--	--

Notes:

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.20

[2] Media-specific Total Daily Dose (TDI) is calculated using the following general equation and receptor specific parameters in Table 3.9:

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (only for soil portion of diet; assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{fish}	proportion	Proportion of Diet -- Fish
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

TDI = Total Daily Intake (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-22d
TOTAL DAILY INTAKE FOR MUSKRAT - AQUATIC
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Receptor: **Muskrat** **AUF:** **1**

Analyte	Sediment		Surface Water		Vegetation		Benthic Invertebrate		Fish		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}	EPC_{fish} [1]	TDI_{fish}			
	mg/kg dw	mg/kg-day	mg/L	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP													
HFPO-DA	2.6E-04	4.3E-07	8.1E-06	7.9E-06	2.6E-02	8.8E-03	1.0E-03	NA	2.2E-03	NA	8.8E-03	0.5	1.8E-02
PFMOAA	1.0E-03	1.6E-06	3.3E-05	3.2E-05	3.7E-01	1.3E-01	1.0E-03	NA	1.3E-02	NA	1.3E-01	--	--
PFO2HxA	1.0E-03	1.6E-06	1.6E-05	1.5E-05	3.8E-02	1.3E-02	1.0E-03	NA	1.0E-03	NA	1.3E-02	--	--
PFO3OA	1.0E-03	1.6E-06	6.4E-06	6.2E-06	1.1E-03	3.7E-04	1.0E-03	NA	1.0E-03	NA	3.8E-04	--	--
PFO4DA	1.0E-03	1.6E-06	2.3E-06	2.2E-06	1.7E-03	5.8E-04	1.0E-03	NA	4.1E-02	NA	5.8E-04	--	--
PFO5DA	1.0E-03	1.6E-06	2.0E-06	1.9E-06	1.5E-03	5.1E-04	1.0E-03	NA	3.1E-03	NA	5.1E-04	--	--
PMPA	1.0E-03	1.6E-06	1.9E-05	1.8E-05	6.6E-02	2.2E-02	1.0E-03	NA	1.9E-03	NA	2.2E-02	--	--
PEPA	1.0E-03	1.6E-06	2.0E-05	1.9E-05	1.2E-02	4.1E-03	1.0E-03	NA	1.0E-03	NA	4.1E-03	--	--
Byproduct 4	1.0E-03	1.6E-06	7.4E-06	7.2E-06	3.3E-03	1.1E-03	1.0E-03	NA	6.4E-03	NA	1.1E-03	--	--
Byproduct 5	1.0E-03	1.6E-06	9.2E-06	8.9E-06	1.0E-03	3.4E-04	1.0E-03	NA	1.0E-03	NA	3.5E-04	--	--
NVHOS	1.0E-03	1.6E-06	6.8E-06	6.6E-06	3.4E-02	1.2E-02	1.0E-03	NA	1.0E-03	NA	1.2E-02	--	--
R-EVE	1.0E-03	1.6E-06	3.3E-06	3.2E-06	2.8E-03	9.5E-04	1.0E-03	NA	2.7E-03	NA	9.6E-04	--	--

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.20

[2] Media-specific Total Daily Dose (TDI) is calculated using the following general equation and receptor specific parameters in Table 3.9:

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (only for soil portion of diet; assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{fish}	proportion	Proportion of Diet -- Fish
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

TDI = Total Daily Intake (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-22e
TOTAL DAILY INTAKE FOR MINK - AQUATIC
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Receptor: **Mink** **AUF:** **1**

Analyte	Sediment		Surface Water		Vegetation		Benthic Invertebrate		Fish		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}	EPC_{fish} [1]	TDI_{fish}			
	mg/kg dw	mg/kg-day	mg/L	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP													
HFPO-DA	2.6E-04	2.6E-07	8.1E-06	8.9E-07	2.6E-02	NA	1.0E-03	2.2E-04	2.2E-03	NA	2.2E-04	0.5	4.4E-04
PFMOAA	1.0E-03	1.0E-06	3.3E-05	3.7E-06	3.7E-01	NA	1.0E-03	2.2E-04	1.3E-02	NA	2.2E-04	--	--
PFO2HxA	1.0E-03	1.0E-06	1.6E-05	1.7E-06	3.8E-02	NA	1.0E-03	2.2E-04	1.0E-03	NA	2.2E-04	--	--
PFO3OA	1.0E-03	1.0E-06	6.4E-06	7.0E-07	1.1E-03	NA	1.0E-03	2.2E-04	1.0E-03	NA	2.2E-04	--	--
PFO4DA	1.0E-03	1.0E-06	2.3E-06	2.5E-07	1.7E-03	NA	1.0E-03	2.2E-04	4.1E-02	NA	2.2E-04	--	--
PFO5DA	1.0E-03	1.0E-06	2.0E-06	2.2E-07	1.5E-03	NA	1.0E-03	2.2E-04	3.1E-03	NA	2.2E-04	--	--
PMPA	1.0E-03	1.0E-06	1.9E-05	2.1E-06	6.6E-02	NA	1.0E-03	2.2E-04	1.9E-03	NA	2.2E-04	--	--
PEPA	1.0E-03	1.0E-06	2.0E-05	2.2E-06	1.2E-02	NA	1.0E-03	2.2E-04	1.0E-03	NA	2.2E-04	--	--
Byproduct 4	1.0E-03	1.0E-06	7.4E-06	8.1E-07	3.3E-03	NA	1.0E-03	2.2E-04	6.4E-03	NA	2.2E-04	--	--
Byproduct 5	1.0E-03	1.0E-06	9.2E-06	1.0E-06	1.0E-03	NA	1.0E-03	2.2E-04	1.0E-03	NA	2.2E-04	--	--
NVHOS	1.0E-03	1.0E-06	6.8E-06	7.5E-07	3.4E-02	NA	1.0E-03	2.2E-04	1.0E-03	NA	2.2E-04	--	--
R-EVE	1.0E-03	1.0E-06	3.3E-06	3.6E-07	2.8E-03	NA	1.0E-03	2.2E-04	2.7E-03	NA	2.2E-04	--	--

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.20

[2] Media-specific Total Daily Dose (TDI) is calculated using the following general equation and receptor specific parameters in Table 3.9:

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (only for soil portion of diet; assumed to be 1 for all chemicals)
P_{veg}	proportion	Proportion of Diet -- Vegetation
P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{fish}	proportion	Proportion of Diet -- Fish
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

TDI = Total Daily Intake (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-22f
TOTAL DAILY INTAKE FOR RIVER OTTER - AQUATIC
Chemours Fayetteville Works, North Carolina

Receptor: **River Otter** **AUF:** **0.21**

Analyte	Sediment		Surface Water		Vegetation		Benthic Invertebrate		Fish		TDI_{total} [2]	TRV	HQ [3]
	EPC_s [1]	TDI_s	EPC_s [1]	TDI_{sw}	EPC_{veg} [1]	TDI_{veg}	EPC_{inv} [1]	TDI_{inv}	EPC_{fish} [1]	TDI_{fish}			
	mg/kg dw	mg/kg-day	mg/L	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg dw	mg/kg-day	mg/kg-day	mg/kg-day	unitless
Table 3+ Lab SOP													
HFPO-DA	2.6E-04	4.1E-08	8.1E-06	1.4E-07	2.6E-02	NA	1.0E-03	NA	2.2E-03	6.1E-05	6.1E-05	0.5	1.2E-04
PFMOAA	1.0E-03	1.6E-07	3.3E-05	5.7E-07	3.7E-01	NA	1.0E-03	NA	1.3E-02	3.6E-04	3.6E-04	--	--
PFO2HxA	1.0E-03	1.6E-07	1.6E-05	2.7E-07	3.8E-02	NA	1.0E-03	NA	1.0E-03	2.8E-05	2.8E-05	--	--
PFO3OA	1.0E-03	1.6E-07	6.4E-06	1.1E-07	1.1E-03	NA	1.0E-03	NA	1.0E-03	2.8E-05	2.8E-05	--	--
PFO4DA	1.0E-03	1.6E-07	2.3E-06	3.9E-08	1.7E-03	NA	1.0E-03	NA	4.1E-02	1.1E-03	1.1E-03	--	--
PFO5DA	1.0E-03	1.6E-07	2.0E-06	3.4E-08	1.5E-03	NA	1.0E-03	NA	3.1E-03	8.5E-05	8.6E-05	--	--
PMPA	1.0E-03	1.6E-07	1.9E-05	3.3E-07	6.6E-02	NA	1.0E-03	NA	1.9E-03	5.2E-05	5.3E-05	--	--
PEPA	1.0E-03	1.6E-07	2.0E-05	3.4E-07	1.2E-02	NA	1.0E-03	NA	1.0E-03	2.8E-05	2.8E-05	--	--
Byproduct 4	1.0E-03	1.6E-07	7.4E-06	1.3E-07	3.3E-03	NA	1.0E-03	NA	6.4E-03	1.8E-04	1.8E-04	--	--
Byproduct 5	1.0E-03	1.6E-07	9.2E-06	1.6E-07	1.0E-03	NA	1.0E-03	NA	1.0E-03	2.8E-05	2.8E-05	--	--
NVHOS	1.0E-03	1.6E-07	6.8E-06	1.2E-07	3.4E-02	NA	1.0E-03	NA	1.0E-03	2.8E-05	2.8E-05	--	--
R-EVE	1.0E-03	1.6E-07	3.3E-06	5.7E-08	2.8E-03	NA	1.0E-03	NA	2.7E-03	7.4E-05	7.5E-05	--	--

[1] Soil and diet item exposure point concentration (EPC) are presented in Table 4.20

[2] Media-specific Total Daily Dose (TDI) is calculated using the following general equation and receptor specific parameters in Table 3.9:

$TDI_{i,copc} = (EPC_{copc} \times RB \times FIR \times P_i) + (DWI \times EPC) \times AUF \times (1/BW)$, *where:*

Variable Name	*Units*	*Variable Description*
TDI_i	mg/kg-day	Total Daily Intake for Dietary Item "*i*" for COPC
EPC_{copc}	mg/kg dw or mg/L	Exposure Point Concentration for each media
RB	unitless	Relative Bioavailability (only for soil portion of diet; assumed to be 1 for all chemicals)
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P_{inv}	proportion	Proportion of Diet -- Invertebrates
P_{fish}	proportion	Proportion of Diet -- Fish
P_{so}	proportion	Proportion of Diet -- Soil
FIR	kg/day	Daily Food Ingestion
DWI	L/day	Daily Drinking Water Ingestion Rate
AUF	proportion	Area Use Factor
BW	kg	Body Weight

[3] HQ = TDI/TRV; HQ greater than 1 are shown in **Bold**

HQ = Hazard Quotient (unitless)

TDI = Total Daily Intake (mg/kg-day)

Abbreviations:

dw - dry weight
kg - kilogram
kg/day - kilogram per day
L/day - litre per day
mg/kg - milligram per kilogram
mg/L - milligram per litre
SOP - Standard Operating Procedure
TRV - Toxicity Reference Value

TABLE 4-23
SUMMARY OF HAZARD QUOTIENTS FOR HFPO-DA
Chemours Fayetteville Works, North Carolina

Exposure Unit	Receptor	HQ
Onsite Terrestrial EU	Terrestrial Invertebrates	2E-01
	Terrestrial Plants	2E-01
	Bobwhite Quail	4E-05
	Woodcock	2E-04
	Eastern Cottontail Rabbit	1E-02
	Southern Short-tailed Shrew	2E-02
Offsite Terrestrial EU	Terrestrial Invertebrates	4E-02
	Terrestrial Plants	4E-02
	Bobwhite Quail	3E-05
	Woodcock	4E-05
	Eastern Cottontail Rabbit	1E-02
	Southern Short-tailed Shrew	4E-03
Aquatic EU	Benthic Invertebrates	5E-04
	Aquatic Life	9E-06
	Aquatic Plant	8E-08
	Wood Duck	6E-05
	Mallard Duck	2E-06
	Great Blue Heron	5E-06
	Muskrat	2E-02
	Mink	4E-04
	River Otter	1E-04

Abbreviations:
EU - Exposure Unit
HQ - Hazard Quotient

TABLE 4-24
SUMMARY OF WET TESTING RESULTS
Chemours Fayetteville Works, North Carolina

Test	Date	% Mortality	Average Reproduction	Pass/Fail	Organism Tested	24hr composite sample	LC50?
Chronic	2/18/2016	0	25.67	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	5/19/2016	0	24.92	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	8/17/2016	0	22.33	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	12/22/2016	0	19.5	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	2/23/2017	0	24.42	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	5/18/2017	0	23.08	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	8/23/2017	0	23.67	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	11/22/2017	0	21.58	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	2/22/2018	8.33	21.5	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	5/24/2018	8.33	22.33	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	8/29/2018	0	25	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	11/20/2018	0	22.58	Pass	*Ceriodaphnia dubia*	yes	NT
Chronic	2/21/2019	0	25.67	Pass	*Ceriodaphnia dubia*	yes	NT

Notes:
All values obtained from effluent toxicity reports (Feb 2016-Nov 2018).
Organisms were exposed to 3.3% effluent.
Values from treatments, not controls, are reported in this table.
Abbreviations:
LC50 - Lethal concentration to 50% of population.
NT - Not tested; LC50 was not calculated in these tests due to lack of concern from chronic exposures.
hr - Hour.
% - Percent.
WET - Whole Effluent Toxicity

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FIGURES

Willis Creek
Pond 1
NC Highway 87
Cape Fear River
Site River Water Intake
Seep A
Seep B
Outfall 002
Seep C
Seep D
W.O. Huske Dam
Old Outfall 002
Georgia Branch Creek
N

Legend

- Facility Features
- Site Boundary
- Nearby Tributary
- Observed Seep (Natural Drainage)
- Site Drainage Network

Areas at Site

- Chemours Monomers IXM
- Chemours Polymer Processing Aid Area
- DuPont Polyvinyl Fluoride Leased Area
- Former DuPont PMDF Area
- Kuraray SentryGlas® Leased Area
- Kuraray Trosifol® Leased Area
- Wastewater Treatment Plant
- Power - Filtered and Demineralized Water Production
- Kuraray Laboratory

Notes:
1. The outline of the Cape Fear River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
2. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

2,000 1,000 0 2,000 Feet

Site Location Map

Chemours Fayetteville Works, North Carolina

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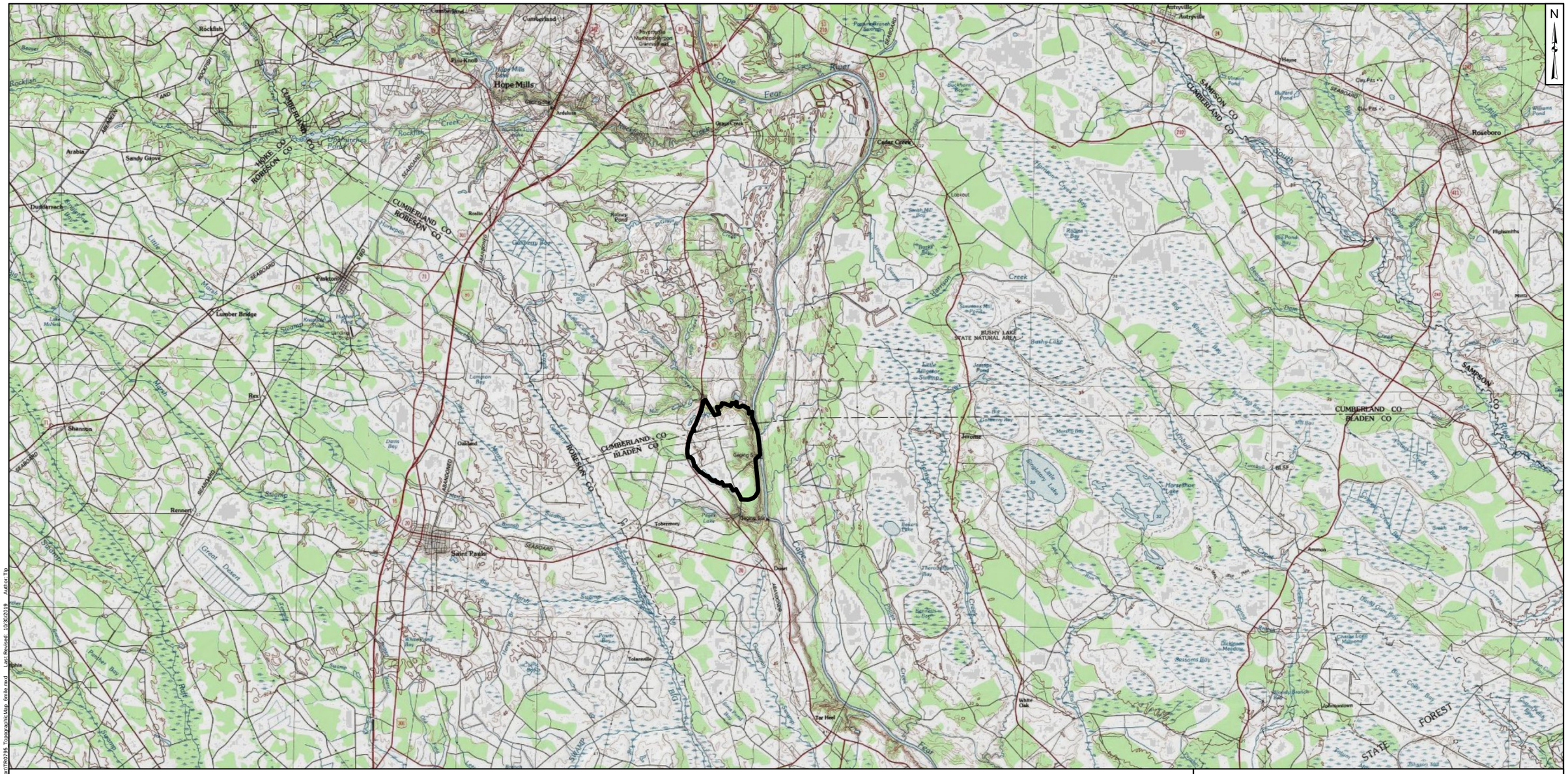
Figure **2-1**

Path: P:\PA\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_ECO_Site_Location_Figure.mxd Last Revised: 11/28/2019



Legend

Site Boundary

Notes:
1. For topographic map symbols, please refer to this document: https://pubs.usgs.gov/gip/TopographicMapSymbols/topomapsymbols.pdf
2. Basemap source: © 2013 National Geographic Society, i-cubed

2 1 0 2 Miles

Regional Topographic Map

Chemours Fayetteville Works, North Carolina

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Figure **2-2**

Path: P:\PRJ\Projects\TR0795\Database and GIS\GIS\Onsite and Offsite Assessment Report\TR0795_TopographicMap_6mile.mxd Last Revised: 10/30/2019 Author: TTp

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

N

Legend

Offsite Terrestrial EU Boundary

Onsite Terrestrial EU Boundary

Aquatic EU Area

2 1 0 2 Miles

Notes:
EU = Exposure Unit
SLEA = Screening Level Exposure Assessment
1. The outline of the River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
2. Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Ecological SLEA Exposure Units

Chemours Fayetteville Works, North Carolina

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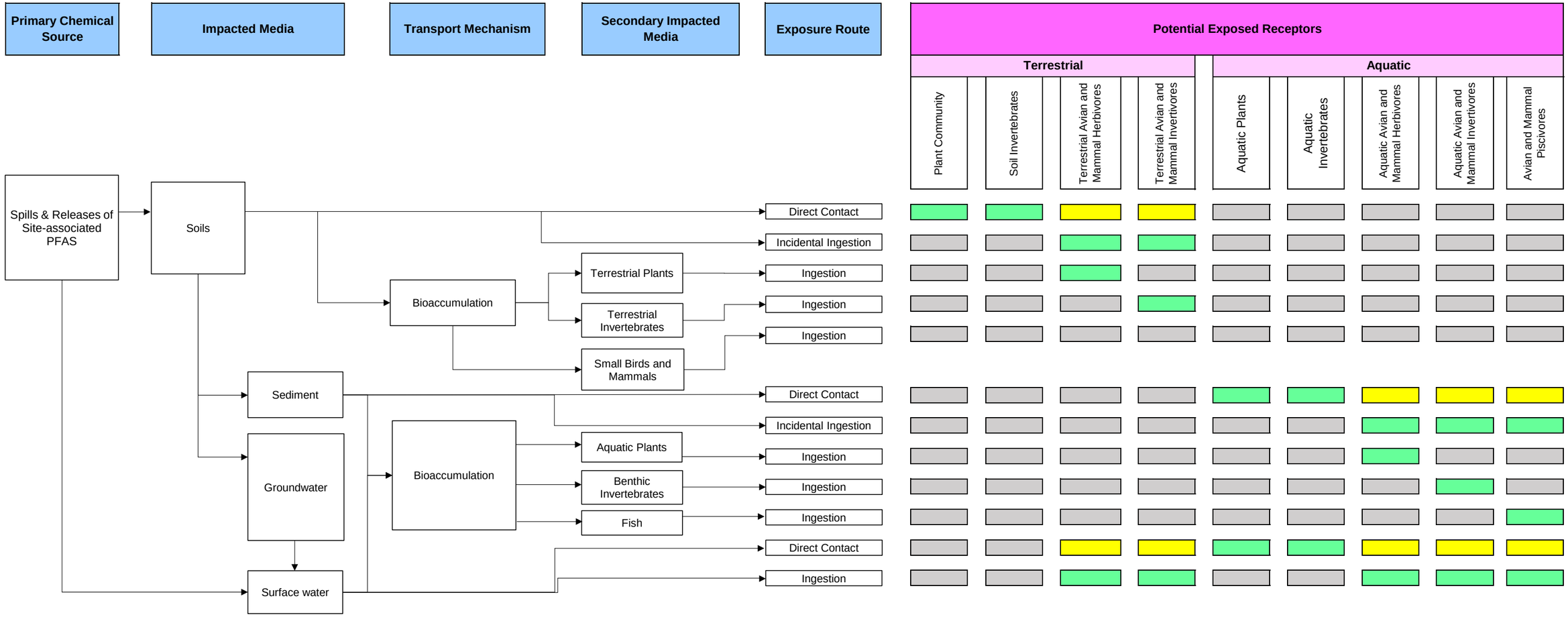
Figure 2-3

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_ECO_Ecological_SLEA_Exposure_Units_Figure.mxd Last Revised: 11/28/2019

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Notes:

Complete exposure pathway proposed for quantitative evaluation of intake.

Potentially complete, but insignificant pathway.

Incomplete exposure pathway; no evaluation or management action is necessary.

Ecological Conceptual Site Model

Chemours Fayetteville Works, North Carolina

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Figure 2-4

N

W

E

S

EU1

EU2

EU3

EU4

EU5

EU6

EU7

EU8

EU9

EU10

EU11

EU12

Legend

EU Surface ISM Soil Location and Increment Counts

EU1 (31)	EU5 (30)	EU9 (31)	Site Boundary		
EU2 (31)	EU6 (31)	EU10 (31)			
EU3 (31)	EU7 (30)	EU11 (31)			
EU4 (31)	EU8 (30)	EU12 (31)			

Notes:

EU = Exposure Unit

ISM = Incremental Sampling Methodology

1. Each point represents a single ISM subsample which was composited into a single sample for each EU.
2. Black lines represent cardinal directions (N, E, S, W).
3. Basemap Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

2 1 0 2 Miles

Offsite Soil Sampling Locations

Chemours Fayetteville Works, North Carolina

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Figure **3-1**

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_EU_Soil_Sample_Locations_Figure.mxd Last Revised: 11/28/2019

N

W

E

S

EU1

EU2

EU3

EU4

EU5

EU6

EU7

EU8

EU9

EU10

EU11

EU12

Legend

EU Vegetation Sample Location and Increment Counts

EU1 (31)	EU5 (30)	EU9 (31)
EU2 (31)	EU6 (31)	EU10 (31)
EU3 (31)	EU7 (30)	EU11 (31)
EU4 (31)	EU8 (30)	EU12 (31)

Site Boundary

Notes:

EU = Exposure Unit

SM = Incremental Sampling Methodology

1. Each point represents a single ISM subsample which was composited into a single sample for each EU.
2. Black lines represent cardinal directions (N, E, S, W).
3. Basemap Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.

2 1 0 2 Miles

Offsite Vegetation Sampling Locations

Chemours Fayetteville Works, North Carolina

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Figure **3-2**

Path: P:\PR_P\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_EU_Vegetation_Sample_Locations_Figure.mxd Last Revised: 11/28/2019

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

N

N

W

E

S

EU1

EU2

EU3

EU4

EU5

EU6

EU7

EU8

EU9

EU10

EU11

EU12

Legend

EU Terrestrial Invertebrate Sample Location and Increment Counts

EU1 (5)	EU5 (5)	EU9 (6)	Site Boundary
EU2 (7)	EU6 (5)	EU10 (6)	
EU3 (0)	EU7 (2)	EU11 (1)	
EU4 (6)	EU8 (4)	EU12 (5)	

Notes:

EU = Exposure Unit

ISM = Incremental Sampling Methodology

1. Each point represents a single ISM subsample which was composited into a single sample for each EU.
2. Black lines represent cardinal directions (N, E, S, W).
3. Basemap Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

2 1 0 2 Miles

Offsite Terrestrial Invertebrate Sampling Locations

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
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Figure 3-3

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_EU_Terrestrial_Invertebrate_Sample_Locations_Figure.mxd Last Revised: 11/28/2019

N

Area 1

Largemouth bass

Largemouth bass

Largemouth bass

Largemouth bass

200 100 0 200 Feet

Area 2

200 100 0 200 Feet

Cape Fear River

Legend

- Fillet
- Fillet and Carcass
- Surface Water
- Whole Body
- Site Boundary
- Observed Seep
- Nearby Tributary

2,000 1,000 0 2,000 Feet

Notes:
1. The outline of the River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
2. Aerial Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Onsite and Offsite Pond Sampling Locations

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
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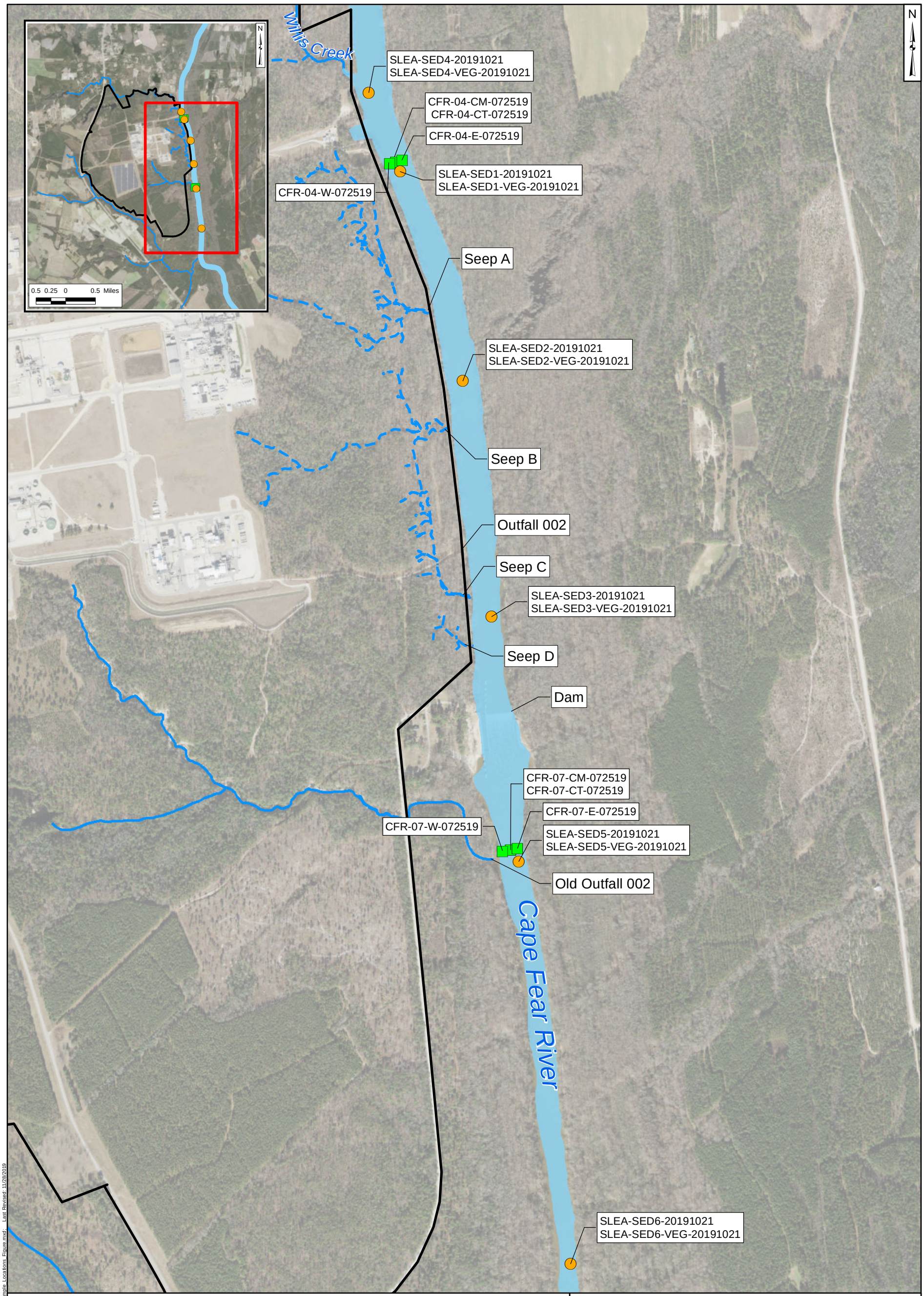
Figure 3-4

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_ECO_Fish_SW_Sample_Locations_Ponds_Figure.mxd; Last Revised: 11/28/2019

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Legend

- Sediment and Aquatic Vegetation Sample Locations
- Surface Water Sample Locations
- Site Boundary
- Observed Seep
- Nearby Tributary

Notes:
CFR = Cape Fear River
SED = Sediment
SLEA = Screening Level Exposure Assessment
VEG = Vegetation
1. Sediment samples were collected as a three point composite around the sampling location.
2. Aquatic vegetation samples were collected from surface water and near shore areas around each sampling location.
3. The outline of the River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
4. Aerial Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_ECO_Sediment_Sample_Locations_Figure.mxd Last Revised: 11/28/2019

Cape Fear River Surface Water, Sediment and Aquatic Vegetation Sampling Locations

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

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Figure 3-5

Willis Creek
Intake Area
Area 1
Area 2
Seep A
Cape Fear River
Area 3
Seep B
Area 4
Outfall 002
Seep C
Area 5
Seep D
1 0.5 0 1 Miles
30 15 0 30 Feet

Legend

- Soil and Worm Co-located Sample for BSAF Calculation
- Soil Subsample for Spatial Composite
- Site Boundary
- Observed Seep
- Nearby Tributary

500 250 0 500 Feet

Notes:
BSAF = Biota-Soil Accumulation Factor
1. The outline of the River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
2. Aerial Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Onsite Soil and BSAF Sample locations

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

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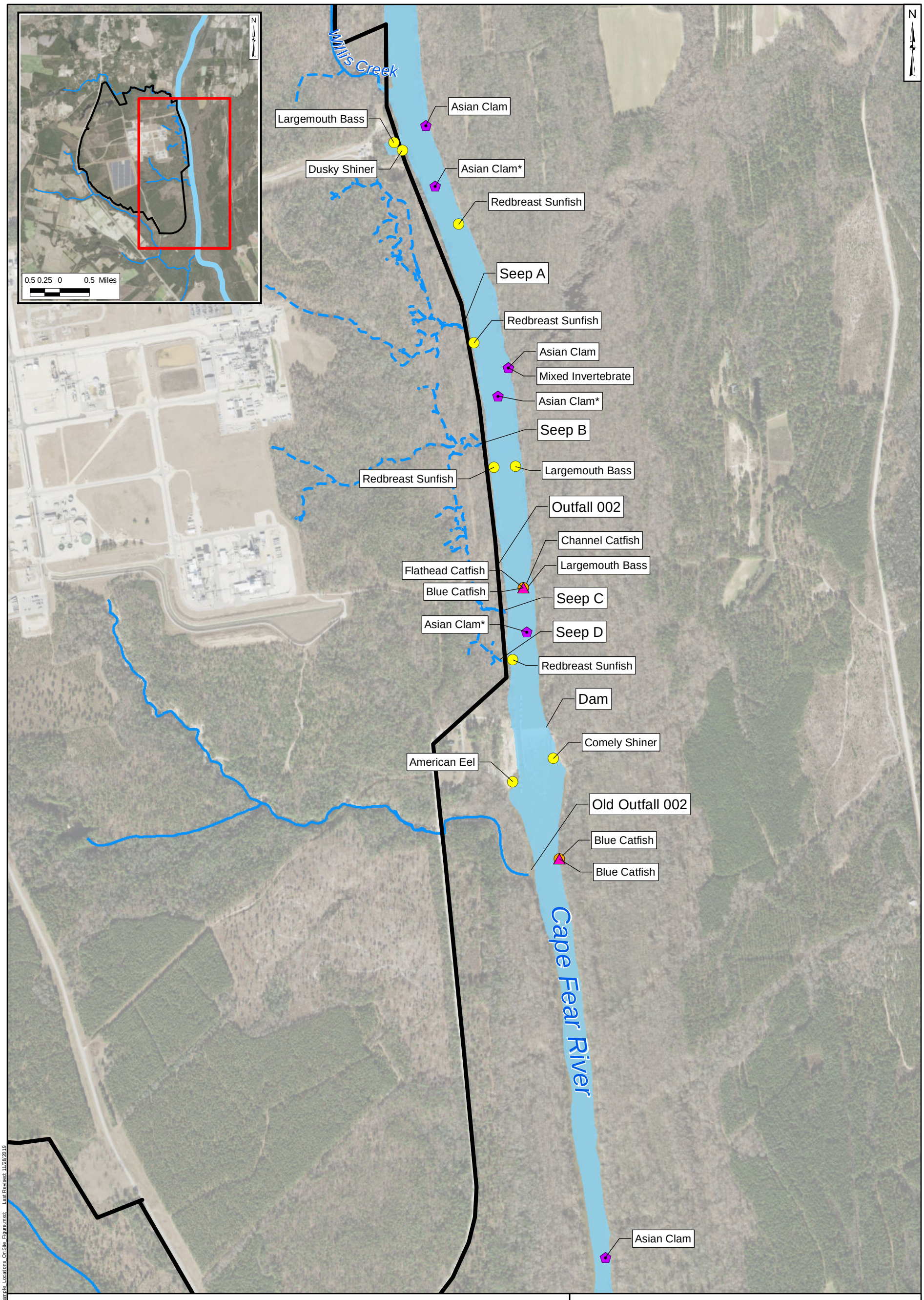
Figure 3-6

Path: P:\PR_\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_ECO_OnSite_OnSite_Terrestrial_Soil_and_BSAF_Sample_Locations_Figure.mxd; Last Revised: 11/28/2019

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Notes:
* = Asian clam samples denoted with an asterisk were combined into a single composite sample to meet tissue mass requirements
1. In addition to the samples shown on this figure, one upstream (MM-68) and one downstream (CFR-09) samples were used to estimate fillet to whole body ratios.
2. The outline of the River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
3. Aerial Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

Cape Fear River Fish and Invertebrate Sampling Locations

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
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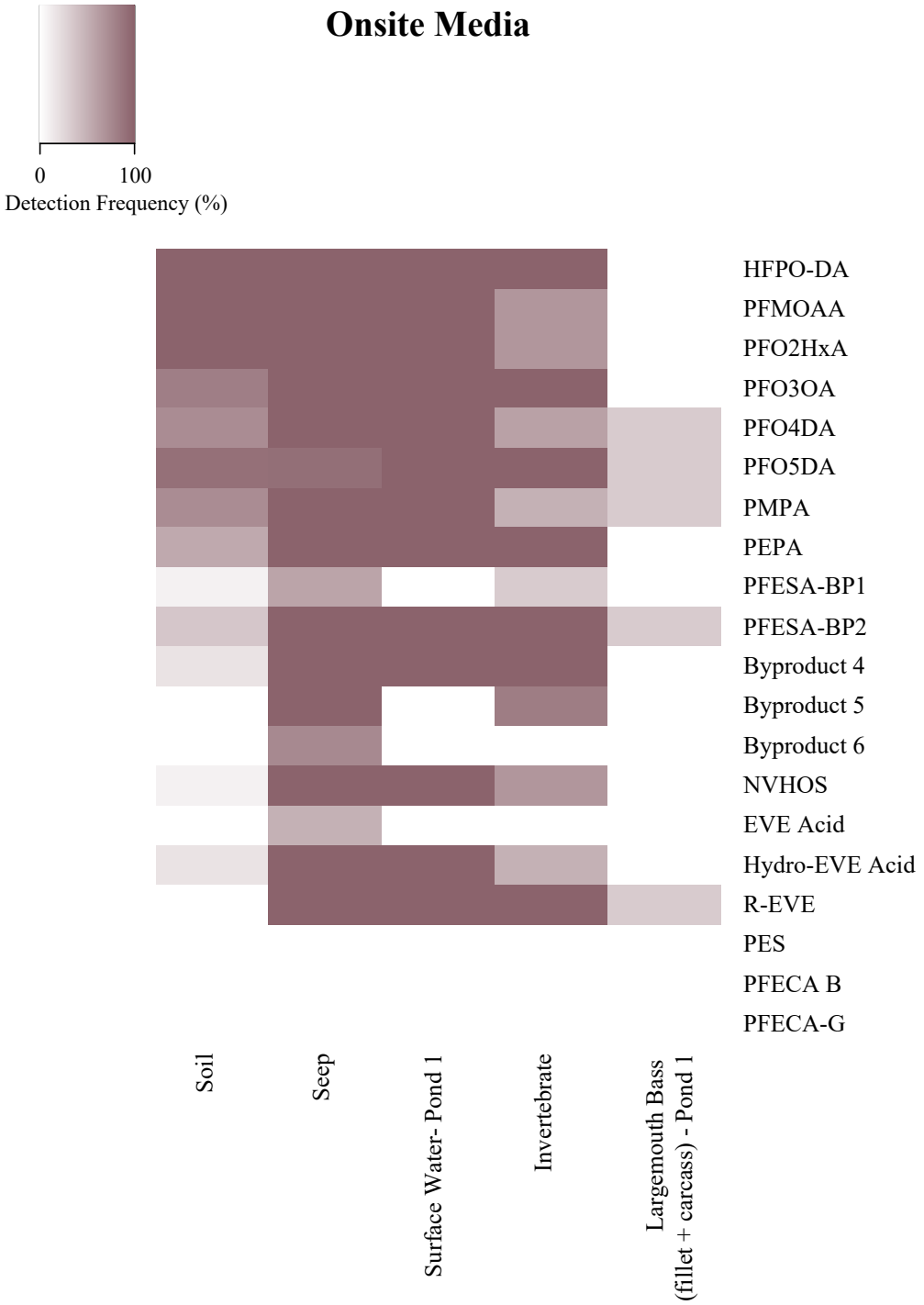
Figure 3-7

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_ECO_Fish_SW_Sample_Locations_OnSite_Figure.mxd; Last Revised: 11/28/2019

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Detection Frequency by Media - Onsite Terrestrial Exposure Unit

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

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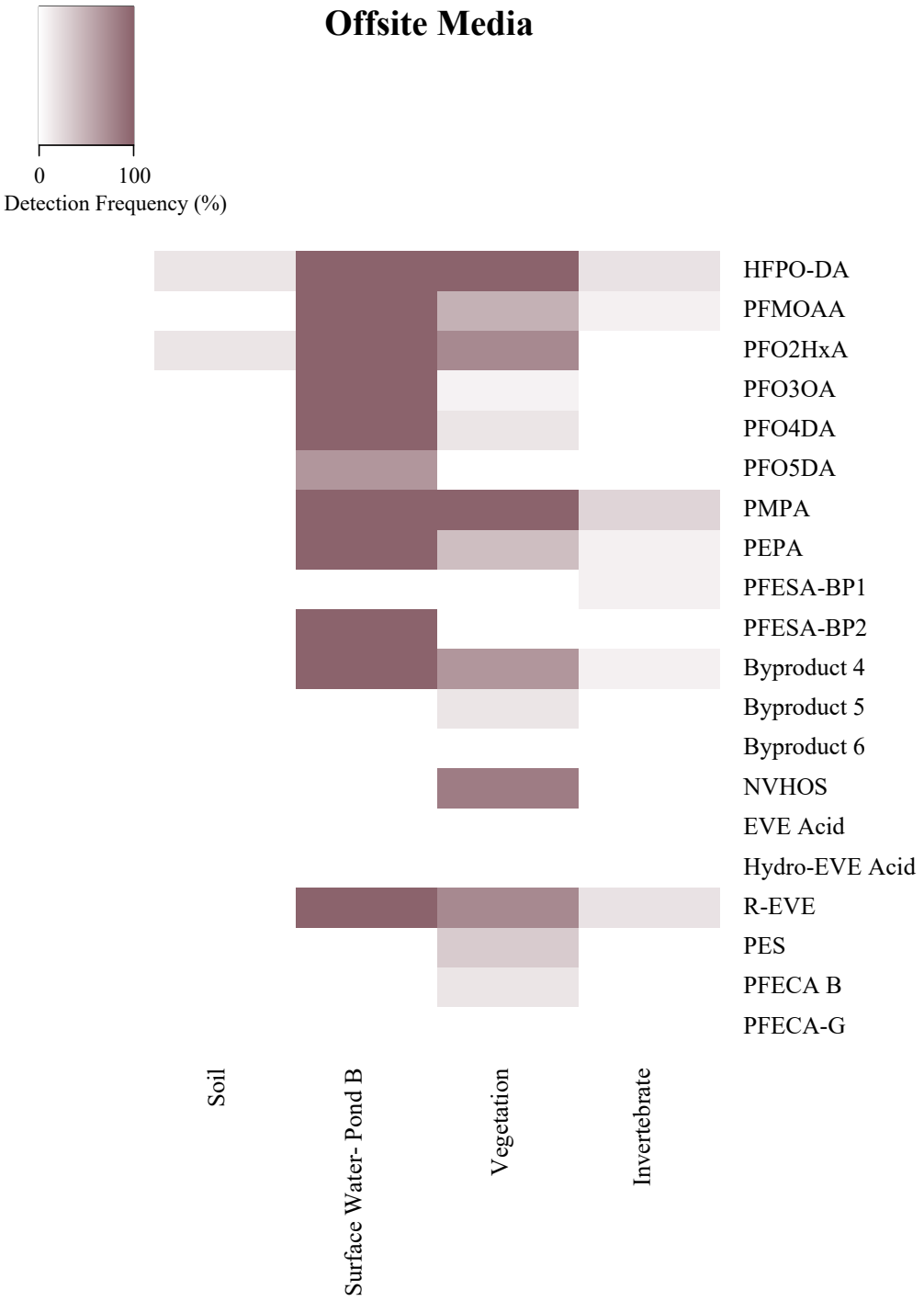
Figure 4-1

"P:\PRJ\Projects\TR0795\Database and GIS\Illustrator\SLEA\Detection Frequency ECO SLEA\Figure 4-1 Detection Frequency Onsite Terr EU.ai"



Detection Frequency by Media - Offsite Terrestrial Exposure Unit

Chemours Fayetteville Works, North Carolina

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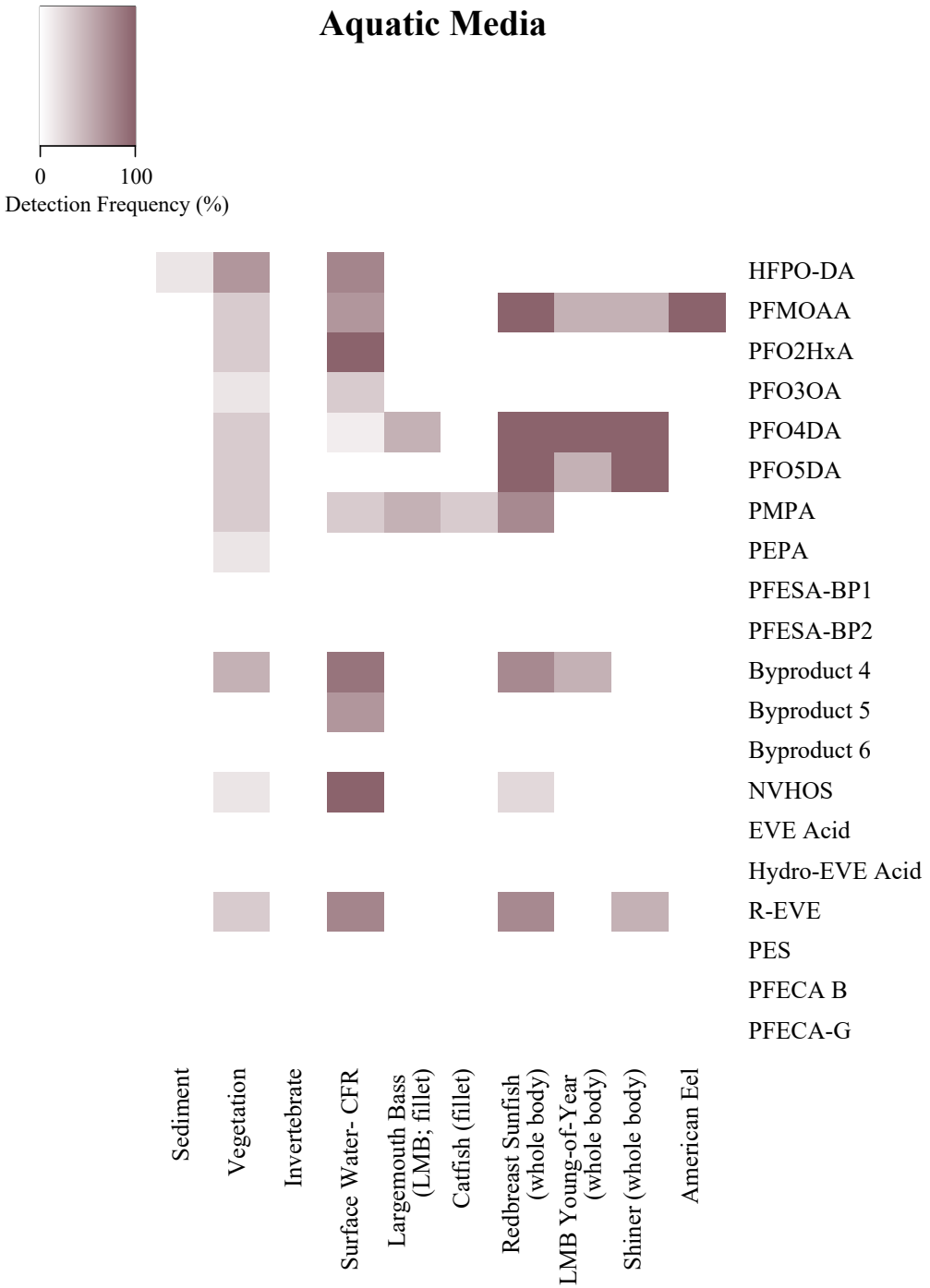
Figure **4-2**

"P:\PRJ\Projects\TR0795\Database and GIS\Illustrator\SLEA\Detection Frequency ECO SLEA\Figure 4-1 Detection Frequency Onsite Terr EU.ai"



Detection Frequency by Media - Aquatic Exposure Unit

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
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Figure 4-3

"P:\PRJ\Projects\TR0795\Database and GIS\Illustrator\SLEA\Detection Frequency ECO SLEA\Figure4-3 Detection Frequency Aquatic EU.ai"

N

EU-12 (ng/kg)	
INV	ND
SOIL	ND
VEG	80,000

EU12

EU-9 (ng/kg)	
INV	1,200
SOIL	ND
VEG	11,000

EU9

EU-8 (ng/kg)	
INV	7,600
SOIL	ND
VEG	11,000

EU8

EU5

EU-5 (ng/kg)	
INV	25,000
SOIL	1,400
VEG	36,000

EU-4 (ng/kg)	
INV	ND
SOIL	ND
VEG	27,000

EU4

EU1

EU-1 (ng/kg)	
INV	5,100
SOIL	4,900
VEG	57,000

W

E

EU3

EU2

EU-7 (ng/kg)	
INV	ND
SOIL	ND
VEG	9,100

EU7

EU6

EU-6 (ng/kg)	
INV	ND
SOIL	ND
VEG	36,000

EU-3 (ng/kg)	
INV	NA
SOIL	360
VEG	16,000

EU-2 (ng/kg)	
INV	3,500
SOIL	ND
VEG	140,000

EU-11 (ng/kg)	
INV	ND
SOIL	ND
VEG	820,000

EU11

EU10

EU-10 (ng/kg)	
INV	1,300
SOIL	ND
VEG	5,300

S

Legend

Site Boundary

Exposure Unit → EU-1 (ng/kg)

Composite Sample Media → INV 5,100 ← Results

SOIL 4,900

VEG 57,000

2 1 0 2 Miles

Notes:

ng/kg = nanograms per kilogram

EU = Exposure Unit

INV = Invertebrate

ISM = Incremental Sampling Methodology

NA = Not applicable

ND = Non-detect

VEG = Vegetation

1. Each point represents a single ISM subsample which was composited into a single sample for each EU.
2. All results in nanograms per kilogram (ng/kg).
3. Total Table 3+ PFAS result does not include non-detect values.
4. Black lines represent cardinal directions (N, E, S, W).
5. Basemap Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.

Total Table 3+ PFAS Concentrations in Offsite Media

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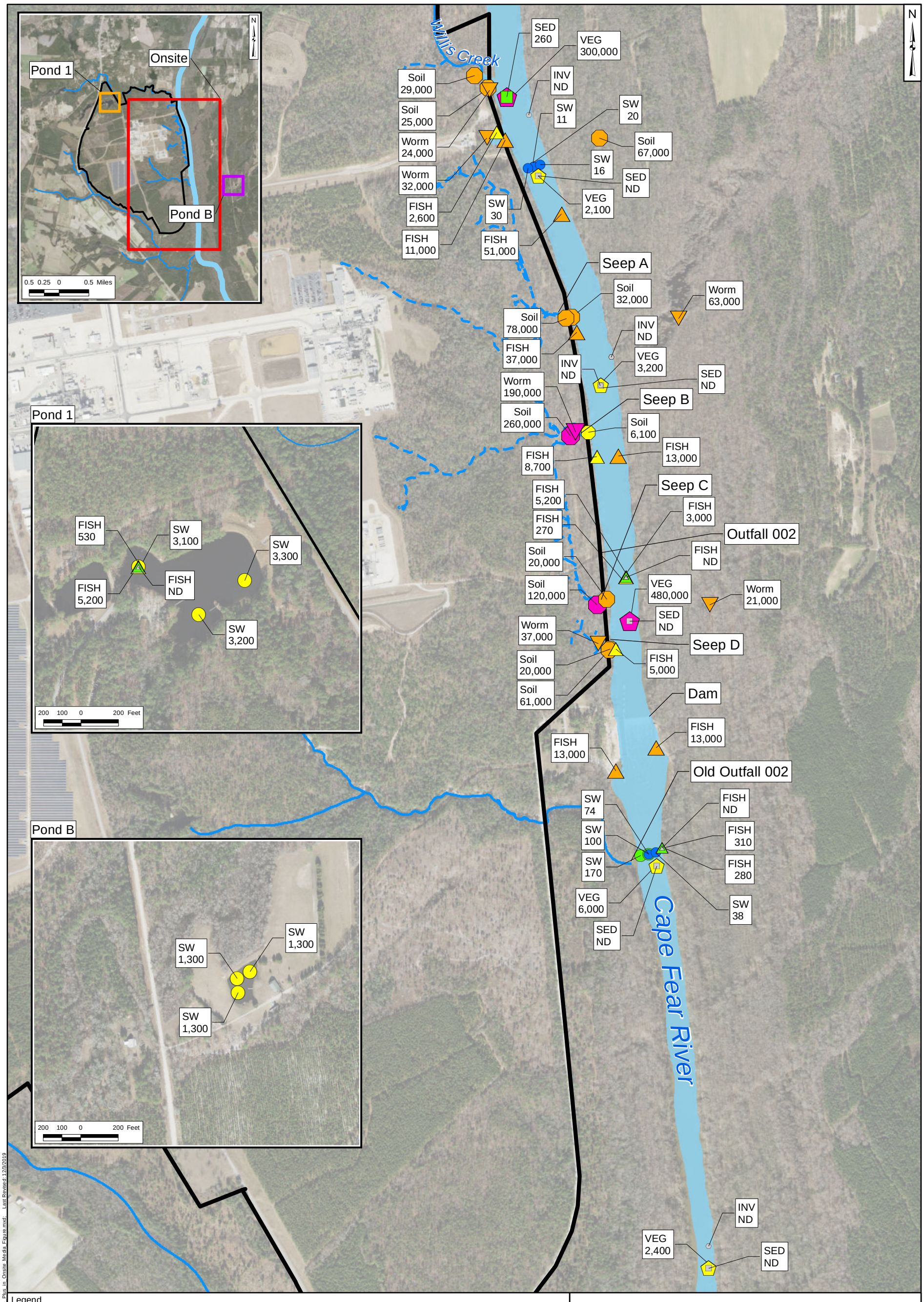
Figure 4-4

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_EU_Total_Table3_Plus_in_Offsite_Media_Figure.mxd Last Revised: 11/28/2019

Data/PRJ/Projects\TR0795\Database and GIS\Illustrator\SLEA\Figure4-4_ECO_Total_Table3_Plus_PFAS_Conc_in_Offsite_Media.ai

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Legend

Well Media

- Fish (ng/kg, ww)
- Terrestrial Invertebrate (ng/kg, ww)
- Sediment (ng/kg, dw)
- Surface Water (ng\L)
- Soil (ng/kg, dw)
- Vegetation (ng/kg, ww)
- Worm (ng/kg, ww)

Concentration (ng/kg) and (ng/L)

- ND
- < 10
- 10 - 100
- 100 - 1,000
- 1,000 - 10,000
- 10,000 - 100,000
- 100,000 - 1,000,000
- > 1,000,000

- Site Boundary
- Observed Seep
- Nearby Tributary

Notes:
ng/kg = nanograms per kilogram
ng/L = nanograms per liter
INV = Invertebrate
ND = Non-detect
SED = Sediment
SW = Surface Water
VEG = Vegetation
dw= dry weight
ww = wet weight

1. All results in nanograms per kilogram (ng/kg) or nanograms per liter (ng/L).
2. Total Table 3+ PFAS result does not include non-detect values.
3. The outline of the River shown on this figure is approximate (River outline based on compilation of open data sources from ArcGIS online service and North Carolina Department of Environmental Quality Online GIS - Major Hydro shapefile).
4. Aerial Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

1,000 500 0 1,000 Feet

Total Table 3+ PFAS Concentrations in Onsite and Aquatic Media

Chemours Fayetteville Works, North Carolina

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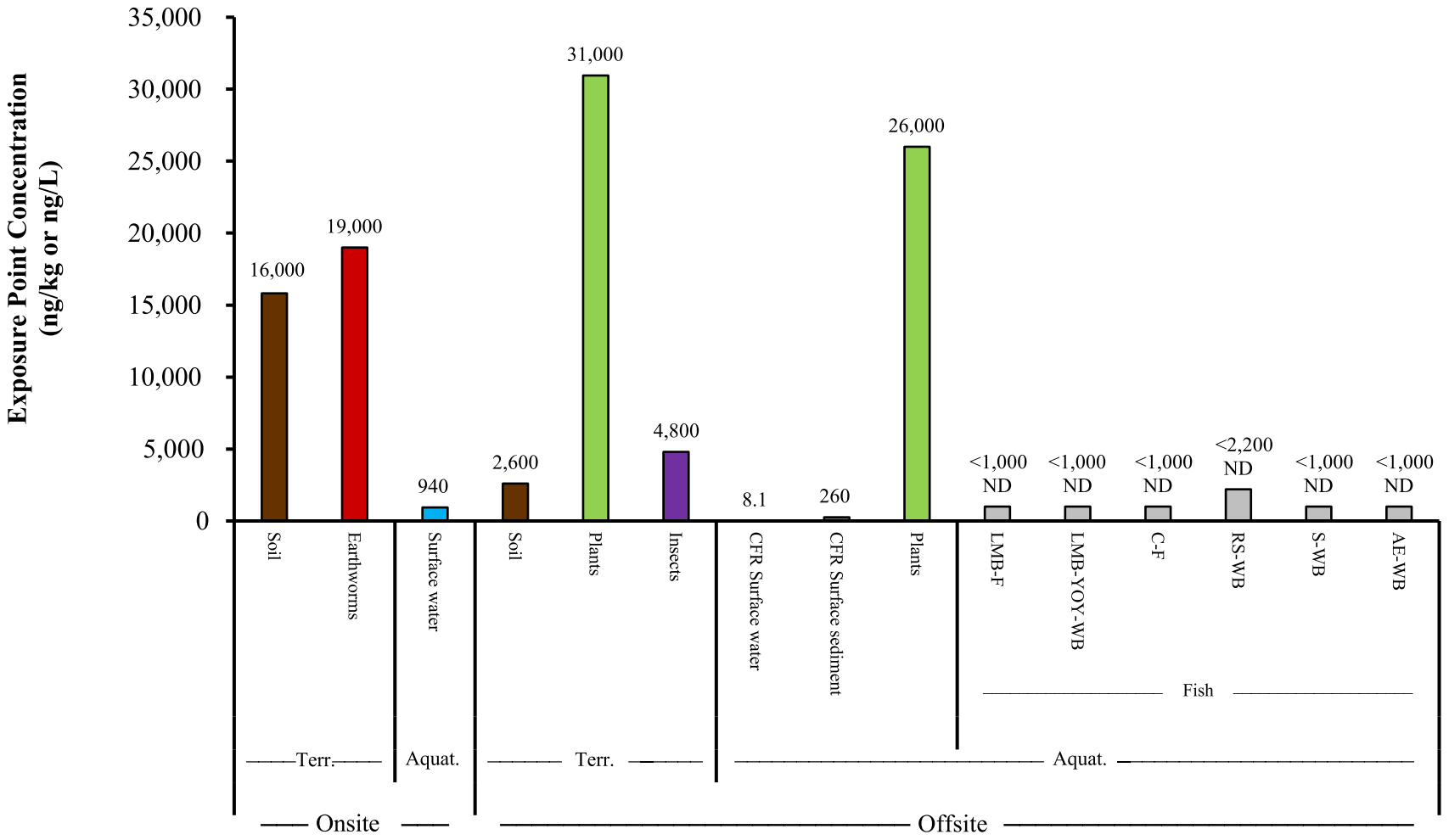
Figure 4-5

Path: P:\PR\Projects\TR0795\Database and GIS\GIS\SLEA\TR0795_EU_Total_Table3_Plus_in_Onsite_Media_Figure.mxd; Last Revised: 12/3/2019

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - HFPO-DA

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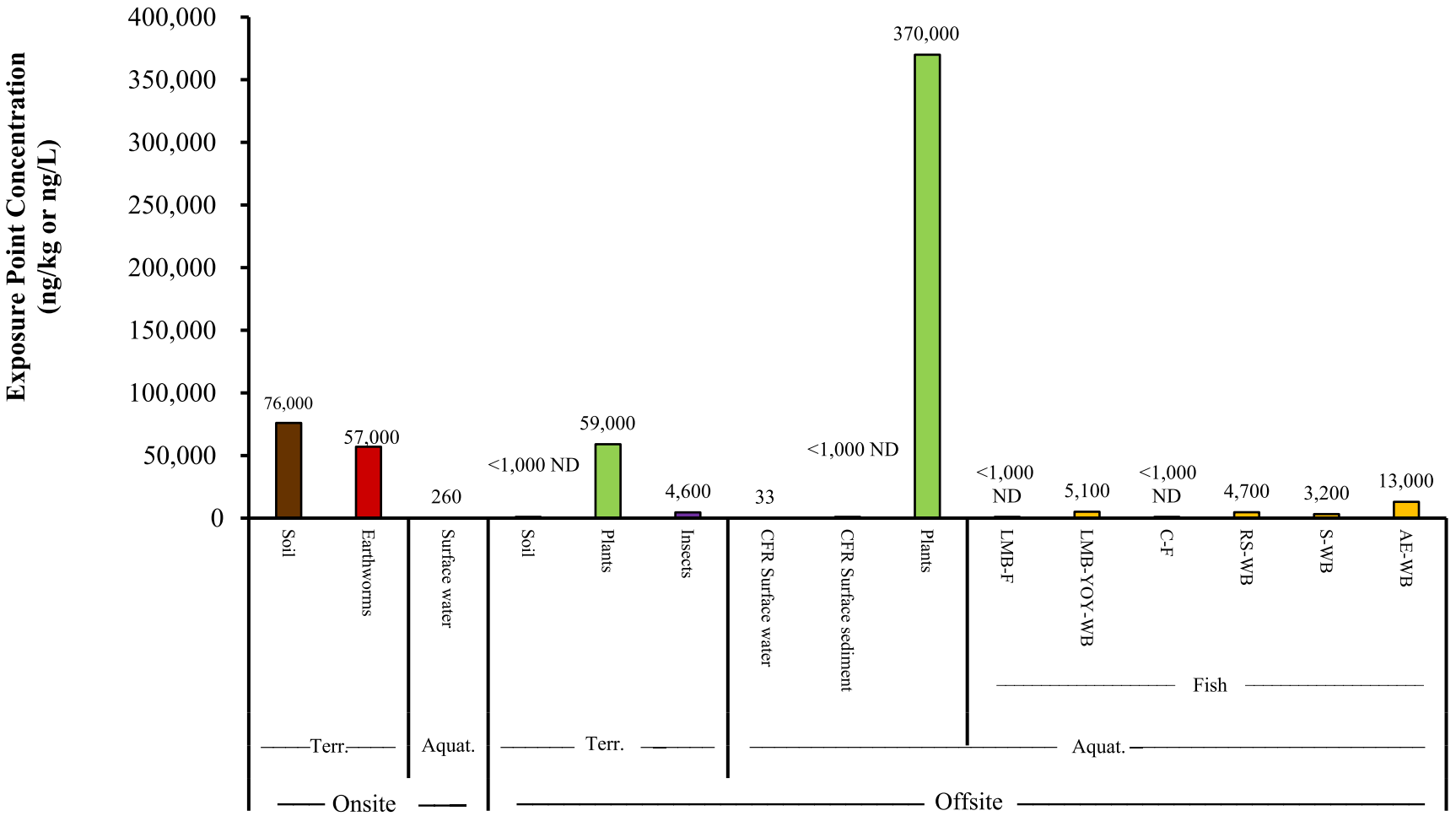
Figure **4-6a**

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PFMOAA

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

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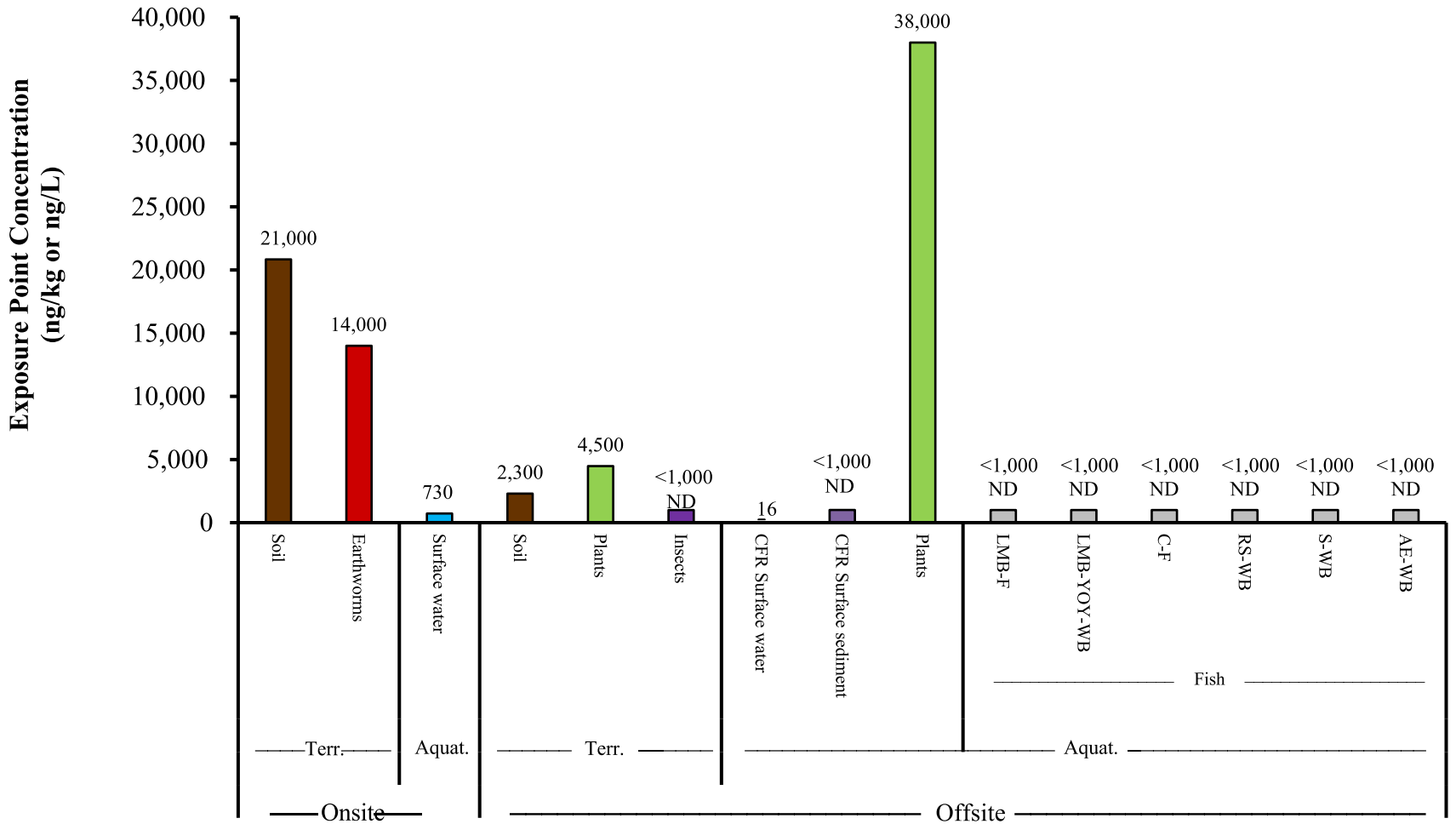
Figure **4-6b**

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PFO2HxA

Chemours Fayetteville Works, North Carolina

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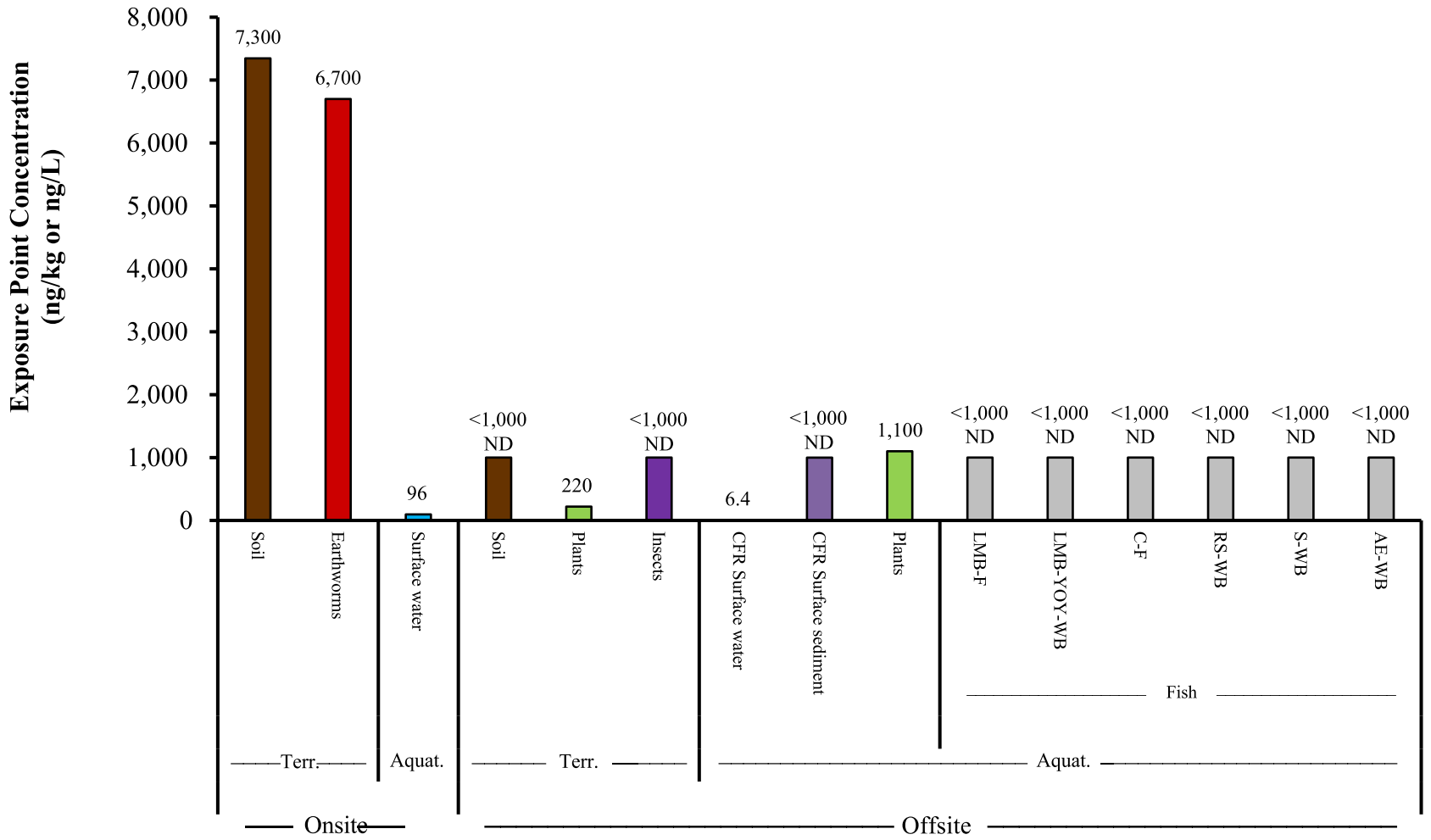
Figure 4-6c

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PFO3OA

Chemours Fayetteville Works, North Carolina

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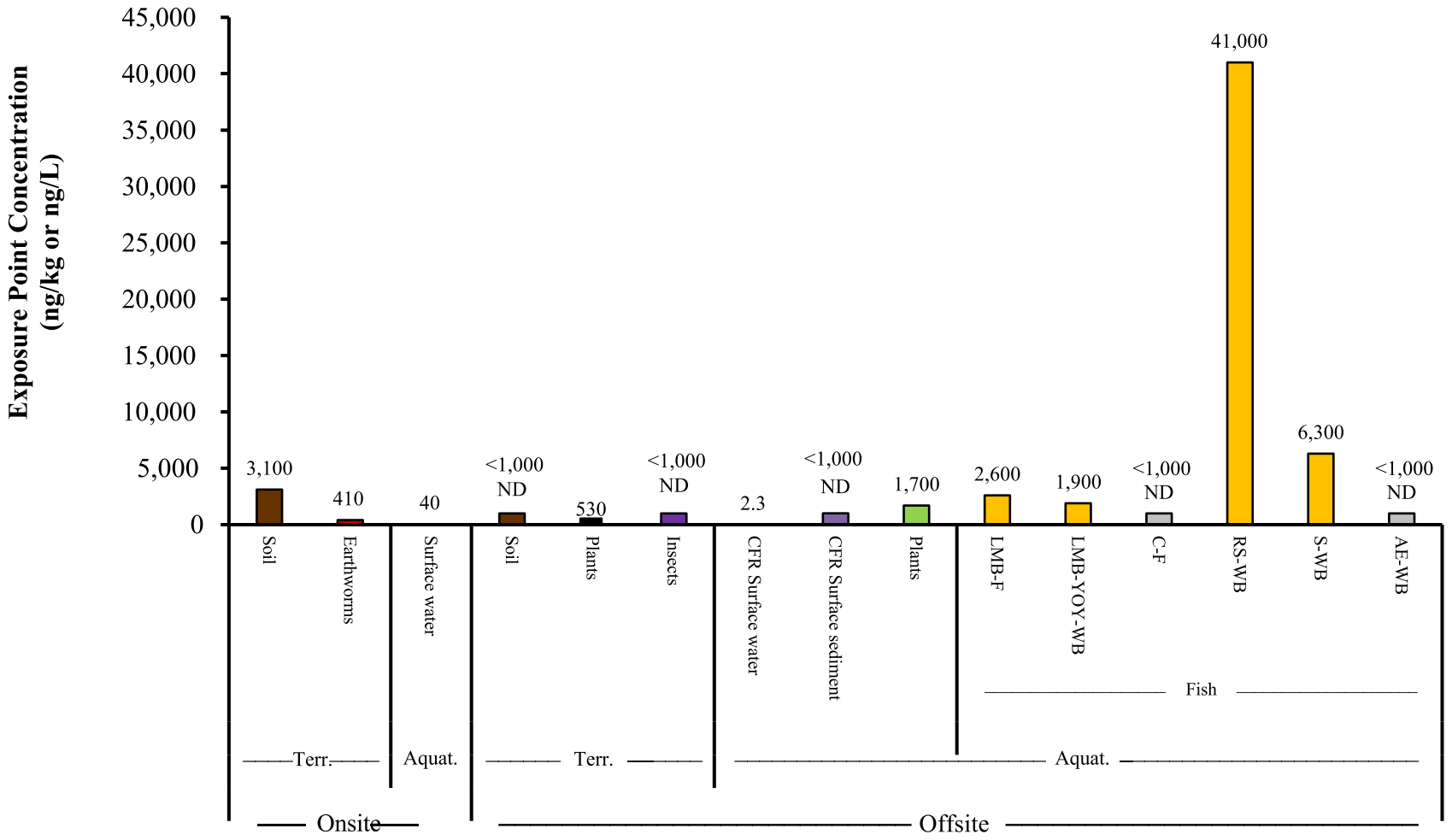
Figure **4-6d**

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PFO4OA

Chemours Fayetteville Works, North Carolina

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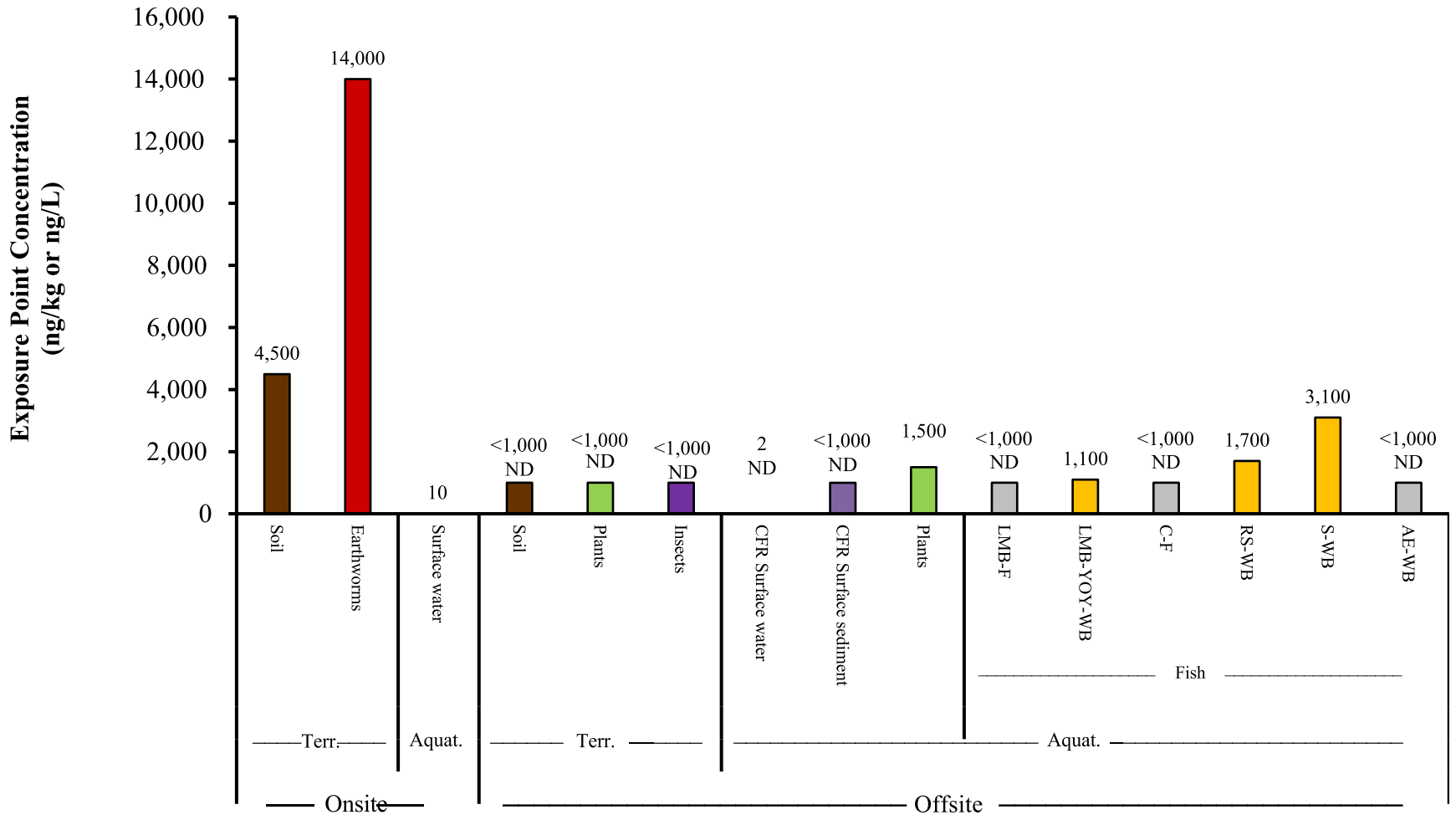
Figure **4-6e**

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PFO5OA

Chemours Fayetteville Works, North Carolina

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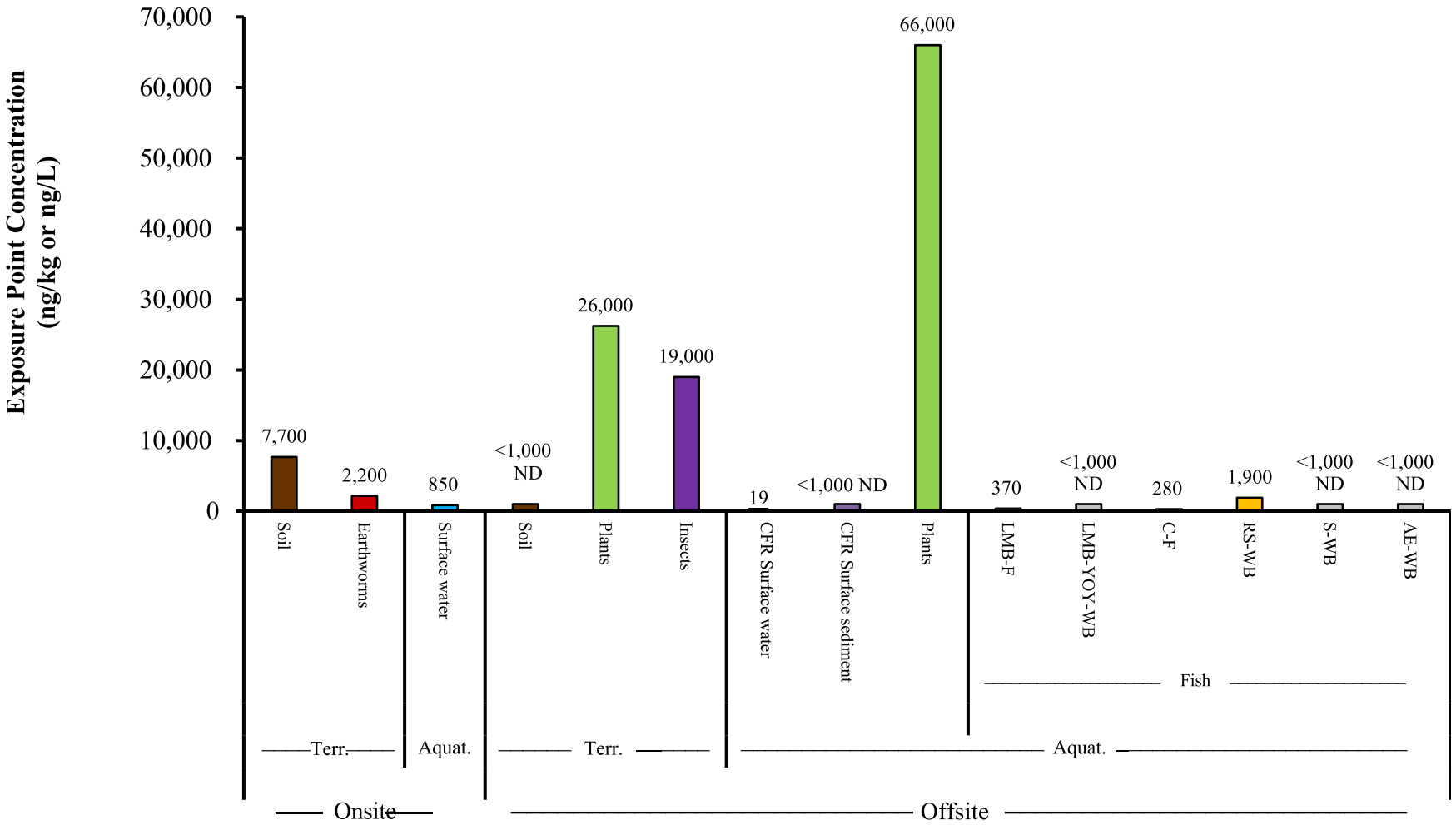
Figure 4-6f

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PMPA

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

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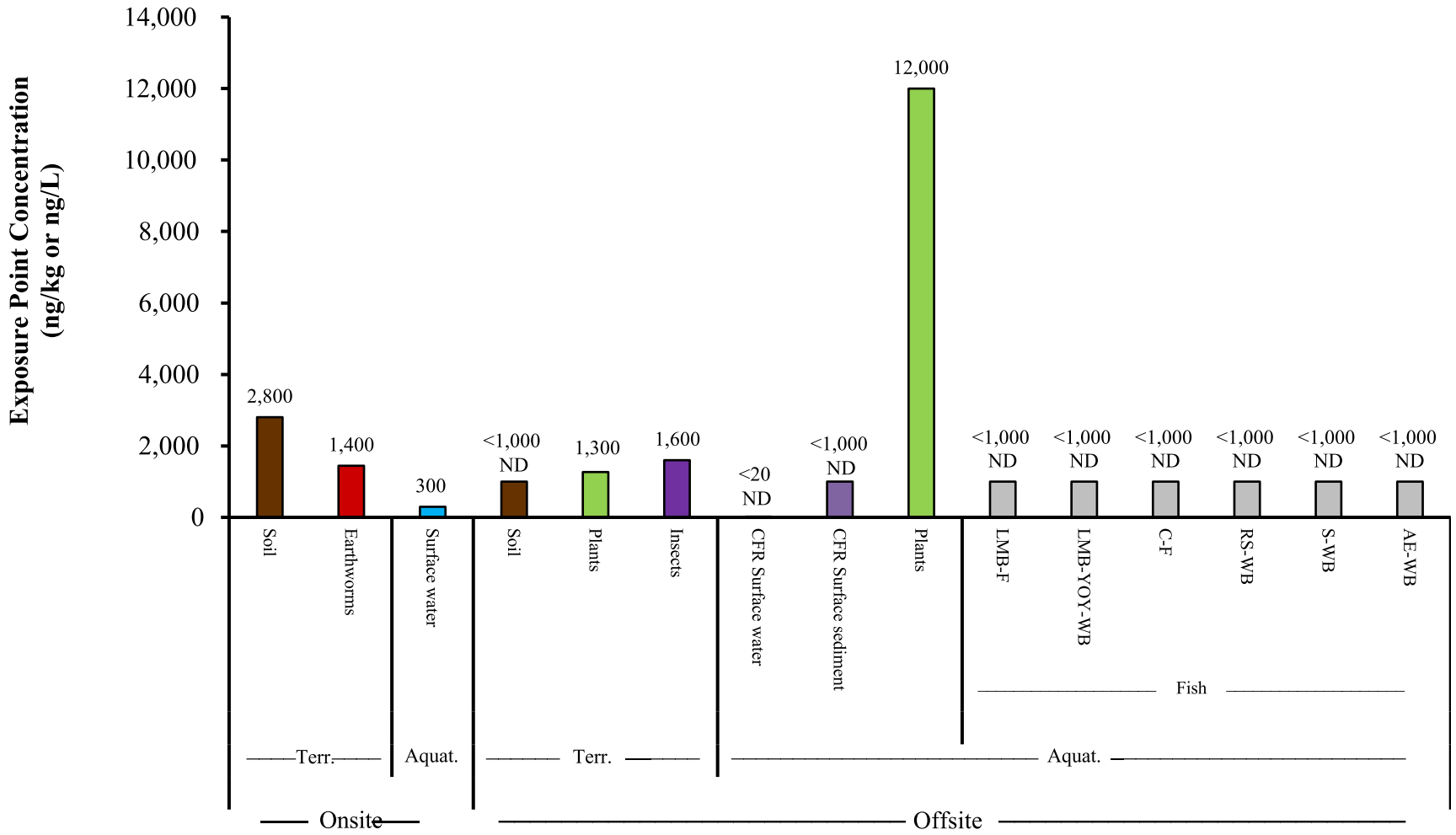
Figure 4-6g

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - PEPA

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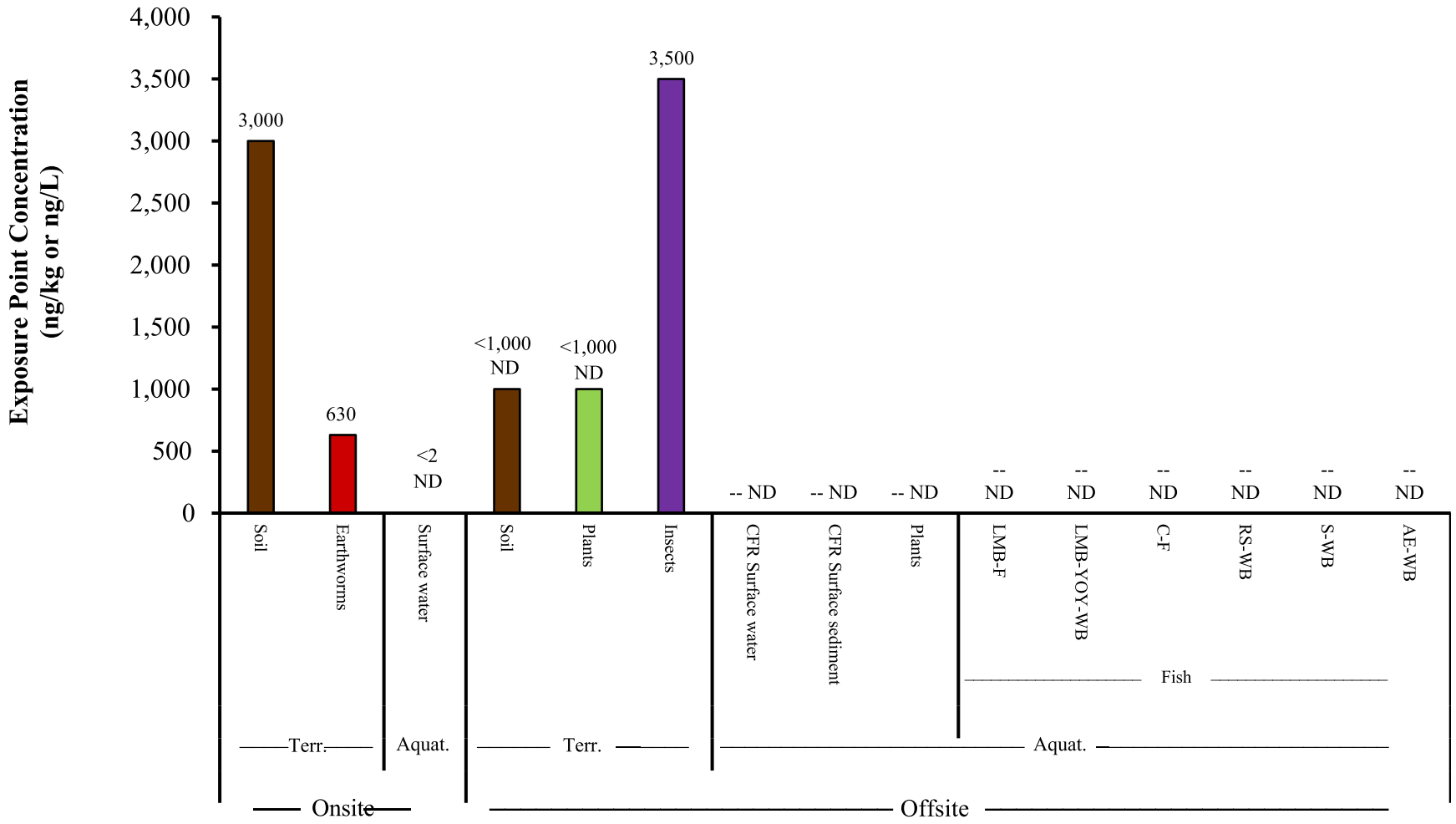
Figure
4-6h

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

EPC = Exposure Point Concentration
Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
LMB-F = Largemouth bass fillet EPC
LMB-YOY-WB = Largemouth bass young-of-year whole body EPC
C-F = Catfish fillet EPC
RS-WB = Redbreast sunfish whole body EPC
S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg
-- = not detected in any aquatic media and EPCs were not calculated

Exposure Point Concentrations by Media for All Exposure Units - PFESA-BP1

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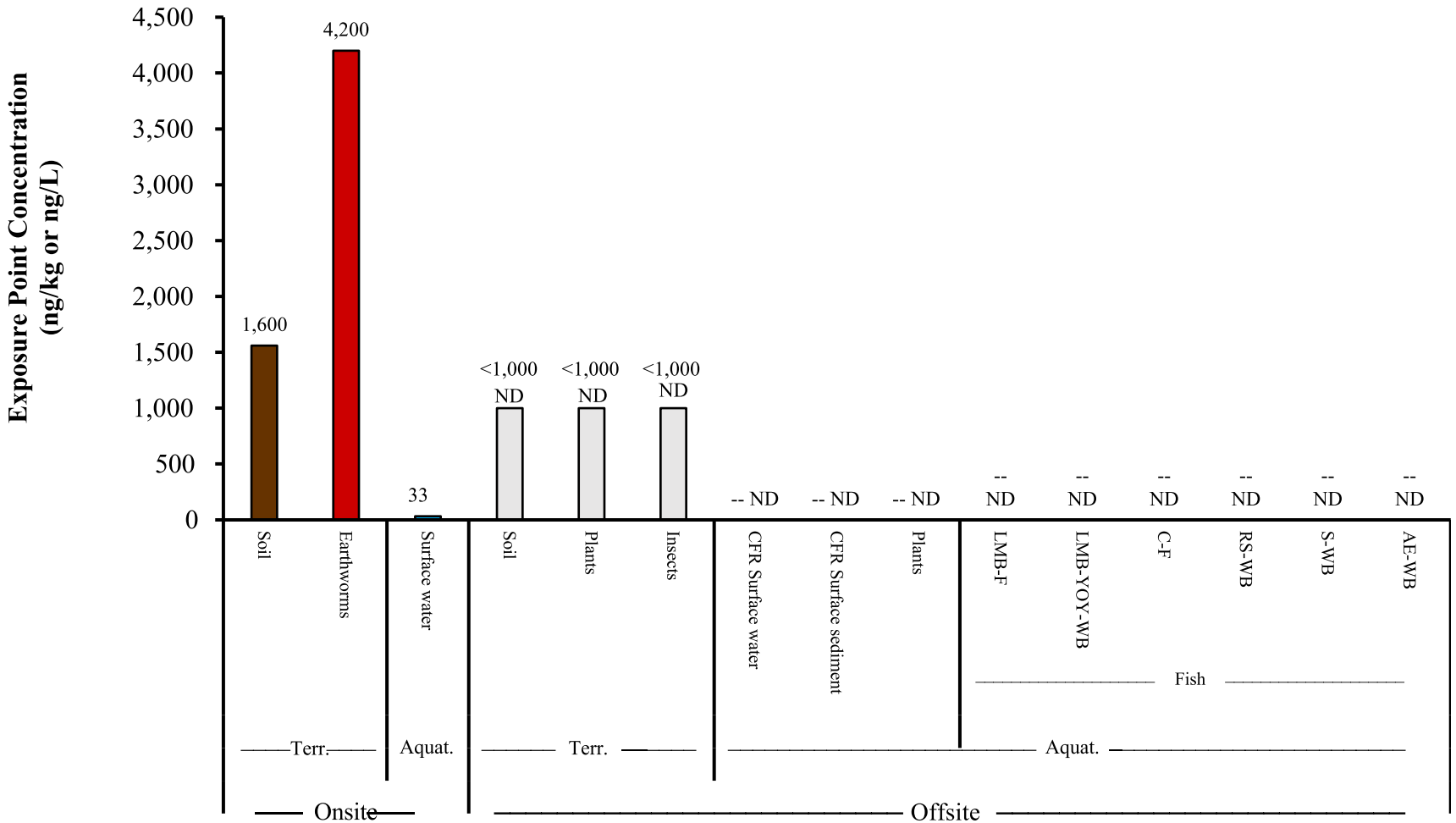
Figure 4-6i

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

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AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg
-- = not detected in any aquatic media and EPCs were not calculated

Exposure Point Concentrations by Media for All Exposure Units - PFESA-BP2

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Figure 4-6j

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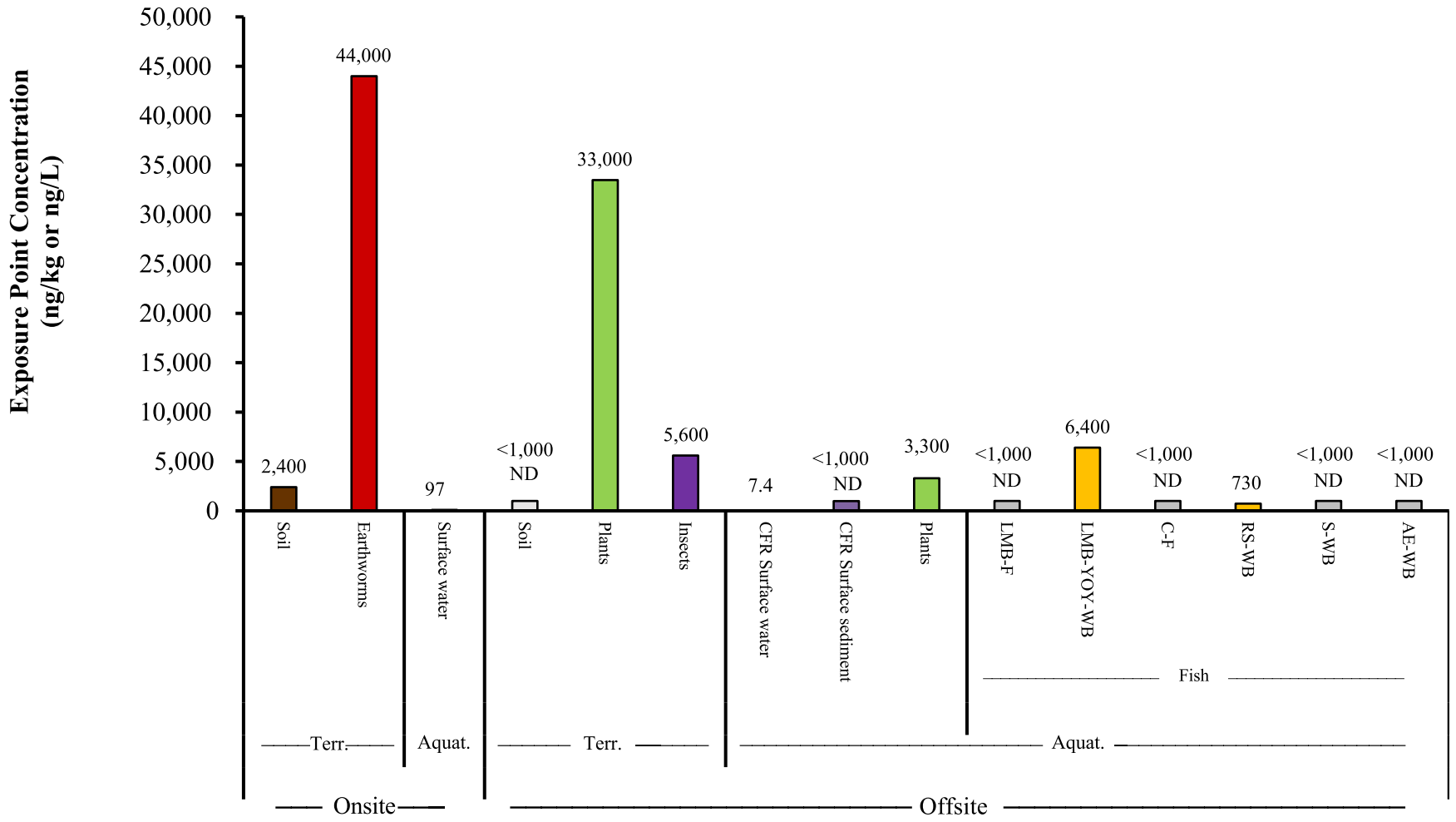

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S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units - Byproduct 4

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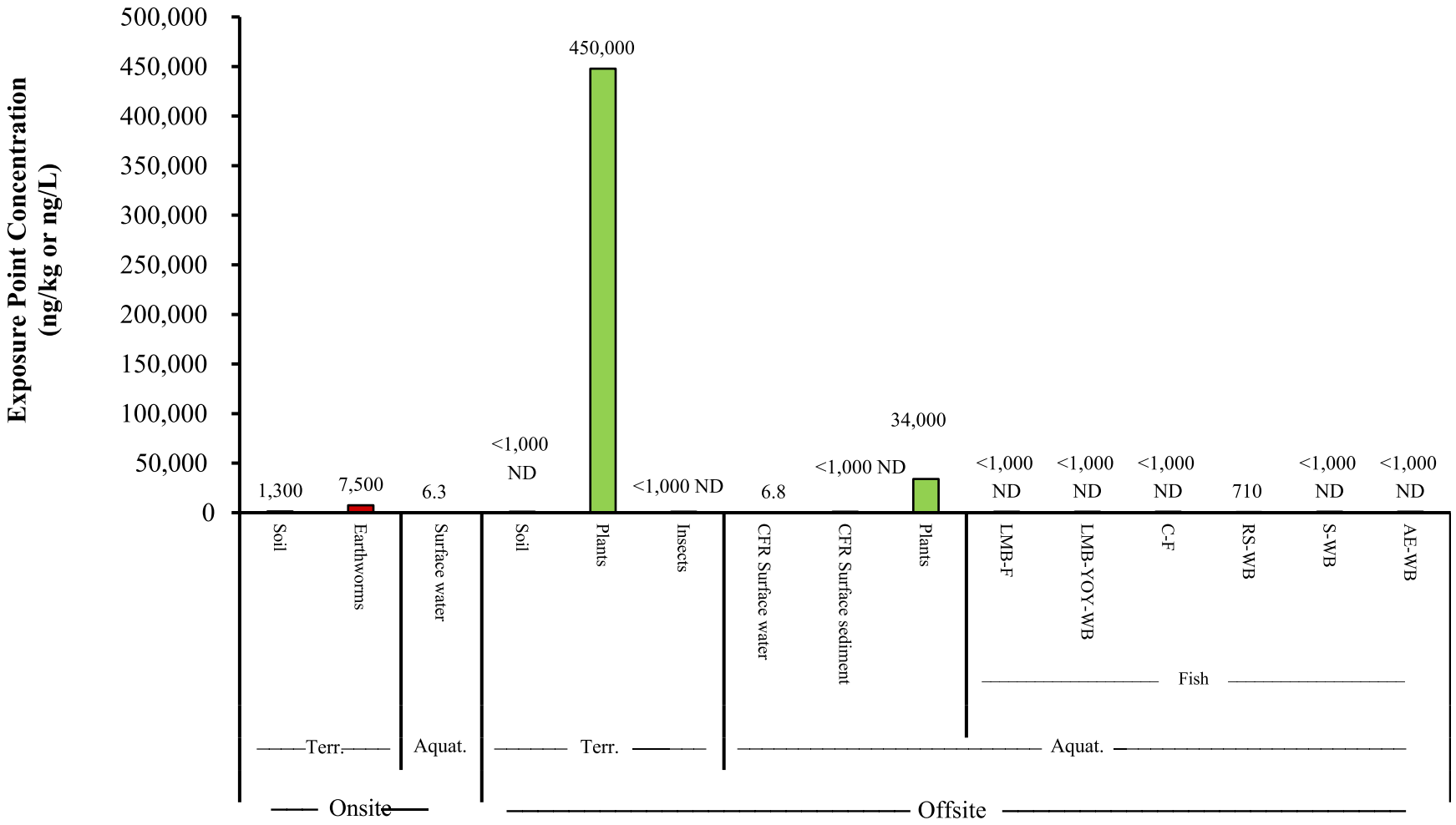
Figure **4-6k**

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

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ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units – NVHOS

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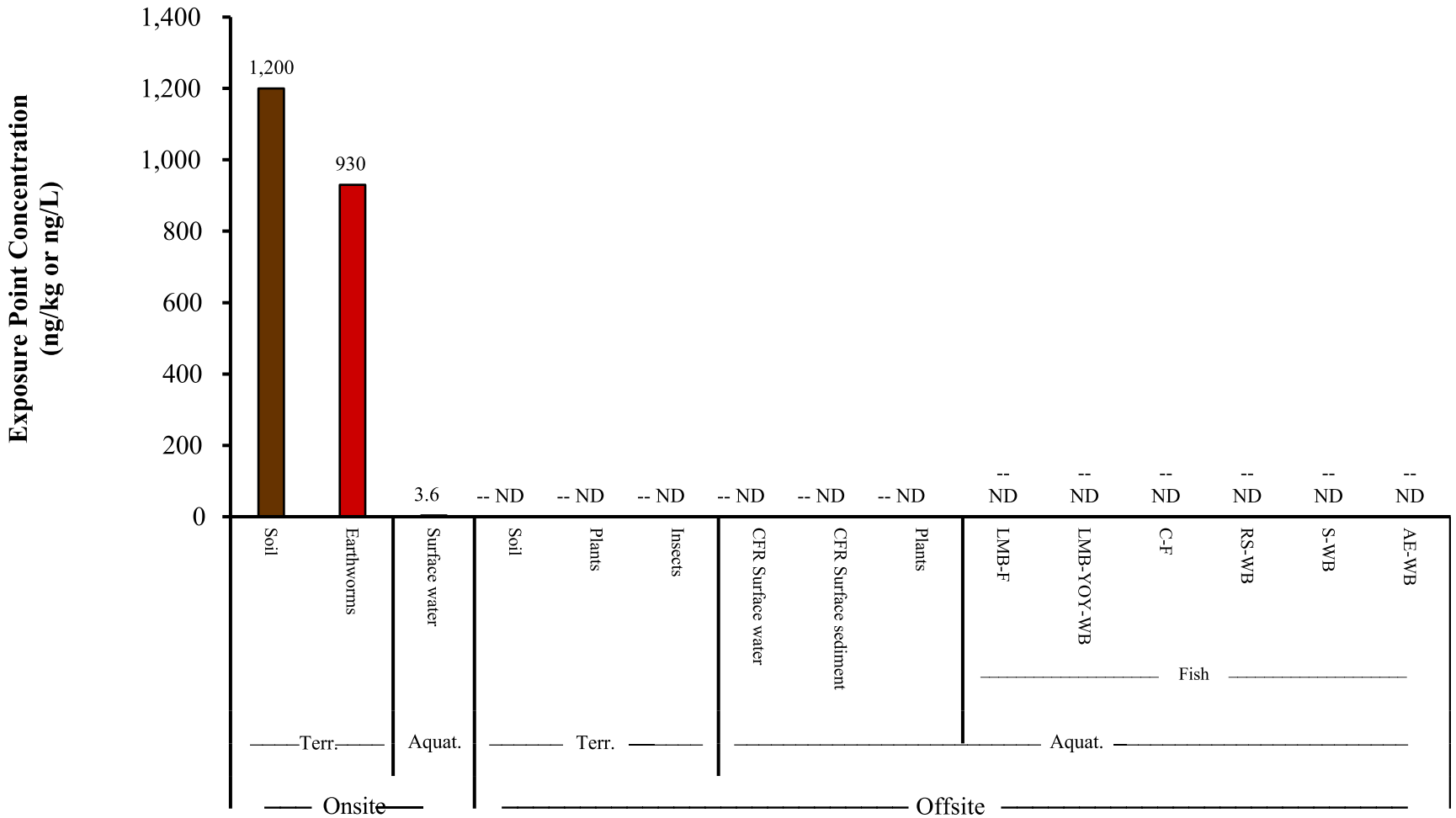
Figure
4-6l

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Definitions:

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Terr. = Terrestrial EPC
Aquat. = Aquatic EPC
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S-WB = Shiner whole body EPC
AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg
-- = not detected in any aquatic media and EPCs were not calculated

Exposure Point Concentrations by Media for All Exposure Units – Hydro-EVE Acid

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Figure **4-6m**

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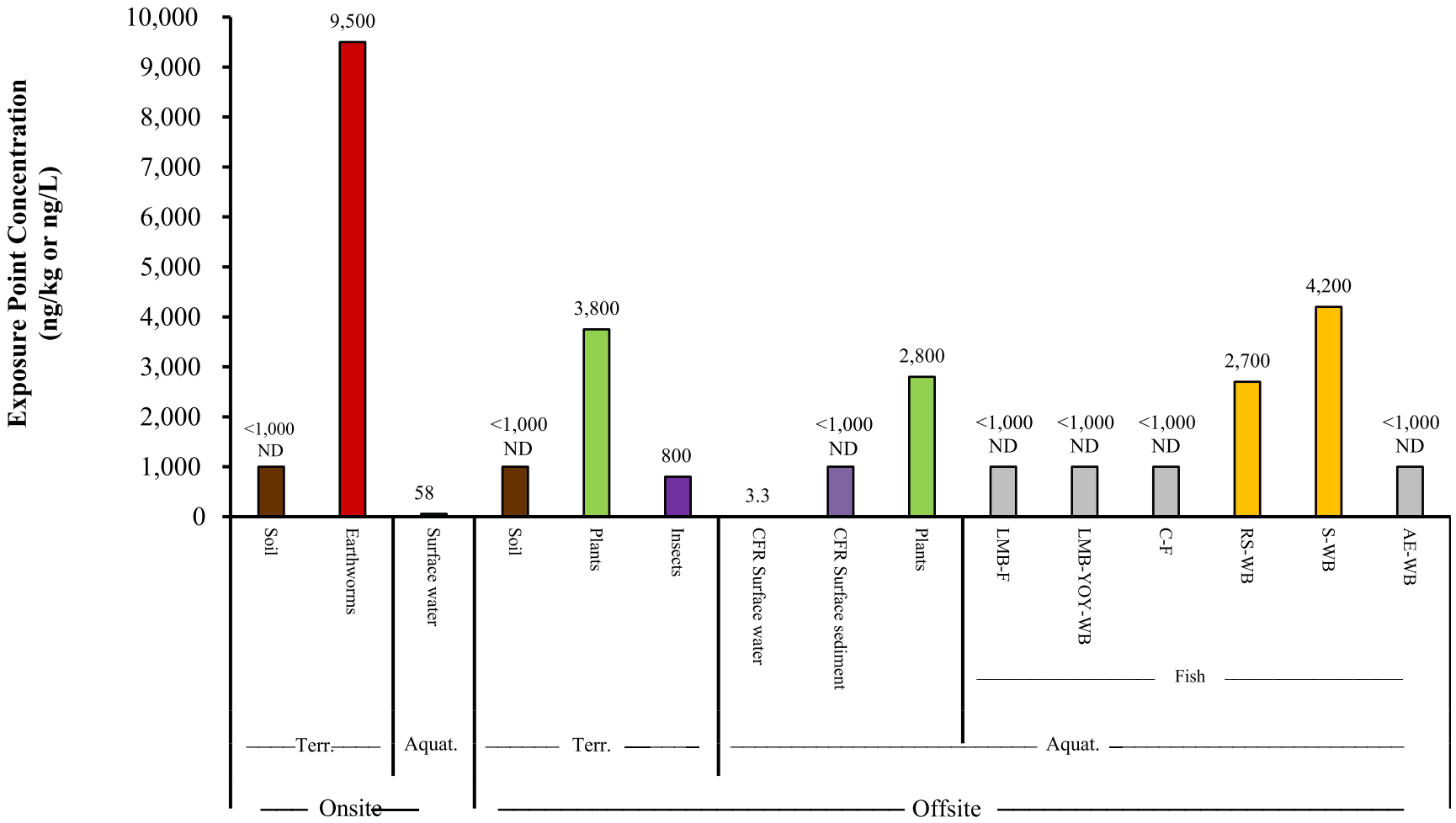

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AE-WB = American eel whole body EPC
ng/kg = nanogram per kilogram
ng/L - nanogram per liter
Surface water = ng/L
Soil, sediment, tissue = ng/kg

Exposure Point Concentrations by Media for All Exposure Units – R-EVE

Chemours Fayetteville Works, North Carolina

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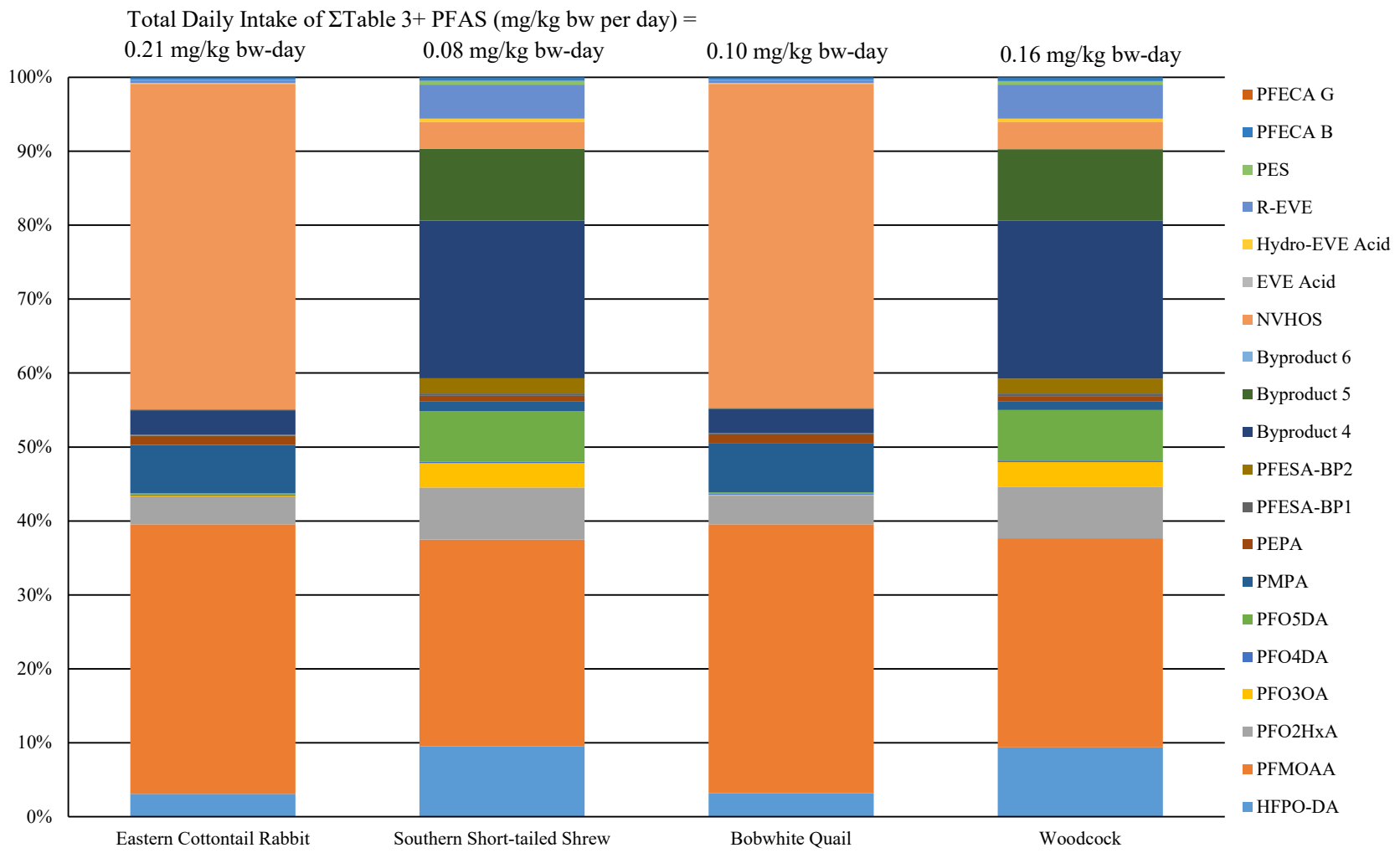
Figure **4-6n**

Data/PRJ/Projects/TR0795/Database and GIS/Illustrator/SLEA/Figures4-6series_ExposurePointConcMedia.ai



Notes:
mg/kg bw-day = miligram per kilogram body weight per day

Total Daily Intake of Table 3+ PFAS - Onsite Terrestrial EU

Chemours Fayetteville Works, North Carolina

Geosyntec consultants

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Figure 4-7

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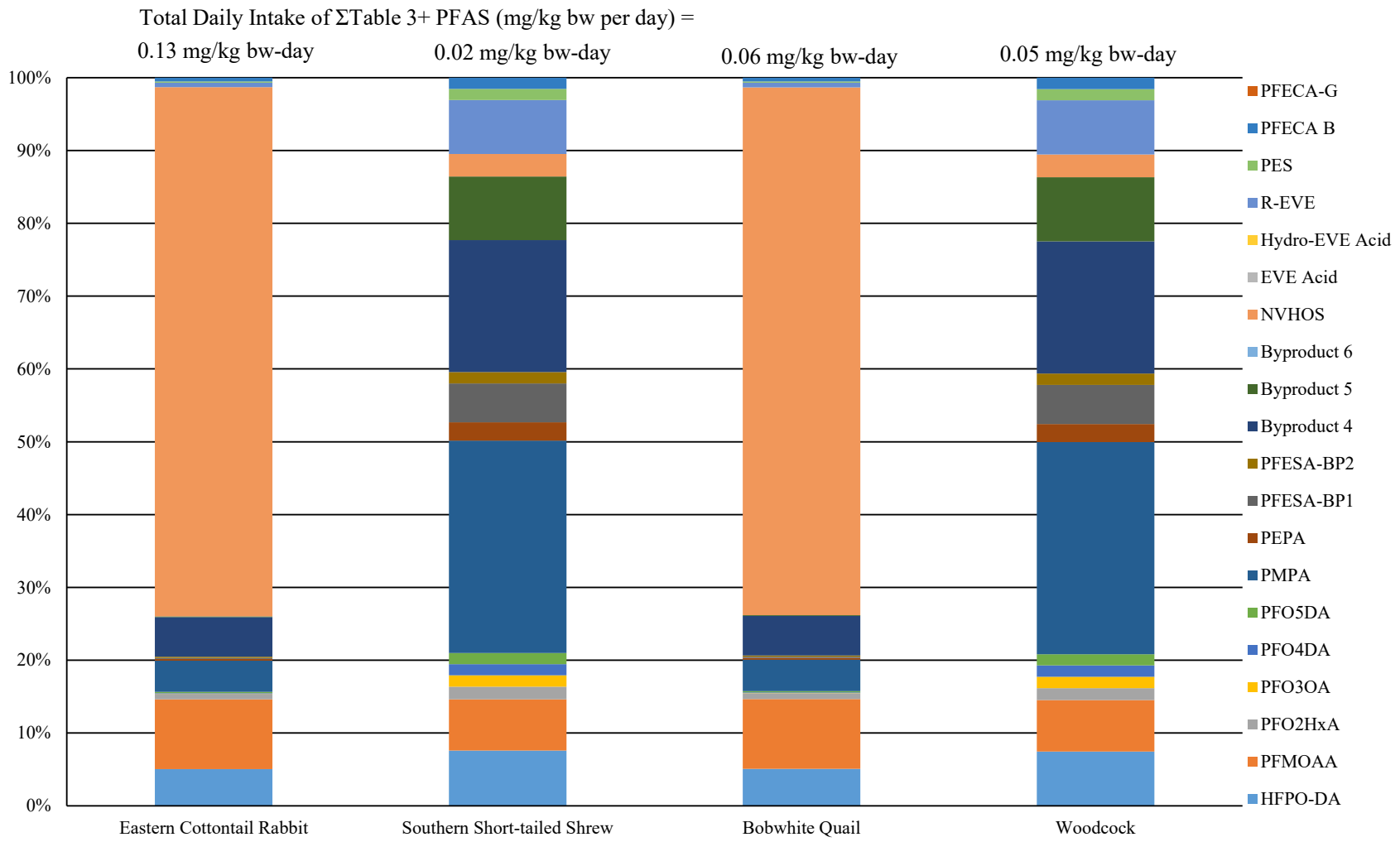

Notes:
mg/kg bw-day = miligram per kilogram body weight per day

Total Daily Intake of Table 3+ PFAS - Offsite Terrestrial EU

Chemours Fayetteville Works, North Carolina

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Figure **4-8**

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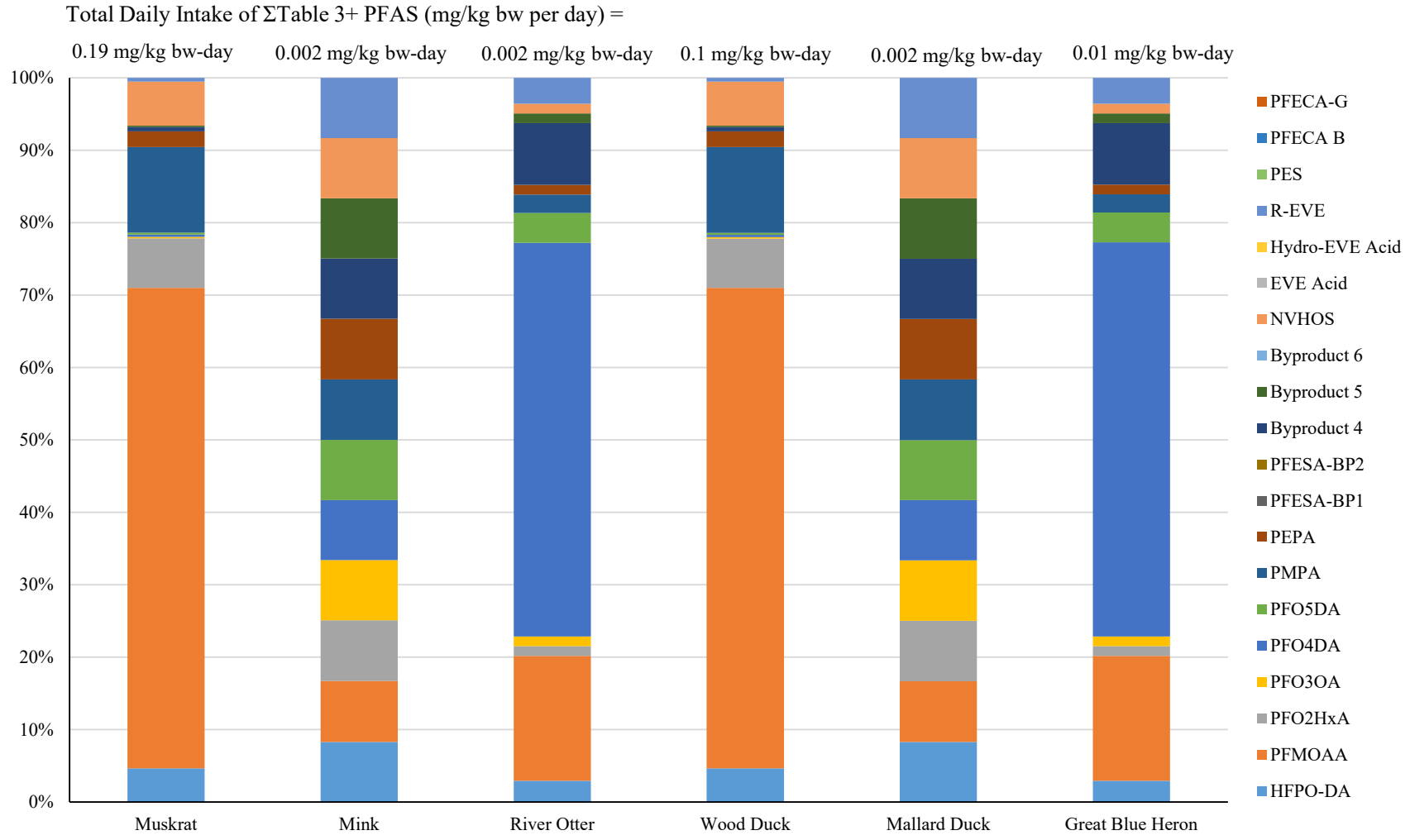

Notes:
mg/kg bw-day = miligram per kilogram body weight per day

Total Daily Intake of Table 3+ PFAS - Aquatic EU

Chemours Fayetteville Works, North Carolina

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Figure **4-9**

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NC License No.: C-3500 and C-295

APPENDIX A
Field Sampling SOPs

1 INTRODUCTION

This appendix provides descriptions of methodologies employed during field events associated with the Ecological SLEA report, including collection of vegetation, sediment, invertebrates, and clams.

1.1 General Field Procedures

All equipment was used in accordance with manufacturer's recommendations. All sampling methods, locations, and relevant safety hazards were reviewed and discussed with team members and Chemours representatives.

1.1.1 Decontamination Methods

Sample containers were provided by TestAmerica (Sacramento, California). Containers were new and were used only once for each sample. Disposable equipment (i.e. gloves) was not reused and therefore, did not require decontamination. All non-disposable sampling equipment was decontaminated immediately before sample collection using a de-ionized water rinse, scrub with de-ionized water containing non-phosphate detergent (i.e. Alconox®), and a final rinse with de-ionized water.

1.1.2 Sample Shipping, Chain of Custody, and Holding Times

Samples were collected, labeled, containerized, and placed into a heavy plastic bag inside an insulated sample cooler with ice. Prior to shipment of the samples to the laboratory, a chain of custody (COC) form was completed by the field sampling team. Sample locations, identifications numbers, descriptions, number of samples collected, and specific laboratory analyses to be performed were recorded on the COC. The COC was signed by the field personnel relinquishing the samples to the courier and was signed by the laboratory upon receiving the cooler.

2 TERRESTRIAL PLANT SAMPLE COLLECTION:

Objective: to collect 60 grams (wet) of forage plant material that represents plant material consumed by herbivores. One composite sample per EU.

2.1 Methodology:

- At each ISM increment location, look for the following for sampling:
  - Preferred: Broadleaf plants, within 1 to 2 ft of the ground. Target collecting leaves (berries/fruit if present) and seeded grasses (fescues, ryegrass, wheatgrass)
  - Secondary: any grasses, weeds with non-waxy leaves
- Photograph selected plant(s).
- Collect ~ 2 grams of plant material targeting leaves, seeds or berries, not woody stems.
- Wipe any loose dirt off the plant with a dry paper towel, but do not wash.
- Place in a HDPE sampling container; continue adding to sample at next soil aliquot location.

2.2 Laboratory Analysis Notes:

- Minimum mass: 60 grams (estimated pending info from lab; may be revised)
- Sampling jar: HDPE
- Analyte list: Same PFAS analyte list as soil samples; % moisture

2.3 Examples of appropriate plants:

Ferns

Wildflowers (Trumpetweed, wood anemone, green and gold)

Seeded grasses:

2.4 Avoid waxy cuticles on plants:

3 TERRESTRIAL SOIL INVERTEBRATE SAMPLE COLLECTION

3.1 Objective:

- Collect 30 grams (wet) of invertebrate tissue that represents organisms consumed by invertivores. One composite sample per EU.

3.2 Methodology:

- At each ISM aliquot, collect additional 0 to 6-inch soil samples and sieve (use the largest sieve size that allows soil to pass through easily)
- Collect invertebrates found any of the grabs and place in a HDPE jar:
    - Sieve enough additional soil to capture 1-2 earthworm (preferred)
    - Sieve enough additional soil to collect 2-3 grams of non-earth worm invertebrates (if earthworms are not collected)
    - Collect any invertebrates easily caught above soil (grasshoppers, crickets/katydids, caterpillars)
    - Feel free to use best professional judgement - if after a couple sieves the area seems very low in invertebrates, move on. If you hit a spot with an abundance of earthworms, collect additional mass from that location. In an ideal world we would have earthworms from all 30 aliquots in an EU but collecting enough sample mass is the critical item.
- Continue adding invertebrates to the sampling jar during each aliquot in an EU
- At the completion of the EU, evaluate tissue mass for earthworms alone:
    - If > 30 grams, then composite only earthworm tissues in HDPE jar for analysis
    - If < 30 grams, add in additional invertebrates to reach mass with preferences for larger invertebrates
- Photograph and document final composite sample species make up
- Allow sample organisms to depurate (i.e. poop) any consumed soil (primarily by earthworms) by leaving in jar on filter paper for 24 hours.
- Remove invertebrates to a clean HDPE jar prior to placing on ice for shipment to the laboratory.

3.3 Laboratory Analysis Notes:

- Minimum mass: 30 grams
- Sampling jar: HDPE
- Analyte list: Same PFAS analyte list as soil samples; % moisture

3.4 Carcass sampling for whole body estimates:

3.4.1 Background:

Whole body concentrations of chemicals are preferred for ecological exposures. To best leverage the SLEA fillet sampling, we will be calculating fillet to whole body ratios based on weighted average whole- body concentrations for up to 3 samples of catfish and 3 samples of bass. Every attempt should be made to composite based on specific species or families (i.e., catfish should not be composited with bass).

3.4.2 Methods:

- 3 samples will be analyzed for PFAS in carcass along with the fillet sample (preference for different locations)
    - Preferable on single fish samples over composites
    - Prefer 3 individual or composite samples made up of the same species (or family) for each of bass and catfish
- For each sample:
    - Measure whole body fish weight and standard length of all fish samples
    - Place all fish for a single composite sample in the same HDPE bag
    - Samples that will be analyzed for skin-off fillet only, will be labeled on the outside of the HDPE bag with the sample ID (see Work Plan Table 2).
    - For the samples that will also be analyzed for carcass tissues, label with both the sample ID, and the sample-ID with "-Carcass".
    - The laboratory has been provided instructions on sample processing for skin-off fillet and carcass.
    - In a clean space, away from potential sources (i.e, mechanical equipment/exhaust/etc.) and using clean equipment/materials, remove fillets and weight all fillet meat (free to subsample fillet for lab following weighing); record weight in field notes or summary table (see last page here).
    - Weight all remaining fish tissue (carcass – bones, organs, any remaining fluids) and place in sampling container for lab (same type of containers for fillet samples are fine).
    - Clean equipment/materials used for filleting between each fish processed to ensure that there is no cross contamination between samples.
    - Place individual or composite samples in appropriate (PFAS-free) containers (HDPE bags)
    - Send samples (fillet and carcass) to the lab for analysis
    - Carcass sample IDs: please use the same Fillet ID with a "-Carcass" and run for the same list of analytes
- If compositing multiple fish, weight each fish using these steps individually prior to composting the fillets and carcasses together. .

3.4.3 Laboratory notes:

- Minimum tissue mass: 40 g (30 g for PFAS, 10g for % moisture; ok if short on mass for % moisture)
- Sampling container: HDPE bags
- Analysis: Method 537/Table 3+ PFAS, % moisture (if sufficient mass)

3.5 <u>Collection and analysis of up to 5 small, benthic fish:</u>

3.5.1 Background:

The SLEA captures angler focused species rather than wildlife focused species. To better understand exposures to wildlife, we would like to collect up to 5 samples of smaller benthic fish that are more commonly consumed by wildlife. The goal is to capture exposure to fish-eating birds and mammals which are primarily opportunistic feeders, therefore is a highly abundant species is observed during sampling these are likely highly consumed by wildlife.

3.5.2 Methods:

- Field team preference on sampling methods
- Preference is to retain fish without major injuries (so as not to lose fluids)
- Prior to measurement, euthanize fish quickly without loss of fluid from body cavity
- Measure and weigh all individual fish samples prior to processing
- Whole body fish should be collected and provided to the lab without further processing
- Composite same species, genus, or family of fish (assuming the same feeding strategy) as needed for tissue mass; it would be best to target an abundant species/genus/family with the same feeding strategy (i.e., either primarily benthic feeding or primarily water column feeding and fish of the same size, generally).

3.5.3 Target species:

- Sucker species: white sucker, spotted sucker, lake or creek chubsuckers
- Shad species: gizzard shad, American shad and threadfin shad
- Sunfish species: Bluegill sunfish, spotted sunfish
- Minnow species: fathead minnows, shiners

Note: List is provided as examples; Field staff have our support in selecting other appropriate smaller (< 12 inches) benthic fish based on species observed during sampling.

3.5.4 Laboratory notes:

- Minimum tissue mass: 40 g (30 g for PFAS, 10g for % moisture; ok if short on mass for % moisture)
- Sampling container: HDPE bags
- Analysis: Method 537/Table 3+ PFAS, % moisture (if sufficient mass)
- Please indicate on COC that these are to be processed as WHOLE BODY samples and not skin-off fillet samples.
- Recommend Sample IDs CFR-06 (or 07 depending on location)-FISH-WHOLE-1 to CFR-07-FISH- WHOLE-05

3.5.5 Contingency Plan:

If low success in capturing additional small whole-body fish for analysis, the need for remobilization and additional sampling in later August will be evaluated based on the completed fish sampling to date.

3.6 <u>Crawfish Trapping and Analysis:</u>

3.6.1 Background:

Consumption of benthic invertebrates by wildlife is a complete exposure pathway, and crawfish have been identified as a relatively easy benthic invertebrate that is consumed by wildlife (river otters, minks).

3.6.2 Methods:

- Crawfish traps will be deployed at the 4 Cape Fear River EUs
- 3 baited crawfish traps will be deployed at each EU at different locations for three discrete samples
- Check traps at the end of sampling day and collect crawfish.
    - If insufficient mass (< 40 g) collect crawfish and freeze, leave traps in place to collect additional mass
    - If sufficient mass, collect and submit to laboratory as whole-body organism for analysis
- Measure individual crawfish weights and lengths prior to submitting to the lab.

3.6.3 Laboratory notes:

- Minimum tissue mass: 40 g (30 g for PFAS, 10g for % moisture; ok if short on mass for % moisture)
- Sampling container: HDPE jars or bags
- Analysis: Method 537/Table 3+ PFAS, % moisture (if sufficient mass)

3.6.4 Contingency Plan:

If low sampling success, benthic grab sampling for invertebrates may be added to the Sediment Characterization efforts. Site personal have indicated areas near Site are generally softer sediment with relatively high invertebrate density. If crawfish trapping is unsuccessful prior to sediment characterization mobilization, additional sampling notes for benthic grab sampling will be provided. Please contact either Wendy or Jennifer with any questions or concerns during fish, crawfish, plant or soil invertebrate sampling.

4 COLLECTION OF CO-LOCATED SOIL AND EARTHWORMS

4.1 Standard Operating Procedure

The Fayetteville soil and earthworm collection effort will target areas of seeps along the Cape Fear River on the Site. These areas are expected to have a high abundance of earthworms based on anecdotal site observations and are expected to represent areas of highest exposure for ecological receptors.

The following procedure will be employed to collect collocated soil and earthworm samples at each Seep sampling location (Figure 1). There are five total sampling locations planned for co-located soil and earthworms, however these locations are also being sampled separately for bank soils (see Bank Soil SOP), therefore two soil samples (one for co-located soil/earthworms, one for spatial composites of surface soil) are collected at each seep.

- Identify an area approximately 2' x 2' that is relatively clear of heavy brush and debris. Sample locations should target the areas near the seep channel and riverbank edge; an example area is shown in Figure 2.
- Clear away vegetation and leaf debris as needed to expose surface soil; photograph sample plot and surrounding areas, mark with GPS/record coordinates
- Set up a ¼ inch sieve with new or decontaminated HDPE or stainless-steel bin/catcher underneath sieve.
- Take a single shovel of surface soil and visually inspect for earthworms.
    - If earthworms are present, place soil in the sieve and catcher. Sieve soil to expose earthworm.
    - If no earthworms are visually identified, discard shovel of soil.
- Continue collecting, visually evaluating and ,compositing soil samples, targeting 30g of earthworms (5 to 6 big worms); a minimum of 10 grams of tissue is needed for a viable sample but the lab requests 30g where possible.
- Once a sufficient mass of worms has been collected in the sieve:
    - Photograph and then remove the sieve from the catcher/bin
    - Homogenize soil in bin by mixing with a decontaminated stainless-steel spoon and collect 2x 16-oz jars of homogenized soil for analysis
    - After soil is collected into sample jars, prepare earthworms. Using lab provided PFAS free water, rinse the earthworms on screen until they are free of soil. Using stainless steel tweezers (or similar), place worms in a glass sampling jar lined with filter paper and a small volume (2-3 drops) of DI water for moisture. Photograph contents of jar. Store jar at ambient temperatures away from sunlight overnight to allow earthworms to depurate.
    - The next morning, remove earthworms from original container into a clean glass sampling container and place in freezer (if possible) or in a cooler with ice until delivery to the laboratory.
- 5 soil and 5 earthworm tissue samples will be submitted to the laboratory for analysis of Table 3+ SOP, Method 537-mod. Soil samples will also be analyzed for total organic carbon and tissue samples will also be analyzed for percent moisture.
- Sample ID: LOCATION# - MEDIA – DATE as MMDDYY

Example: SEEP1-SOIL-091219 or SEEP1-WORM-091319

Figure 1: Seep sample locations for composite soil and co-located soil and earthworm sampling. Note, locations of seeps are approximate.

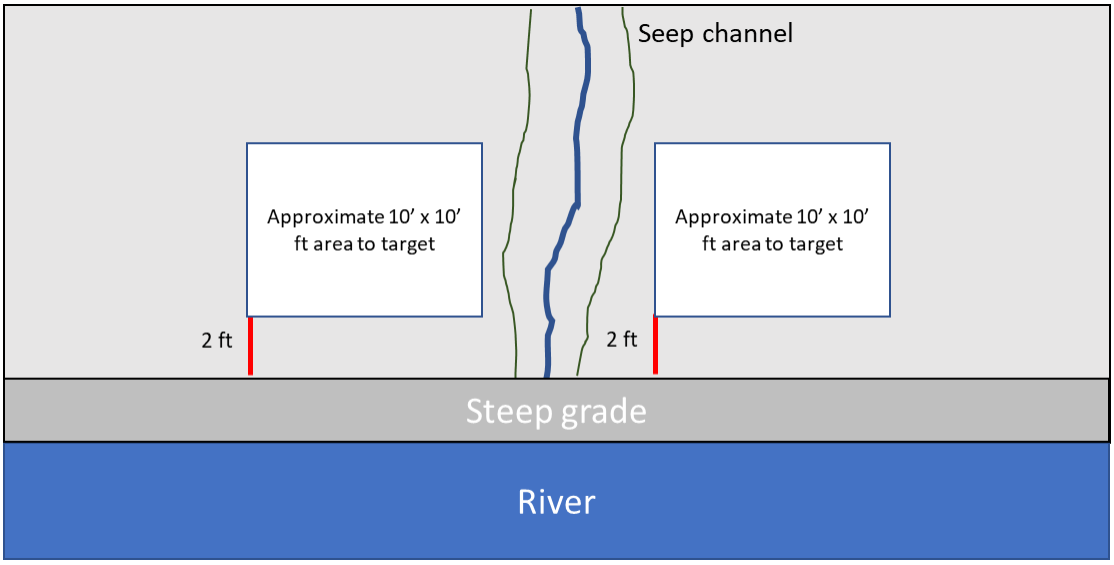


Figure 2: Example areas near seeps to target for co-located earthworm and soil sampling.

5 COMPOSITE SOIL SAMPLING ALONG RIVERBANK

5.1 Standard Operating Procedure

The Fayetteville bank soil collection effort will target areas of seeps along the Cape Fear River on the Site. The following procedure will be employed to collect composite soil samples at eight locations (Figures 1 and 2).

- At each sampling location, a single composite sample of 6 sub-samples will be collected. While the specific locations of subsamples will vary, similar spatial coverage will be targeted.
    - For samples collected at each seep location (Figure 1), the 6 sub-samples will be distributed as follows: 3 subsamples will be collected from each side of the seep (Figure 3). Subsamples will be collected outside of the seep channel, targeting 2 ft from the seep channel edge, and spaced 2 ft apart along the seep channel. Samples will be collected as close to the River as safely feasible.
    - For samples collected at near the Lock and Dam (Figure 2), the 6 sub-samples will be distributed as follows: 6 subsamples oriented parallel to the riverbank (Figure 4). Subsamples will be collected approximately 2 feet from the river and will be spaced approximately 2 feet apart.
- Identify an area along the outlet of each sampling location that allows the collection of composite samples according to Figures 3 and 4. Mark out the 6 subsample locations with flags or other markers and photograph from multiple angles, record GPS of each subsample.
- For each sample:
    - At each subsample location, collect a soil sample from 0 to 1 ft using a decontaminated stainless-steel shovel.
    - Approximately the same sample volume should be collected from each subsample location.
    - Place subsampled soil in a large decontaminated stainless steel or HDPE bin for compositing.
    - Composite and homogenize the six subsamples.
    - Photograph the sample after mixing.
    - From the soil composite, fill two 16 oz jars for laboratory analysis.

- 8 composite bank soil samples will be collected for analysis of Table 3+, Method 537 and Total organic carbon.
- Sample ID: LOCATION# - MEDIA – DATE as MMDDYY-COMP
  Example: SEEP1-SOIL-091219-COMP or CFR07a-SOIL-091419-COMP

Figure 1: Composite Soil Sample Locations at Seeps. Note, locations of seeps are approximate.

Figure 2: Composite Soil Sample Locations Near the Lock and Dam

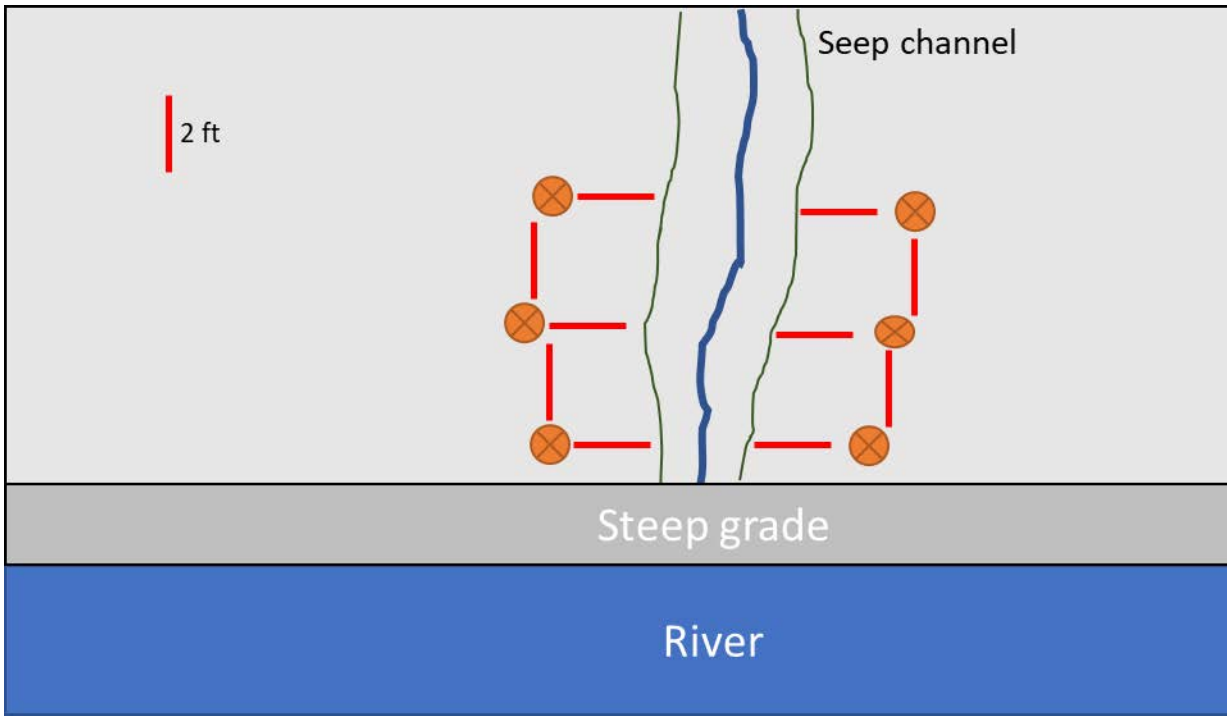


Figure 3 – Conceptual Distribution of Subsamples at Composite Soil Sampling Location at Seep

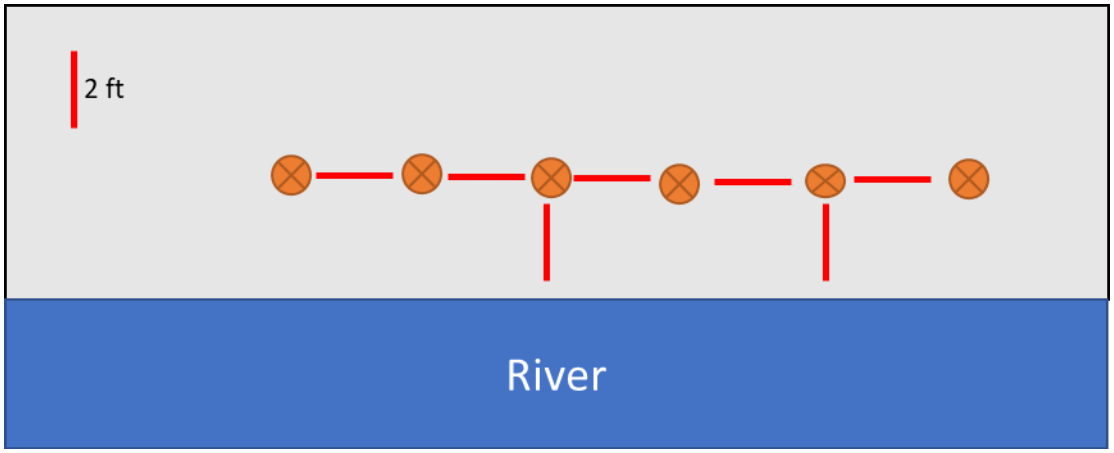


Figure 4 – Riverbank Sampling Conceptual Schematic

6 BENTHIC INVERTEBRATE AND SEDIMENT SAMPLING IN SUPPORT OF THE ECOLOGICAL SLEA

6.1 Background:

To support the evaluation of exposure to aquatic-life dependent birds and mammals:

1. Collection and analysis of 2-3 samples of Asian clams.
2. Collection and analysis of up to 3 samples of other benthic invertebrates
3. Collection and analysis of 4-5 samples of aquatic vegetation.
4. Collection and analysis of 4-5 samples of surface sediment.

6.2 Collection and analysis of 2-3 samples of Asian clams.

Rationale: Asian clams have been identified as highly abundant in areas of sandy/gravel banks along this stretch of the Cape Fear River (CFR). Highly abundant organisms provide food sources for wildlife and efficient sample collection when high tissue mass is needed.

Sample Locations: pre-determined sampling locations are not included in the

SOP. Sampling Methods:

https://www.epa.gov/sites/production/files/2014-03/documents/3M6.PDF

- Based on previous site surveys and recognizance, the approximate area of sandy/gravel banks have been approximated. Staff will mobilize to the general areas, and using a GoPro observe the bottom to identify the presence of clam beds.
- Whole body homogenize (rationale: small, thin shelled, likely consumed whole by organisms; conserve internal juices/water from clams; uncertainty – some organisms do open shellfish and eat only soft tissues, and this may underestimate exposure for that scenario)

7 COLLECTION AND ANALYSIS OF 5 SAMPLES OF AQUATIC VEGETATION.

7.1 Sample Locations:

Aquatic vegetation samples will be collected from within and along the banks of the CFR. Samples will be collected from along the western bank of the CFR, in the area of each Sediment sample location (SED1 through SED5; Figure 1. Note SED6 not included for veg.

7.2 Sampling Methods:

- Any live aquatic vegetation is considered acceptable for sampling – including floating vegetations (e.g. duckweed), submerged vegetation and emergent vegetation (i.e. roots/stems below water but leaves above). Leaf litter, debris and other dead vegetation should not be collected.
- Collection methods may vary by type of vegetation:
    - Floating vegetation can be collected from the surface of the water using a net and placed in sampling containers by gloved hand.
    - Submerged vegetation that is easily loosened from sediment can be disturbed to loosen and removed either using a gloved hand or net.
    - Emergent aquatic vegetation that can be safely reached from the vessel, can be pulled directly from sediment using a gloved hand and placed in sampling containers.
- In the vicinity of the Sampling location, collect any observed floating vegetation first.
- Move to the western bank to collect emergent and submerged vegetation as observed.
- If limited aquatic vegetation is observed, subsamples from multiple locations can be composited as needed to collect 20-30 grams of tissue, but please discuss with EcoSLEA task lead (Jenn Arblaster) prior to composting.
- Once collected, samples should be weight to confirm sample mass, photographed, described in field notes (i.e. % submerged, % floating, % emergent in sample), placed in sampling jars, sealed jars placed into Ziplock bags and placed on ice for transport to lab.

8 COLLECTION AND ANALYSIS OF 6 SAMPLES OF SURFACE SEDIMENT.

8.1 Sample Locations:

SED1 through SED6 (Figure 1

SED1	34.850394°	-78.826705°
SED2	34.848660°	-78.825936°
SED3	34.843501°	-78.823967°
SED4	34.837534°	-78.823236°
SED5	34.831484°	-78.822477°
SED6	34.822039°	-78.820892°

8.2 Sampling Methods:

- At each sampling location, a petite ponar will be used to collect a three-point composite of surface sediment. The ponar is approximately 3-4 inches deep and the full depth can be considered 'surface sediment'.
- It may be worthwhile to use a GoPro to observe the sediment bottom for any large debris prior to attempting. Sampling locations can be adjusted as needed to avoid refusal due to debris. If refusal is encountered, sample locations can be moved up to 50 ft as needed in any direction. Record coordinates of all sample locations.
- While on station, lower the ponar to collect a grab sample of surface sediment. On vessel, observe the sample for acceptance and photograph (note sample ID in photo). Acceptable samples will have greater than 2 inches of sediment recovery.
- In field notes, characterize sediment texture, color (using Munsell chart) and note any odors or sheen.
- Using a stainless-steel spoon/scoop, collect sediment avoiding sediment in contact with the sides of the sampler, and place in a stainless-steel bowl for composting.
- From within an approximate 25 ft radius of the first grab sample, repeat to collect two more subsamples.
- Homogenize sediment until consistent color and texture is achieved removing any large debris (rocks, sticks, shell hash, etc.), and place sample in 2x 16 oz jars and place sealed jars into Ziplock bags. Samples should be sealed and placed on bagged, wet ice for delivery to the laboratory.
- All non-dedicated or non-disposable sampling equipment (e.g., stainless steel reusable equipment used in sediment sampling) will be decontaminated between samples (not subsamples in the same composite) in the following manner:
    - Water rinse;
    - Scrub with de-ionized water containing non-phosphate detergent (e.g.,Alconox®);
    - Tap water rinse; and
    - De-ionized water rinse.

9 COLLECTION AND ANALYSIS OF UP TO 3 SAMPLES OF OTHER BENTHIC INVERTEBRATES

9.1 Sampling locations:

Sampling locations are flexible and can be determined in the field based on invertebrate abundance. SED locations can be used as starting point for field teams.

9.2 Sampling Methods:

- In the general area of each SED sampling location field staff should observe sediment surface for features that would result in refusal, and features like piled/disturbed sediment, burrow holes, or bubbles which may indicate the presence of invertebrates.
- When ready to collect a grab sample, lower the ponar to sediment surface and collect a sample.
- Place sediment from sampler into a sieve using stainless steel scoop/spoon. Gently sieve out sediments using river water to expose invertebrates, photograph and collect using forceps. Place invertebrates in a sampling container and keep on ice.
- If invertebrates are collected at a location, note coordinates with GPS.
- Field staff may need to use judgement regarding the success of collecting invertebrates at a specific location and can collect additional grabs or move to a new location as deemed appropriate.
- Invertebrates collected from the surrounding area of the same SED location can be directly collected in the same sampling jar (however if a single location results in 15g+ of tissue it should be kept separate as a discrete sample).
- As samples are collected from different SED locations, these should be collected in separate jars labeled with the location ID.
- At the end of the field day, individual samples will be weighed, and a compositing approach will be determined in coordination with the EcoSLEA task lead (Jenn Arblaster) as needed. Samples will be composited and stored on bagged wet ice until transport to the laboratory.
- If insufficient mass for 2-3 samples and pending time in the field, the task leads may request an additional Asian clam sample. Please plan on connecting with Task leads prior to demobilizing.

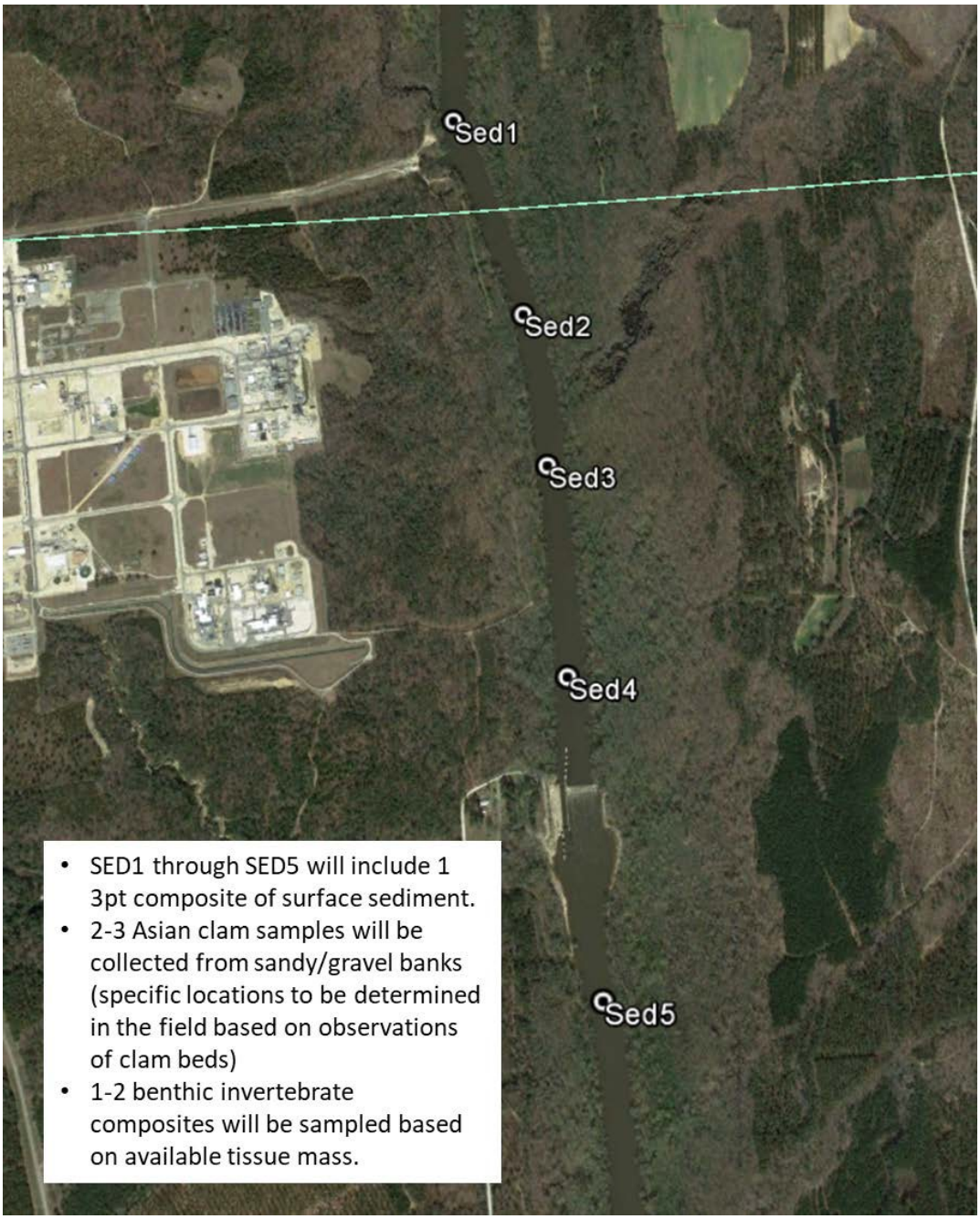


Figure 1: Proposed Sampling Locations for Benthic Invertebrates and Sediment Samples for Ecological SLEA.

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
NC License No.: C-3500 and C-295

APPENDIX B
Data Summary Tables

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH
Location ID	CFR Bladen-01	CFR-05	CFR-05	CFR-05	CFR-05	CFR-05	CFR-05	CFR-06	CFR-06	CFR-06	CFR-06	CFR07-01
Field Sample ID	CFRBladen-01-LMB	CFR-05-1-LMB	CFR-05-1-LMB	CFR-05-2-FH	CFR-05-3-BC	CFR-05-4-CC	CFR-05-4-CC-Carcass	CFR-06-1-BC	CFR-06-2-BC	CFR-06-2-BC-Carcass	CFR-06-3-BC	CFR07-01-Comely Shiner
Sample Date	27-Sep-19	01-Aug-19	01-Aug-19	01-Aug-19	01-Aug-19	01-Aug-19	01-Aug-19	31-Jul-19	31-Jul-19	31-Jul-19	31-Jul-19	25-Sep-19
Sample Matrix	Fish - Whole-body	Fish- Carcass (fillet removed)	Fish Tissue- Fillet	Fish Tissue- Fillet	Fish Tissue- Fillet	Fish Tissue- Fillet	Fish- Carcass (fillet removed)	Fish Tissue- Fillet	Fish Tissue- Fillet	Fish- Carcass (fillet removed)	Fish Tissue- Fillet	Fish - Whole-body
Eco SLEA Data Use	Downstream Sample	EPCs/Whole-body to fillet ratio	EPCs/Whole-body to fillet ratio	EPCs	EPCs	EPCs/Whole-body to fillet ratio	Whole-body to fillet ratio	EPCs	EPCs/Whole-body to fillet ratio	Whole-body to fillet ratio	EPCs	EPCs
Sample Delivery Group (SDG)	320-54836-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-54836-1
Lab Sample ID	320-54836-16	320-52951-22	320-52951-13	320-52951-14	320-52951-15	320-52951-16	320-52951-23	320-52951-5	320-52951-6	320-52951-20	320-52951-9	320-54836-5
Table 3+ Lab SOP (ppt)												
HFPO-DA	<4,300	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFMOAA	**4,900 J**	<1,000 R	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**3,200**
PFO2HxA	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFO3OA	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFO4DA	**400**	**960 J**	**2,600 J**	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**6,300**
PFO5DA	**310**	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**3,100**
PMPA	<1,000	**900 J**	**370 J**	<1,000 UJ	<1,000 UJ	**270 J**	<1,000 UJ	<1,000 UJ	**280 J**	310 UJ	<1,000 UJ	<1,000
PEPA	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFESA-BP1	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFESA-BP2	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
Byproduct 4	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
Byproduct 5	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
Byproduct 6	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
NVHOS	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
EVE Acid	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
Hydro-EVE Acid	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
R-EVE	<1,000	**3,300 J**	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PES	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFECA B	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
PFECA-G	<1,000	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<1,000 UJ	<1,500 UJ	<4,200 UJ	<1,000 UJ	<1,000 UJ	<7,300 UJ	<1,500 UJ	<1,300 UJ	<4,100 UJ	<3,000 UJ	<1,000 UJ	--
11Cl-PF3OUdS	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<10,000	<14,000 UJ	<40,000 UJ	<10,000 UJ	<10,000 UJ	<70,000 UJ	<15,000 UJ	<12,000 UJ	<40,000 UJ	<29,000 UJ	<10,000 UJ	--
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<14,000	<10,000 UJ	<59,000 UJ	<15,000 UJ	<13,000 UJ	<100,000 UJ	<10,000 UJ	<18,000 UJ	<59,000 UJ	<10,000 UJ	<14,000 UJ	--
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<1,400	--	--	<1,400 UJ	<1,000 UJ	--	--	<1,000 UJ	--	--	<1,000 UJ	--
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<2,700	--	--	<1,000 UJ	<1,000 UJ	--	--	<1,000 UJ	--	--	<1,000 UJ	--
6:2 Fluorotelomer sulfonate	<10,000	<10,000 UJ	<24,000 UJ	<10,000 UJ	<10,000 UJ	<42,000 UJ	<10,000 UJ	<10,000 UJ	<24,000 UJ	<17,000 UJ	<10,000 UJ	--
9Cl-PF3ONS	<2,800	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<2,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	--
ADONA	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
NaDONA	<1,100	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	--
N-ethyl perfluorooctane sulfonamidoacetic acid	<14,000	<10,000 UJ	<59,000 UJ	<15,000 UJ	<13,000 UJ	<10,000 UJ	<10,000 UJ	<18,000 UJ	<59,000 UJ	<10,000 UJ	<14,000 UJ	--
N-ethylperfluoro-1-octanesulfonamide	<7,500	--	--	<1,000 UJ	<1,000 UJ	--	--	<1,000 UJ	--	--	<1,000 UJ	--
N-methyl perfluoro-1-octanesulfonamide	<1,200	--	--	<1,000 UJ	<1,000 UJ	--	--	<1,000 UJ	--	--	<1,000 UJ	--
N-methyl perfluorooctane sulfonamidoacetic acid	<15,000	<10,000 UJ	<62,000 UJ	<15,000 UJ	<14,000 UJ	<11,000 UJ	<10,000 UJ	<10,000 UJ	<62,000 UJ	<10,000 UJ	<10,000 UJ	--
Perfluorobutane Sulfonic Acid	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**390 J**	**270 J**	<1,000 UJ	**4,100 J**	<1,000 UJ	**6,000 J**	--
Perfluorobutanoic Acid	<1,100	<1,600 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**770 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorodecane Sulfonic Acid	**3,100**	**2,900 J**	**1,300 J**	**2,200 J**	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorodecanoic Acid	**4,500**	**12,000 J**	**2,800 J**	**14,000 J**	<1,000 UJ	**150 J**	**630 J**	<1,000 UJ	**280 J**	**750 J**	<1,000 UJ	--
Perfluorododecane sulfonic acid (PFDoS)	<2,300	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,700 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorododecanoic Acid	**7,300**	**11,000 J**	**2,200 J**	**9,700 J**	**1,600 J**	**470 J**	**2,300 J**	**1,100 J**	**1,300 J**	**3,100 J**	<1,000 UJ	--
Perfluoroheptane sulfonic acid (PFHpS)	<1,400	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluoroheptanoic Acid	<1,100	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorohexadecanoic acid (PFHxDA)	<1,700 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorohexane Sulfonic Acid	<1,200	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorohexanoic Acid	<1,600	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorononanesulfonic acid	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorononanoic Acid	<1,400	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorooctadecanoic acid	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorooctane Sulfonamide	**870**	**330 J**	<1,300 UJ	<1,000 UJ	<1,000 UJ	<2,300 UJ	**440 J**	<1,000 UJ	**450 J**	**1,200 J**	<1,000 UJ	--
Perfluoropentane sulfonic acid (PFPeS)	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--
Perfluoropentanoic Acid	<3,000	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<2,200 UJ	<1,000 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	--
Perfluorotetradecanoic Acid	**2,800 J**	**5,100 J**	**1,300 J**	**2,100 J**	**1,100 J**	**490 J**	**1,400 J**	<1,000 UJ	**1,200 J**	**3,100 J**	<1,000 UJ	--
Perfluorotridecanoic Acid	**2,300**	**3,900 J**	**1,200 J**	**1,900 J**	<1,000 UJ	**320 J**	**900 J**	<1,000 UJ	**830 J**	**1,600 J**	<1,000 UJ	--
Perfluoroundecanoic Acid	**6,800**	**17,000 J**	**3,700 J**	**17,000 J**	**1,400 J**	**350 J**	**1,600 J**	<1,000 UJ	<5,700 UJ	**1,900 J**	<1,000 UJ	--
PFOA	<3,400	<1,000 UJ	<1,400 UJ	<1,000 UJ	<1,000 UJ	<2,400 UJ	<1,000 UJ	<1,000 UJ	<1,400 UJ	<1,000 UJ	<1,000 UJ	--
PFOS	**120,000**	**120,000 J**	**37,000 J**	**52,000 J**	**3,500 J**	<5,600 UJ	**87,000 J**	<2,500 UJ	<3,200 UJ	**530,000 J**	<2,500 UJ	--
Other Parameters												
Percent Moisture	**76.5 J**	**69.9**	**79.7**	--	--	**86.5**	**75.8**	--	**79.7**	**68.9**	--	--
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH	FISH
Location ID	CFR07-01	CFR-09	CFR-09	DERC	DERC	DERC	DERC	MM-68	MM-68	SEEP-A-1	SEEP-A-2	SEEP-B-1
Field Sample ID	CFR07-01-Lamprey	CFR-09-2-BC	CFR-09-2-BC-Carcass	DERC-1-LMB	DERC-2-LMB	DERC-3-LMB	DERC-3-LMB-Carcass	MM-68-4-LMB	MM-68-4-LMB-Carcass	SeepA-01-Redbreast Sunfish	SeepA-02-Redbreast Sunfish	SeepB-01-Spotted bass
Sample Date	25-Sep-19	31-Jul-19	31-Jul-19	30-Jul-19	30-Jul-19	30-Jul-19	30-Jul-19	02-Aug-19	02-Aug-19	24-Sep-19	26-Sep-19	24-Sep-19
Sample Matrix	Fish - Whole-body	Fish Tissue- Fillet	Fish- Carcass (fillet removed)	Fish Tissue- Fillet	Fish Tissue- Fillet	Fish Tissue- Fillet	Fish- Carcass (fillet removed)	Fish Tissue- Fillet	Fish- Carcass (fillet removed)	Fish - Whole-body	Fish - Whole-body	Fish - Whole-body
Eco SLEA Data Use	EPCs	Whole-body to fillet ratio	Whole-body to fillet ratio	EPCs	EPCs	EPCs/Whole-body to fillet ratio	Whole-body to fillet ratio	Whole-body to fillet ratio	Whole-body to fillet ratio	EPCs	EPCs	EPCs
Sample Delivery Group (SDG)	320-54836-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-52951-1	320-54836-1	320-54836-1	320-54836-1
Lab Sample ID	320-54836-4	320-52951-8	320-52951-21	320-52951-1	320-52951-2	320-52951-3	320-52951-19	320-52951-17	320-52951-24	320-54836-1	320-54836-7	320-54836-2
Table 3+ Lab SOP (ppt)												
HFPO-DA	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<5,200	<2,200	<1,300
PFMOAA	**13,000**	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	**4,500 J**	**4,300 J**	**5,100**
PFO2HxA	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000
PFO3OA	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000
PFO4DA	<1,000	**1,700 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	**270 J**	**950 J**	<1,100 UJ	**890 J**	**41,000**	**31,000 J**	**1,900**
PFO5DA	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**810 J**	<1,100 UJ	<1,000 UJ	**1,700**	**710 J**	<1,000
PMPA	<1,000	**300 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	**270 J**	**630 J**	<1,100 UJ	**1,100 J**	**240 J**	<1,000	<1,000
PEPA	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
PFESA-BP1	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
PFESA-BP2	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**290 J**	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
Byproduct 4	<1,000	<1,000 UJ	**510 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	**730 J**	**400 J**	**6,400**
Byproduct 5	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
Byproduct 6	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
NVHOS	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	**710**	<1,000	<1,000
EVE Acid	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
Hydro-EVE Acid	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
R-EVE	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**2,500 J**	<1,100 UJ	**4,600 J**	**2,700**	**780**	<1,000
PES	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000	<1,000
PFECA B	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100	<1,000 UJ	<1,000
PFECA-G	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,100 UJ	<1,000 UJ	<1,000
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	--	<4,800 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<4,500 UJ	<8,200 UJ	<5,900 UJ	<6,100 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ
11Cl-PF3OUdS	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	--	<46,000 UJ	<10,000 UJ	<11,000 UJ	<10,000 UJ	<44,000 UJ	<79,000 UJ	<57,000 UJ	<58,000 UJ	<12,000	<10,000 UJ	<10,000
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	--	<68,000 UJ	<10,000 UJ	<17,000 UJ	<11,000 UJ	<10,000 UJ	<10,000 UJ	<84,000 UJ	<86,000 UJ	<18,000	<10,000	<10,000
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	<1,000 UJ	<1,000 UJ	--	--	--	--	<1,700	<1,000	<1,000
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	--	--	<1,000 UJ	<1,000 UJ	--	--	--	--	**6,700**	<1,400	<1,000
6:2 Fluorotelomer sulfonate	--	<28,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<34,000 UJ	<35,000 UJ	<10,000	<10,000	<10,000
9Cl-PF3ONS	--	<1,300 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ	<1,300 UJ	<1,100 UJ	<1,600 UJ	<1,000 UJ	<3,400	<1,400	<1,000
ADONA	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000
NaDONA	--	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100 UJ	<1,100	<1,100	<1,100
N-ethyl perfluorooctane sulfonamidoacetic acid	--	<10,000 UJ	<10,000 UJ	<17,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<84,000 UJ	<10,000 UJ	<18,000	<10,000	<10,000
N-ethylperfluoro-1-octanesulfonamide	--	--	--	<1,000 UJ	<1,000 UJ	--	--	--	--	<9,100	<3,800	<1,000
N-methyl perfluoro-1-octanesulfonamide	--	--	--	<1,000 UJ	<1,000 UJ	--	--	--	--	<1,500	<1,000	<1,000
N-methyl perfluorooctane sulfonamidoacetic acid	--	<10,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<10,000 UJ	<88,000 UJ	<10,000 UJ	<19,000	<10,000	<10,000
Perfluorobutane Sulfonic Acid	--	**1,900 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	**320 J**	**1,300 J**	**270 J**	<1,000 UJ	<1,200	<1,000	<1,000
Perfluorobutanoic Acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<4,900 UJ	<1,000 UJ	<1,000 UJ	<6,500 UJ	**370**	<1,000	<1,000
Perfluorodecane Sulfonic Acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**190 J**	**550 J**	**2,000 J**	**6,400 J**	**1,400**	**1,800**	**2,000**
Perfluorodecanoic Acid	--	<1,000 UJ	**360 J**	<1,000 UJ	<1,000 UJ	**800 J**	**3,200 J**	**4,100 J**	**21,000 J**	**2,200**	**3,100**	**3,100**
Perfluorododecane sulfonic acid (PFDoS)	--	<1,100 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,400 UJ	<1,000 UJ	<2,900	<1,200	<1,000
Perfluorododecanoic Acid	--	**430 J**	**1,300 J**	<1,000 UJ	<1,000 UJ	**930 J**	**3,200 J**	**3,700 J**	**18,000 J**	**3,500**	**5,900**	**4,600**
Perfluoroheptane sulfonic acid (PFHpS)	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**580 J**	**1,000**	**260**	<1,000
Perfluoroheptanoic Acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,400	<1,000	<1,000
Perfluorohexadecanoic acid (PFHxDA)	--	<8,100 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**310 J**	<2,100 UJ	<1,000 UJ	<1,000 UJ
Perfluorohexane Sulfonic Acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**370 J**	**390**	**660**	**2,500**
Perfluorohexanoic Acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<2,000	<1,000	<1,000
Perfluorononanesulfonic acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**520 J**	<1,000	<1,000	<1,000
Perfluorononanoic Acid	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,700	<1,000	<1,000
Perfluorooctadecanoic acid	--	<5,100 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,300 UJ	<1,000 UJ	<1,000 UJ
Perfluorooctane Sulfonamide	--	**290 J**	**1,900 J**	<1,000 UJ	<1,000 UJ	<1,400 UJ	<1,300 UJ	<1,900 UJ	<1,000 UJ	**1,400**	**1,100**	<1,000
Perfluoropentane sulfonic acid (PFPeS)	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**290**	<1,000	<1,000
Perfluoropentanoic Acid	--	<1,400 UJ	<1,300 UJ	<1,000 UJ	<1,000 UJ	<1,300 UJ	<1,200 UJ	<1,700 UJ	<1,000 UJ	<3,700	<1,500	<1,000
Perfluorotetradecanoic Acid	--	**450 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	**400 J**	**1,400 J**	**1,300 J**	**4,900 J**	**2,700 J**	**2,300 J**	**3,200 J**
Perfluorotridecanoic Acid	--	**330 J**	**460 J**	<1,000 UJ	<1,000 UJ	**760 J**	**1,900 J**	**1,500 J**	**4,600 J**	**1,400**	**1,700**	**1,300**
Perfluoroundecanoic Acid	--	**290 J**	**1,100 J**	<1,000 UJ	**1,400 J**	**1,800 J**	**6,900 J**	**4,300 J**	**22,000 J**	**4,100**	**5,200**	**4,500**
PFOA	--	<1,600 UJ	<1,400 UJ	<1,000 UJ	<1,000 UJ	<1,500 UJ	<1,400 UJ	<1,900 UJ	<1,000 UJ	<4,100	<1,700	<1,000
PFOS	--	**1,300 J**	**16,000 J**	**14,000 J**	**12,000 J**	**18,000 J**	**1,400,000 J**	**56,000 J**	**670,000 J**	**140,000**	**78,000**	**81,000**
Other Parameters												
Percent Moisture	--	**84.1**	**74.3**	--	--	**81**	**71.2**	**79.4**	**69.4**	**79.6 J**	**76.3 J**	--
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	FISH	FISH	FISH	FISH	INV	INV	INV	INV	INV	INV	INV	INV
Location ID	SEEP-B-2	SEEP-C-2	WC-01	WC-02	EU-01	EU-10	EU-11	EU-12	EU-2	EU-4	EU-5	EU-6
Field Sample ID	SeepB-02-Redbreast Sunfish	SeepC-02-Redbreast Sunfish	WC-01-LMB	WC-02-Dusky Shiner	EU-1-INV-091219	EU-10-INV-082119	EU-11-inv	EU-12-INV-082019	EU2-inv	EU-4-INV-081919	EU-5-INV-082319	EU6-inv
Sample Date	26-Sep-19	26-Sep-19	26-Sep-19	26-Sep-19	12-Sep-19	21-Aug-19	31-Jul-19	20-Aug-19	25-Jul-19	19-Aug-19	23-Aug-19	25-Jul-19
Sample Matrix	Fish - Whole-body	Fish - Whole-body	Fish - Whole-body	Fish - Whole-body	Offsite- Invert	Offsite- Invert	Offsite- Invert	Offsite- Invert	Offsite- Invert	Offsite- Invert	Offsite- Invert	Offsite- Invert
Eco SLEA Data Use	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs
Sample Delivery Group (SDG)	320-54836-1	320-54836-1	320-54836-1	320-54836-1	320-54302-1	320-53607-1	320-52871-1	320-53490-1	320-52868-1	320-53490-1	320-53637-1	320-52868-1
Lab Sample ID	320-54836-8	320-54836-9	320-54836-10	320-54836-11	320-54302-5	320-53607-6	320-52871-17	320-53490-14	320-52868-8	320-53490-3	320-53637-3	320-52868-12
Table 3+ Lab SOP (ppt)												
HFPO-DA	<4,300	<10,000	<1,000	<1,000	**4,800 J**	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,300	<2,300	<1,000 UJ
PFMOAA	**4,700 J**	**3,000 J**	<1,000	<1,000	<1,000	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000 UJ	<1,300 UJ	<1,000 UJ
PFO2HxA	<1,000	<1,000	<1,000	<1,000	<1,000 UJ	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PFO3OA	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PFO4DA	**1,100**	**580**	**1,500**	**4,800**	<1,000	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PFO5DA	**470**	**650**	**1,100**	**1,700**	<1,000	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PMPA	**1,900**	**280**	<1,000	<1,000	<1,000 UJ	**1,300 J**	<1,000 UJ	<1,000	<12,000 UJ	<1,000 UJ	**19,000 J**	<1,000 UJ
PEPA	<1,000	<1,000	<1,000	<1,000	<1,000 UJ	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PFESA-BP1	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700 UJ	<1,000 UJ	<1,000	**3,500 J**	<1,000	<1,300 UJ	<1,000 UJ
PFESA-BP2	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
Byproduct 4	<1,000	**450 J**	<1,000	<1,000	<1,000	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	**5,600 J**	<1,000 UJ
Byproduct 5	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
Byproduct 6	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
NVHOS	<1,000	<1,000	<1,000	<1,000	<1,000 UJ	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
EVE Acid	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
Hydro-EVE Acid	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
R-EVE	**450 J**	<1,000	<1,000	**4,200**	**280 J**	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	**800 J**	<1,000 UJ
PES	<1,000	<1,000	<1,000	<1,000	<1,000 UJ	<1,700	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PFECA B	<1,000	<1,000	<1,000	<1,000	<1,000 UJ	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
PFECA-G	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,700 UJ	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,300 UJ	<1,000 UJ
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<1,000 UJ	<1,600 UJ	--	--	<1,000	--	<1,000 UJ	<1,000	<85,000 UJ	<1,000	<1,000	<1,300 UJ
11Cl-PF3OUdS	<1,000	<2,000	--	--	<1,000	--	<4,100 UJ	<1,000	<7,200 UJ	<1,000	<1,000	<1,000 UJ
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<10,000	<23,000	--	--	<10,000	--	<47,000 UJ	<11,000	<820,000 UJ	<10,000	<10,000	<13,000 UJ
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<14,000	<34,000	--	--	<10,000	--	<10,000 UJ	<10,000	<120,000 UJ	<10,000	<10,000	<10,000 UJ
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<1,400	<3,300	--	--	**330**	--	<1,000 UJ	<1,000	--	<1,000	<1,000	<1,000 UJ
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<2,700	<6,500	--	--	<1,500	--	<1,300 UJ	<1,000	--	<1,000	<1,500	<1,000 UJ
6:2 Fluorotelomer sulfonate	<10,000	<14,000	--	--	<10,000	--	<28,000 UJ	<10,000	<490,000 UJ	<10,000	<10,000	<10,000 UJ
9Cl-PF3ONS	<2,800	<6,600	--	--	<1,500	--	<1,300 UJ	<1,000	<23,000 UJ	<1,000	<1,500	<1,000 UJ
ADONA	<1,000	<1,700	--	--	<1,000	--	<1,000 UJ	<1,000	<6,100 UJ	<1,000	<1,000	<1,000 UJ
NaDONA	<1,100	<1,800	--	--	<1,100	--	<1,100 UJ	<1,100	<6,200 UJ	<1,100	<1,100	<1,100 UJ
N-ethyl perfluorooctane sulfonamidoacetic acid	<14,000	<34,000	--	--	<10,000	--	<10,000 UJ	<10,000	<120,000 UJ	<10,000	<10,000	<10,000 UJ
N-ethylperfluoro-1-octanesulfonamide	<7,400	<18,000	--	--	<4,000	--	<3,600 UJ	<1,000	--	<1,000	<4,000	<1,000 UJ
N-methyl perfluoro-1-octanesulfonamide	<1,200	<3,000	--	--	<1,000	--	<1,000 UJ	<1,000	--	<1,000	<1,000	<1,000 UJ
N-methyl perfluorooctane sulfonamidoacetic acid	<15,000	<36,000	--	--	<10,000	--	<10,000 UJ	<10,000	<130,000 UJ	<10,000	<10,000	<10,000 UJ
Perfluorobutane Sulfonic Acid	<1,000	<2,300	--	--	<1,000	--	<1,000 UJ	<1,000	<5,100 UJ	<1,000	<1,000	<1,000 UJ
Perfluorobutanoic Acid	<1,100	<2,600	--	--	<1,000	--	<5,200 UJ	<1,000	<9,100 UJ	<1,000	<1,000 UJ	<1,400 UJ
Perfluorodecane Sulfonic Acid	**2,600**	**1,900**	--	--	<1,000	--	<1,000 UJ	<1,000	<13,000 UJ	<1,000	<1,000	<1,000 UJ
Perfluorodecanoic Acid	**2,200**	**2,100**	--	--	<1,000	--	<1,000 UJ	<1,000	<7,200 UJ	<1,000	<1,000	<1,000 UJ
Perfluorododecane sulfonic acid (PFDoS)	<2,300	<5,500	--	--	<1,300	--	<1,100 UJ	<1,000	<20,000 UJ	<1,000	<1,300	<1,000 UJ
Perfluorododecanoic Acid	**5,500**	**4,500**	--	--	<1,400	--	<1,200 UJ	<1,000	<22,000 UJ	<1,000	<1,400	<1,000 UJ
Perfluoroheptane sulfonic acid (PFHpS)	<1,400	<3,200	--	--	<1,000	--	<1,000 UJ	<1,000	<11,000 UJ	<1,000	<1,000	<1,000 UJ
Perfluoroheptanoic Acid	<1,100	<2,700	--	--	<1,000	--	<1,000 UJ	<1,000	<9,500 UJ	<1,000	<1,000	<1,000 UJ
Perfluorohexadecanoic acid (PFHxDA)	<1,700 UJ	<4,100	--	--	<1,000	--	<1,000 UJ	<1,000	<14,000 UJ	<1,000	<1,000	<1,000 UJ
Perfluorohexane Sulfonic Acid	<1,200	<2,900	--	--	<1,000	--	<1,000 UJ	<1,000	<10,000 UJ	<1,000	<1,000	<1,000 UJ
Perfluorohexanoic Acid	<1,600	<3,900	--	--	<1,000	--	**540 J**	<1,000	<14,000 UJ	<1,000	<1,000	<1,000 UJ
Perfluorononanesulfonic acid	<1,000	<1,800	--	--	<1,000	--	<1,000 UJ	<1,000	<6,500 UJ	<1,000	<1,000	<1,000 UJ
Perfluorononanoic Acid	<1,400	<3,300	--	--	<1,000	--	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,000	<1,000 UJ
Perfluorooctadecanoic acid	<1,100 UJ	<2,600	--	--	<1,000	--	<1,000 UJ	<1,000	<9,100 UJ	<1,000	<1,000	<1,000 UJ
Perfluorooctane Sulfonamide	<3,200	<7,600	--	--	<1,700	--	<1,500 UJ	<1,000	<27,000 UJ	<1,000	<1,700	<1,000 UJ
Perfluoropentane sulfonic acid (PFPeS)	<1,000	<1,800	--	--	<1,000	--	<1,000 UJ	<1,000	<6,500 UJ	<1,000	<1,000	<1,000 UJ
Perfluoropentanoic Acid	<3,000	<7,100	--	--	<1,600	--	<1,400 UJ	<1,000	<25,000 UJ	<1,000	<1,600	<3,900 UJ
Perfluorotetradecanoic Acid	**2,600**	<5,000	--	--	<1,100	--	<1,000 UJ	<1,000	<18,000 UJ	<1,000	<1,100	<1,000 UJ
Perfluorotridecanoic Acid	**2,400**	**1,800**	--	--	<1,100	--	<1,000 UJ	<1,000	<17,000 UJ	<1,000	<1,100	<1,000 UJ
Perfluoroundecanoic Acid	**5,000**	**3,300**	--	--	<1,000	--	<1,000 UJ	<1,000	<12,000 UJ	<1,000	<1,000	<1,000 UJ
PFOA	<3,300	<7,900	--	--	<1,800	--	<1,600 UJ	<1,000	<28,000 UJ	<1,000	<1,800	<1,000 UJ
PFOS	**130,000**	**250,000**	--	--	<4,200	--	<3,700 UJ	<2,500	<65,000 UJ	<2,500	<4,200	<2,500 UJ
Other Parameters												
Percent Moisture	**76.3 J**	**74.9 J**	--	--	**74.8**	**68.6 J**	**73.1**	--	**98.4**	--	**76.6**	--
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	INV	INV	INV	INV	INV	INV	INV	INV	SED	SED	SED	SED
Location ID	EU-7	EU-8	EU-9	SLEA-CFR-ACINV-01	SLEA-CFR-ACINV-02	SLEA-CFR-ACINV-03	SLEA-CFR-INV-01-02-03	SLEA-CFR-INV-04	SLEA-SED1	SLEA-SED2	SLEA-SED3	SLEA-SED3
Field Sample ID	EU-7-INV-081919	EU-8-INV-081619	EU-9-INV-082119	SLEA-CFR-ACINV-01-20191021	SLEA-CFR-ACINV-02-20191021	SLEA-CFR-ACINV-03-20191021	SLEA-CFR-INV-01-02-03 COMP	SLEA-CFR-INV-04-20191021	SLEA-SED1-20191021	SLEA-SED2-20191021	SLEA-SED3-20191021	SLEA-SED3-20191021-DUP
Sample Date	19-Aug-19	16-Aug-19	21-Aug-19	21-Oct-19	21-Oct-19	21-Oct-19	21-Oct-19	21-Oct-19	21-Oct-19	21-Oct-19	21-Oct-19	21-Oct-19
Sample Matrix	Offsite- Invert	Offsite- Invert	Offsite- Invert	CFR- Invert	CFR- Invert	CFR- Invert	CFR- Invert	CFR- Invert	CFR- Sediment	CFR- Sediment	CFR- Sediment	CFR- Sediment
Eco SLEA Data Use	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	ECPs/Field Duplicate
Sample Delivery Group (SDG)	320-53490-1	320-53490-1	320-53607-1	320-55583-1	320-55583-1	320-55583-1	320-55583-1	320-55583-1	320-55583-1	320-55583-1	320-55583-1	320-55583-1
Lab Sample ID	320-53490-6	320-53490-9	320-53607-3	320-55583-18	320-55583-19	320-55583-20	320-55583-21	320-55583-17	320-55583-7	320-55583-8	320-55583-9	320-55583-13
Table 3+ Lab SOP (ppt)												
HFPO-DA	<1,000	<1,000	**1,200 J**	<1,300	<1,300	<1,300	<1,300	--	<250	<250	<250	<250
PFMOAA	<1,000	**4,600**	<1,000	<1,000 R	<1,000 R	<1,000 R	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFO2HxA	<1,000	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFO3OA	<1,000	<1,000	<1,000 UJ	<1,000	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000
PFO4DA	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFO5DA	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PMPA	<1,000	**1,400 J**	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PEPA	<1,000	**1,600 J**	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFESA-BP1	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFESA-BP2	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Byproduct 4	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Byproduct 5	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Byproduct 6	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
NVHOS	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
EVE Acid	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Hydro-EVE Acid	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
R-EVE	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PES	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFECA B	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
PFECA-G	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
11Cl-PF3OUdS	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<10,000	<10,000	--	<10,000	<10,000	<10,000	<10,000	--	<2,000	<2,000	<2,000	<2,000
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<10,000	<10,000	--	<10,000	<10,000	<10,000	<10,000	--	<2,000	<2,000	<2,000	<2,000
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<1,000 UJ	<1,000	--	<1,000	<2,000 UJ	<15,000	<2,000 UJ	--	**680**	**280 J**	**460**	**510**
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<1,000 UJ	<1,000	--	<1,000	<1,000	<2,000 UJ	<1,000	--	**260**	**300 J**	**220**	**320**
6:2 Fluorotelomer sulfonate	<10,000	<10,000	--	<10,000	<10,000	<10,000	<10,000	--	<2,000	<2,000	<2,000	<2,000
9Cl-PF3ONS	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
ADONA	<1,000	<1,000	--	<1,100	<1,100	<1,100	<1,100	--	<210	<210	<210	<210
NaDONA	<1,100	<1,100	--	<1,100	<1,100	<1,100	<1,100	--	<210	<210	<210	<210
N-ethyl perfluorooctane sulfonamidoacetic acid	<10,000	<10,000	--	<10,000	<10,000	<10,000	<10,000	--	<2,000	<2,000	<2,000	<2,000
N-ethylperfluoro-1-octanesulfonamide	<1,000	<1,000	--	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	--	<200	<200	<200	<200
N-methyl perfluoro-1-octanesulfonamide	<1,000	<1,000	--	<1,000	<1,000 UJ	<1,000 UJ	<1,000	--	<200	<200	<200	<200
N-methyl perfluorooctane sulfonamidoacetic acid	<10,000	<10,000	--	<10,000	<10,000	<10,000	<10,000	--	<2,000	<2,000	<2,000	<2,000
Perfluorobutane Sulfonic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorobutanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorodecane Sulfonic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorodecanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorododecane sulfonic acid (PFDoS)	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorododecanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluoroheptane sulfonic acid (PFHpS)	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluoroheptanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorohexadecanoic acid (PFHxDA)	<1,000	<1,000	--	<19,000	<1,500	<18,000	<20,000	--	<200	<200	<200	<200
Perfluorohexane Sulfonic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorohexanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorononanesulfonic acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorononanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorooctadecanoic acid	<1,000	<1,000	--	<12,000	<1,000	<11,000	<13,000	--	<200	<200	<200	<200
Perfluorooctane Sulfonamide	<1,000	<1,000	--	**3,600**	**1,700**	**1,900**	**2,200**	--	<200	<200	<200	<200
Perfluoropentane sulfonic acid (PFPeS)	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluoropentanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluorotetradecanoic Acid	<1,000	<1,000	--	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	--	<200	<200	<200	<200
Perfluorotridecanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
Perfluoroundecanoic Acid	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
PFOA	<1,000	<1,000	--	<1,000	<1,000	<1,000	<1,000	--	<200	<200	<200	<200
PFOS	<2,500	<2,500	--	<2,500	<2,500	**5,200**	<2,500	--	**570**	<500	**520**	<500
Other Parameters												
Percent Moisture	--	--	**64.4 J**	--	--	--	--	--	**23**	**19.6**	**29.5**	**29.2**
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	SED	SED	SED	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Location ID	SLEA-SED4	SLEA-SED5	SLEA-SED6	EU-01	EU-01	EU-10	EU-11	EU-12	EU-12	EU-2	EU-3	EU-4
Field Sample ID	SLEA-SED4-20191021	SLEA-SED5-20191021	SLEA-SED6-20191021	EU-1-DiscreteSoil-0-.5-081419	EU-1-SOIL-0-.5-091219	EU-10-SOIL-0-.5-082119	EU-11-soil-0-0.5	EU-12-SOIL-0-.5-082019	EU-12-SOIL-0-.5-082019-D	EU2-soil-0-0.5	EU-3-soil-0-0.5	EU-4-SOIL-0-.5-081919
Sample Date	21-Oct-19	21-Oct-19	21-Oct-19	14-Aug-19	12-Sep-19	21-Aug-19	31-Jul-19	20-Aug-19	20-Aug-19	25-Jul-19	31-Jul-19	19-Aug-19
Sample Matrix	CFR- Sediment	CFR- Sediment	CFR- Sediment	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil
Eco SLEA Data Use	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	ECPs/Field Duplicate	EPCs	EPCs	EPCs
Sample Delivery Group (SDG)	320-55583-1	320-55583-1	320-55583-1	320-53747-1	320-54302-1	320-53607-1	320-52871-1	320-53490-1	320-53490-1	320-52868-1	320-52871-1	320-53490-1
Lab Sample ID	320-55583-10	320-55583-11	320-55583-12	320-53747-4	320-54302-3	320-53607-4	320-52871-15	320-53490-12	320-53490-15	320-52868-1	320-52871-1	320-53490-1
Table 3+ Lab SOP (ppt)												
HFPO-DA	**260**	<250	<250	**530 J**	**2,600**	<250	<250 UJ	<250 UJ	<250 UJ	<250 UJ	**360 J**	<250 UJ
PFMOAA	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFO2HxA	<1,000	<1,000	<1,000	<1,000 UJ	**2,300**	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFO3OA	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFO4DA	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFO5DA	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PMPA	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PEPA	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFESA-BP1	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFESA-BP2	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
Byproduct 4	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
Byproduct 5	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
Byproduct 6	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
NVHOS	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
EVE Acid	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
Hydro-EVE Acid	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
R-EVE	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PES	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFECA B	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
PFECA-G	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<1,000
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<200	<200	<200	<200 UJ	<200	<200	<500 UJ	<200 UJ	<200 UJ	<500 UJ	<500 UJ	<200 UJ
11Cl-PF3OUdS	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<2,000	<2,000	<2,000	<2,400 UJ	<2,000	<2,000	<2,500 UJ	<2,000 UJ	<2,000 UJ	<2,500 UJ	<2,500 UJ	<2,000 UJ
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<2,000	<2,000	<2,000	<3,600 UJ	<2,000	<2,000	<3,700 UJ	<2,000 UJ	<2,000 UJ	<3,700 UJ	<3,700 UJ	<2,000 UJ
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	**740 J**	**210**	**200**	<200 UJ	**330**	<200	<200 UJ	**300 J**	**290 J**	**340 J**	**200 J**	**400 J**
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	**210**	<200	<200	<200 UJ	<200	<200	**3,100 J**	<200 UJ	<200 UJ	<200 UJ	**690 J**	<200 UJ
6:2 Fluorotelomer sulfonate	<2,000	<2,000	<2,000	<2,000 UJ	<2,000	<2,000	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ
9Cl-PF3ONS	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
ADONA	<210	<210	<210	<210 UJ	<210	<210	<210 UJ	<210 UJ	<210 UJ	<210 UJ	<210 UJ	<210 UJ
NaDONA	<210	<210	<210	<210 UJ	<210	<210	<210 UJ	<210 UJ	<210 UJ	<210 UJ	<210 UJ	<210 UJ
N-ethyl perfluorooctane sulfonamidoacetic acid	<2,000	<2,000	<2,000	<2,000 UJ	<2,000	<2,000	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ
N-ethylperfluoro-1-octanesulfonamide	<200 UJ	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
N-methyl perfluoro-1-octanesulfonamide	<200 UJ	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
N-methyl perfluorooctane sulfonamidoacetic acid	<2,000	<2,000	<2,000	<2,000 UJ	<2,000	<2,000	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000 UJ
Perfluorobutane Sulfonic Acid	<200	<200	<200	<200 UJ	<200	**230**	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorobutanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorodecane Sulfonic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorodecanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	**460 J**
Perfluorododecane sulfonic acid (PFDoS)	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorododecanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	**230 J**
Perfluoroheptane sulfonic acid (PFHpS)	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluoroheptanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorohexadecanoic acid (PFHxDA)	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorohexane Sulfonic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorohexanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorononanesulfonic acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorononanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorooctadecanoic acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorooctane Sulfonamide	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluoropentane sulfonic acid (PFPeS)	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluoropentanoic Acid	<200	<200	<200	<200 UJ	<200	**210**	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorotetradecanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluorotridecanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
Perfluoroundecanoic Acid	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
PFOA	<200	<200	<200	<200 UJ	<200	<200	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ	<200 UJ
PFOS	**530**	<500	<500	<500 UJ	<500	**540**	**1,500 J**	**1,300 J**	**600 J**	**550 J**	**1,100 J**	**940 J**
Other Parameters												
Percent Moisture	**32.2**	**20.1**	**21.6**	**0.1 J**	**29.4**	**10.4**	**1.7 J**	**7**	**11**	**4 J**	**3.4 J**	**6.4**
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Location ID	EU-5	EU-6	EU-7	EU-8	EU-9	INTAKE-WORMSOIL	INTAKE-WORMSOIL	SEEP-A-RIVERSOIL	SEEP-A-WORMSOIL	SEEP-B-SOIL	SEEP-B-WORMSOIL	SEEP-C-SOIL
Field Sample ID	EU-5-SOIL-0-.5-082319	EU6-soil-0-0.5	EU-7-SOIL-0-.5-081919	EU-8-SOIL-0-.5-081619	EU-9-SOIL-0-.5-082119	INTAKE-WORMSOIL-092419-D	INTAK-WORM-SOIL-092419	SEEP-A-RIVERSOIL-091319	SEEP-A-WORMSOIL-091319	SEEP-B-SOIL-092519	SEEP-B-WORMSOIL-092519	SEEP-C-SOIL-092619
Sample Date	23-Aug-19	25-Jul-19	19-Aug-19	16-Aug-19	21-Aug-19	24-Sep-19	24-Sep-19	13-Sep-19	13-Sep-19	25-Sep-19	25-Sep-19	26-Sep-19
Sample Matrix	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Offsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil
Eco SLEA Data Use	EPCs	EPCs	EPCs	EPCs	EPCs	ECPs/Field Duplicate	EPCs/BSAF	EPCs	EPCs/BSAF	EPCs	EPCs/BSAF	EPCs
Sample Delivery Group (SDG)	320-53637-1	320-52868-1	320-53490-1	320-53490-1	320-53607-1	320-54699-1 / 320-54699-2	320-54699-1 / 320-54699-2	320-54392-1 / 320-54392-2	320-54394-1	320-54770-1 / 320-54770-2	320-54770-1 / 320-54770-2	320-54770-1 / 320-54770-2
Lab Sample ID	320-53637-1	320-52868-3	320-53490-4	320-53490-7	320-53607-1	320-54699-3	320-54699-2	320-54392-2	320-54394-1	320-54770-9	320-54770-8	320-54770-7
Table 3+ Lab SOP (ppt)												
HFPO-DA	<250	<250 UJ	<250 UJ	<250 UJ	<250	**35,000 J**	**24,000 J**	**17,000 J**	**13,000 J**	**1,400**	**25,000**	**1,300**
PFMOAA	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**4,200 J**	**2,600 J**	**5,200**	**21,000 J**	**2,500**	**150,000**	**9,100**
PFO2HxA	**1,400 J**	<1,000 UJ	<1,000	<1,000	<1,000	**19,000 J**	**16,000 J**	**5,000**	**12,000 J**	**2,200**	**47,000 J**	**6,000**
PFO3OA	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**2,100**	**2,300**	<2,800	**5,100**	<1,000	**12,000**	**1,500**
PFO4DA	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**1,100**	**1,500**	<2,800	**5,100**	<1,000	**3,000**	<1,000
PFO5DA	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**1,400**	**1,400**	**4,700**	**10,000 J**	<1,000	**3,800**	**1,400**
PMPA	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**24,000 J**	**14,000 J**	<2,800	**6,000 J**	<1,000	**7,800**	**1,000**
PEPA	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**7,500 J**	**4,800 J**	<2,800	**2,600**	<1,000	**2,700**	<1,000
PFESA-BP1	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000	<1,000	<1,000	<1,000
PFESA-BP2	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	**2,000**	<1,000	**2,100**	<1,000
Byproduct 4	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	**1,200**	<1,000	<2,800	<1,000 UJ	<1,000	**2,400**	<1,000 UJ
Byproduct 5	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000 UJ	<1,000 UJ	<1,000	<1,000 UJ
Byproduct 6	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000	<1,000	<1,000	<1,000
NVHOS	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000	<1,000	**1,300**	<1,000
EVE Acid	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000	<1,000	<1,000	<1,000
Hydro-EVE Acid	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	**1,200**	<1,000	**1,200**	<1,000
R-EVE	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000 R	<1,000 UJ	<1,000	<1,000 UJ
PES	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000	<1,000	<1,000	<1,000
PFECA B	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000	<1,000	<2,800	<1,000	<1,000	<1,000	<1,000
PFECA-G	<1,000 UJ	<1,000 UJ	<1,000	<1,000	<1,000	<1,000 UJ	<1,000 UJ	<2,800	<1,000	<1,000	<1,000	<1,000
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<200	<510 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
11Cl-PF3OUdS	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	--	--	--
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<2,000	<2,500 UJ	<2,000 UJ	<2,000 UJ	<2,000	<2,000	<2,000	<2,000	<10,000	<2,000	<2,000	<2,000
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<2,000	<3,800 UJ	<2,000 UJ	<2,000 UJ	<2,000	<2,000	<2,000	<2,000	<10,000	<2,000	<2,000	<2,000
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<200	**200 J**	**350 J**	**280 J**	<200	**4,400 J**	**1,900 J**	**1,400 J**	**2,600 J**	--	--	--
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	**640 J**	**1,400 J**	--	--	--
6:2 Fluorotelomer sulfonate	<2,000	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000	<2,000	<2,000	<2,000	<10,000	<2,000	<2,000	<2,000
9Cl-PF3ONS	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	--	--	--
ADONA	<210	<210 UJ	<210 UJ	<210 UJ	<210	<210	<210	<210	<1,000	<210	<210	<210
NaDONA	<210	<210 UJ	<210 UJ	<210 UJ	<210	<210	<210	<210	<1,100	<210	<210	<210
N-ethyl perfluorooctane sulfonamidoacetic acid	<2,000	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000	<2,000	<2,000	<2,000	<10,000	--	--	--
N-ethylperfluoro-1-octanesulfonamide	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200 UJ	<1,300 UJ	<200	<200	<200
N-methyl perfluoro-1-octanesulfonamide	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200 UJ	<1,000 UJ	--	--	--
N-methyl perfluorooctane sulfonamidoacetic acid	<2,000	<2,000 UJ	<2,000 UJ	<2,000 UJ	<2,000	<2,000	<2,000	<2,000	<10,000	<2,000	<2,000	<2,000
Perfluorobutane Sulfonic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorobutanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**2,300 J**	<200	**230**	<1,000	<200	<200	<200
Perfluorodecane Sulfonic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorodecanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**420**	**550**	**240**	<1,000	<200	**430**	**330**
Perfluorododecane sulfonic acid (PFDoS)	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorododecanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**360**	**550**	**310**	<1,000	**230**	**410**	**340**
Perfluoroheptane sulfonic acid (PFHpS)	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluoroheptanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	**330**	<200	<1,000	<200	<200	<200
Perfluorohexadecanoic acid (PFHxDA)	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorohexane Sulfonic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**230**	**330**	<200	<1,000	<200	**200**	<200
Perfluorohexanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorononanesulfonic acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorononanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**290**	**360**	<200	<1,000	<200	**250**	<200
Perfluorooctadecanoic acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000	<200	<200	<200
Perfluorooctane Sulfonamide	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<200	<1,000 UJ	<200	<200	<200
Perfluoropentane sulfonic acid (PFPeS)	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	<200	<620	<1,000	<200	<200	<200
Perfluoropentanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**640**	**500**	**230**	<1,000	<200	**1,300**	**270**
Perfluorotetradecanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	<200	**210**	<200	<1,000	<200	<200	<200
Perfluorotridecanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**350**	**450**	<200	<1,000	<200	**350**	**230**
Perfluoroundecanoic Acid	<200	<200 UJ	<200 UJ	<200 UJ	<200	**630**	**620**	**400**	<1,000	**240**	**610**	**420**
PFOA	<200	<200 UJ	<200 UJ	<200 UJ	<200	**1,200 J**	**1,800 J**	**210**	<1,000	**240**	**350**	**280**
PFOS	<500	**730 J**	**610 J**	**920 J**	<500	**7,300**	**6,500**	**1,700**	<2,500	**1,400**	**4,300**	**2,500**
Other Parameters												
Percent Moisture	**12.7 J**	**5.1 J**	**9.3**	**12.1**	**7.8**	**59.2 J**	**48.7 J**	**34.5 J**	**38.3 J**	**8.4**	**43.9**	**10.6**
Total Organic Carbon (mg/kg)	--	--	--	--	--	**200,000**	**180,000**	**14,000**	--	**13,000**	**25,000**	**16,000**

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	Soil	Soil	Soil	Soil	Soil	SW	SW	SW	SW	SW	SW	SW
Location ID	SEEP-C-WORMSOIL	SEEP-D-RIVERSOIL	SEEP-D-WORMSOIL	WC-SOIL	WC-WORMSOIL	CFR-04	CFR-04	CFR-04	CFR-04	CFR-07	CFR-07	CFR-07
Field Sample ID	SEEP-C-WORMSOIL-092619	SEEP-D-RIVERSOIL-091119	SEEP-D-WORMSOIL-092619	WC-SOIL-092419	WC-WORMSOIL-092419	CFR-04-CM-072519	CFR-04-CT-072519	CFR-04-E-072519	CFR-04-W-072519	CFR-07-CM-072519	CFR-07-CT-072519	CFR-07-E-072519
Sample Date	26-Sep-19	11-Sep-19	26-Sep-19	24-Sep-19	24-Sep-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19
Sample Matrix	Onsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil	Onsite-Soil	CFR-Surface Water	CFR-Surface Water	CFR-Surface Water	CFR-Surface Water	CFR-Surface Water	CFR-Surface Water	CFR-Surface Water
Eco SLEA Data Use	EPCs/BSAF	EPCs	EPCs/BSAF	EPCs	EPCs/BSAF	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs
Sample Delivery Group (SDG)	320-54770-1 / 320-54770-3	320-54392-1 / 320-54392-3	320-54770-1 / 320-54770-3	320-54699-1 / 320-54699-3	320-54699-1 / 320-54699-3	320-52969-1	320-52969-1	320-52969-1	320-52969-1	320-52969-1	320-52969-1	320-52969-1
Lab Sample ID	320-54770-6	320-54392-1	320-54770-3	320-54699-6	320-54699-8	320-52969-2	320-52969-1	320-52969-3	320-52969-9	320-52969-6	320-52969-5	320-52969-7
Table 3+ Lab SOP (ppt)												
HFPO-DA	**6,300**	**1,900 J**	**7,900**	**4,800**	**8,100**	<2	**2.1**	<2	**3.4**	**10**	**5.5**	**3.7**
PFMOAA	**68,000**	**7,500 J**	**17,000**	**1,100**	**1,600**	<5	<5	<5	**8.8**	**36**	**21**	**9.9**
PFO2HxA	**24,000 J**	**6,700 J**	**15,000 J**	**9,300**	**8,600**	**2.2**	**2.3**	**2.2**	**4**	**13**	**8.1**	**4.5**
PFO3OA	**5,200**	**2,000**	**7,700 J**	**2,000**	**2,100**	<2	<2	<2	<2	**3.2**	**2**	<2
PFO4DA	**2,200**	**1,200**	**5,400 J**	**1,400**	**1,400**	<2	<2	<2	<2	<2	<2	<2
PFO5DA	**1,500**	**1,000**	**4,200**	**2,200**	**2,200**	<2	<2	<2	<2	<2	<2	<2
PMPA	**6,100**	<1,000	**2,100**	**2,700**	**3,700**	<10	<10	<10	<10	**13**	**12**	<10
PEPA	**1,500**	<1,000	<1,000	**1,300**	**1,300**	<20	<20	<20	<20	<20	<20	<20
PFESA-BP1	**3,000**	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
PFESA-BP2	**1,100**	<1,000	**1,600**	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
Byproduct 4	<1,000	<1,000	<1,000 R	<1,000 UJ	<1,000 UJ	<2	**5.5 J**	**7.6 J**	**4.8 J**	**5.4 J**	**8.9 J**	**7.5 J**
Byproduct 5	<1,000	<1,000	<1,000 R	<1,000 UJ	<1,000 UJ	<2	<2	<2	**2.5 J**	**9.6 J**	**6.6 J**	**3.1 J**
Byproduct 6	<1,000	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
NVHOS	<1,000	<1,000	<1,000	<1,000	<1,000	**6.2**	**6.6**	**6.1**	**6.6**	**6.6**	**6.7**	**6.8**
EVE Acid	<1,000	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
Hydro-EVE Acid	<1,000	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
R-EVE	<1,000	<1,000	<1,000 R	<1,000 R	<1,000 UJ	**2.7 J**	**3.8 J**	<2	<2	**3.6 J**	**2.7 J**	**2.9 J**
PES	<1,000	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
PFECA B	<1,000	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
PFECA-G	<1,000	<1,000	<1,000	<1,000	<1,000	<2	<2	<2	<2	<2	<2	<2
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
11Cl-PF3OUdS	--	<200	--	<200	<200	<2	<2	<2	<2	<2	<2	<2
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<2,000	<2,000	<2,000	<2,000	<2,000	<20	<20	<20	<20	<20	<20	<20
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<2,000	<2,000	<2,000	<2,000	<2,000	<20	<20	<20	<20	<20	<20	<20
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	--	**1,100 J**	--	**1,100**	**1,300**	<2	<2	<2	<2	<2	<2	<2
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	--	**640 J**	--	**940**	**590**	<4	<4	<4	<4	<4	<4	<4
6:2 Fluorotelomer sulfonate	<2,000	<2,000	<2,000	<2,000	<2,000	<20	<20	<20	<20	<20	<20	<20
9Cl-PF3ONS	--	<200	--	<200	<200	<2	<2	<2	<2	<2	<2	<2
ADONA	<210	<210	<210	<210	<210	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
NaDONA	<210	<210	<210	<210	<210	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
N-ethyl perfluorooctane sulfonamidoacetic acid	--	<2,000	--	<2,000	<2,000	<20	<20	<20	<20	<20	<20	<20
N-ethylperfluoro-1-octanesulfonamide	<200 UJ	<200 UJ	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
N-methyl perfluoro-1-octanesulfonamide	--	<200 UJ	--	<200	<200	<2	<2	<2	<2	<2	<2	<2
N-methyl perfluorooctane sulfonamidoacetic acid	<2,000	<2,000	**2,200**	<2,000	<2,000	<20	<20	<20	<20	<20	<20	<20
Perfluorobutane Sulfonic Acid	<200	<200	<200	<200	<200	**4.5**	**4.3**	**4.3**	**4.3**	**4**	**4.2**	**4.3**
Perfluorobutanoic Acid	<200	**280**	<200	<200	<200	**7.5**	**7.1**	**7.3**	**7.1**	**6.7**	**6.9**	**7**
Perfluorodecane Sulfonic Acid	<200	<200	**260**	**270**	<200	<2	<2	<2	<2	<2	<2	<2
Perfluorodecanoic Acid	**360**	**510**	**1,000**	**850**	**790**	<2	<2	<2	<2	<2	<2	<2
Perfluorododecane sulfonic acid (PFDoS)	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluorododecanoic Acid	**360**	**530**	**620**	**750**	**610**	<2	<2	<2	<2	<2	<2	<2
Perfluoroheptane sulfonic acid (PFHpS)	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluoroheptanoic Acid	<200	<200	**250**	**330**	**220**	**13**	**13**	**13**	**13**	**13**	**12**	**13**
Perfluorohexadecanoic acid (PFHxDA)	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluorohexane Sulfonic Acid	<200	<200	**200**	**200**	**200**	**6.5**	**6.4**	**7.2**	**6.9**	**6.5**	**7**	**6.4**
Perfluorohexanoic Acid	<200	<200	<200	**230**	<200	**18**	**18**	**18**	**18**	**19**	**19**	**19**
Perfluorononanesulfonic acid	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluorononanoic Acid	**210**	<200	**410**	**530**	**290**	<2	<2	<2	<2	<2	<2	<2
Perfluorooctadecanoic acid	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluorooctane Sulfonamide	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluoropentane sulfonic acid (PFPeS)	<200	<200	<200	<200	<200	<2	<2	<2	<2	<2	<2	<2
Perfluoropentanoic Acid	**540**	**300**	**500**	**290**	**410**	**19**	**20**	**20**	**19**	**20**	**19**	**19**
Perfluorotetradecanoic Acid	<200	<200	**260**	**260**	**250**	<2	<2	<2	<2	<2	<2	<2
Perfluorotridecanoic Acid	<200	**270**	**510**	**530**	**500**	<2	<2	<2	<2	<2	<2	<2
Perfluoroundecanoic Acid	**460**	**610**	**930**	**1,100**	**890**	<2	<2	<2	<2	<2	<2	<2
PFOA	**430**	**400**	**790**	**830**	**650**	**8**	**7.9**	**7.9**	**7.9**	**8**	**7.7**	**7.6**
PFOS	**4,100**	**3,600**	**9,700**	**6,600**	**5,200**	**16**	**15**	**15**	**16**	**16**	**16**	**16**
Other Parameters												
Percent Moisture	**42.6**	**20.1 J**	**34.2**	**15.5**	**25.2 J**	--	--	--	--	--	--	--
Total Organic Carbon (mg/kg)	**130,000**	**19,000**	**41,000**	**15,000**	**35,000**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	SW	SW	SW	SW	SW	SW	SW	SW	SW	VEG	VEG	VEG
Location ID	CFR-07	CFR-07	Pond-1	Pond-1	Pond-1	Pond-1	POND-B-EAST	POND-B-SOUTH	POND-B-WEST	EU-01	EU-10	EU-11
Field Sample ID	CFR-07-E-072519-2	CFR-07-W-072519	Pond-1-NE-072419	Pond-1-NW-072419	Pond-1-SE-072419	Pond-1-SE-072419-2	POND-B-EAST-091219	POND-B-SOUTH-091219	POND-B-WEST-091219	EU-1-VEG-091219	EU-10-VEG-082119	EU-11-veg
Sample Date	25-Jul-19	25-Jul-19	24-Jul-19	24-Jul-19	24-Jul-19	24-Jul-19	12-Sep-19	12-Sep-19	12-Sep-19	12-Sep-19	21-Aug-19	31-Jul-19
Sample Matrix	CFR-Surface Water	CFR-Surface Water	Pond-1-Surface Water	Pond-1-Surface Water	Pond-1-Surface Water	Pond-1-Surface Water	Pond-B-Discrete Surface Water	Pond-B-Discrete Surface Water	Pond-B-Discrete Surface Water	Offsite-Veg	Offsite-Veg	Offsite-Veg
Eco SLEA Data Use	ECPs/Field Duplicate	EPCs	EPCs	EPCs	EPCs	ECPs/Field Duplicate	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs
Sample Delivery Group (SDG)	320-52969-1	320-52969-1	280-126823-1	280-126823-1	280-126823-1	280-126823-1	320-54303-1	320-54303-1	320-54303-1	320-54302-1	320-53607-1	320-52871-1
Lab Sample ID	320-52969-8	320-52969-4	280-126823-2	280-126823-3	280-126823-4	280-126823-1	320-54303-3	320-54303-4	320-54303-2	320-54302-4	320-53607-5	320-52871-16
Table 3+ Lab SOP (ppt)												
HFPO-DA	**4.3**	**15**	**940**	**730**	**760**	**770**	**310**	**290**	**310**	**8,900**	**1,700**	**3,700 J**
PFMOAA	**12**	**71**	**240**	**250**	**260**	**250**	**67**	**71**	**65**	**20,000**	<1,000	<5,700 UJ
PFO2HxA	**4.9**	**25**	**690**	**700**	**720**	**730**	**220**	**220**	**210**	**6,100 J**	<1,000 UJ	2,900 UJ
PFO3OA	<2	**6.4**	**91**	**90**	**97**	**95**	**27**	**26**	**26**	**220 J**	<1,000 UJ	<5,700 UJ
PFO4DA	<2	**2.3**	**37**	**38**	**40**	**40**	**8.9**	**8.4**	**8.7**	**260 J**	<1,000 UJ	<5,700 UJ
PFO5DA	<2	<2	**9.7 J**	**9.9 J**	**10 J**	**10 J**	**2.1**	**2.1**	<2	<1,000	<1,000	<5,700 UJ
PMPA	<10	**19**	**820**	**820**	**850**	**850**	**350 J**	**350**	**340**	**12,000 J**	**530 J**	**52,000 J**
PEPA	<20	<20	**270**	**280**	**300**	**290**	**110**	**110**	**100**	**1,700 J**	<1,000 UJ	<5,700 UJ
PFESA-BP1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	<1,000	<5,700 UJ
PFESA-BP2	<2	<2	**31**	**31**	**32**	**33**	**25**	**25**	**25**	<1,000	<1,000	<5,700 UJ
Byproduct 4	**6.9 J**	**6.5 J**	**90 J**	**96 J**	**94 J**	**99 J**	**140 J**	**150 J**	**130 J**	**1,200 J**	<1,000	**22,000 J**
Byproduct 5	**3.1 J**	**19 J**	<2	<2	<2	<2	<2	<2	<2	<1,000	**570 J**	<5,700 UJ
Byproduct 6	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	<1,000	<5,700 UJ
NVHOS	**6**	**7.2**	**5.6**	**6.1**	**6.2**	**6.3**	<2	<2	<2	**5,000**	<1,000	**730,000 J**
EVE Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	<1,000 UJ	<5,700 UJ
Hydro-EVE Acid	<2	<2	**3.4**	**3.4**	**3.5**	**3.6**	<2	<2	<2	<1,000	<1,000 UJ	<5,700 UJ
R-EVE	**2.8 J**	**3.3 J**	**52 J**	**55 J**	**58 J**	**57 J**	**53 J**	**53 J**	**52 J**	**1,400 J**	**1,400 J**	**8,500 J**
PES	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	**1,100 J**	2,900 UJ
PFECA B	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000 UJ	<1,000 UJ	<5,700 UJ
PFECA-G	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	<1,000 UJ	<5,700 UJ
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<2	<2	<2	<2	<2	<2	<2	<2	<2	<52,000	--	<1,000 UJ
11Cl-PF3OUdS	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<20	<20	<20	<20	<20	<20	<20	<20	<20	<500,000	--	<30,000 UJ
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<20	<20	<20	<20	<20	<20	<20	<20	<20	<740,000	--	<45,000 UJ
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<4	<4	<4	<4	<4	<4	<4	<4	<4	<1,400	--	<1,000 UJ
6:2 Fluorotelomer sulfonate	<20	<20	<20	<20	<20	<20	<20	<20	<20	<300,000	--	<18,000 UJ
9Cl-PF3ONS	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,400	--	<1,000 UJ
ADONA	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<1,000	--	<1,000 UJ
NaDONA	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<1,100	--	<1,100 UJ
N-ethyl perfluorooctane sulfonamidoacetic acid	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10,000	--	<10,000 UJ
N-ethylperfluoro-1-octanesulfonamide	<2	<2	<2	<2	<2	<2	<2	<2	<2	<3,900	--	<23,000 UJ
N-methyl perfluoro-1-octanesulfonamide	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
N-methyl perfluorooctane sulfonamidoacetic acid	<20	<20	<20	<20	<20	<20	<20	<20	<20	<10,000	--	<10,000 UJ
Perfluorobutane Sulfonic Acid	**4.3**	**4**	**2.6**	**2.6**	**2.6**	**2.6**	**4.2**	**4.2**	**4.3**	<1,000	--	<1,000 UJ
Perfluorobutanoic Acid	**6.9**	**7.4**	**11**	**11**	**12**	**11**	**6.2**	**6**	**6**	<1,000	--	**850 J**
Perfluorodecane Sulfonic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorodecanoic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorododecane sulfonic acid (PFDoS)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,200	--	<1,000 UJ
Perfluorododecanoic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,300	--	**930 J**
Perfluoroheptane sulfonic acid (PFHpS)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluoroheptanoic Acid	**14**	**13**	**4**	**4.2**	**4.2**	**4.2**	<2	**2.1**	<2	<1,000	--	<1,000 UJ
Perfluorohexadecanoic acid (PFHxDA)	<2	<2	<4	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorohexane Sulfonic Acid	**6.4**	**6.8**	**2.6**	**2.5**	**2.6**	**2.6**	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorohexanoic Acid	**19**	**19**	**5.1**	**4.7**	**5.2**	**5.1**	**2.5**	**2.3**	**2.2**	<1,000	--	<1,000 UJ
Perfluorononanesulfonic acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorononanoic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorooctadecanoic acid	<2	<2	<2 UJ	<2 UJ	<2 UJ	<2 UJ	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluorooctane Sulfonamide	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,600	--	<1,000 UJ
Perfluoropentane sulfonic acid (PFPeS)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluoropentanoic Acid	**20**	**20**	**16**	**15**	**15**	**15**	<2	**7.5**	<2	<1,500	--	<1,000 UJ
Perfluorotetradecanoic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,100	--	<1,000 UJ
Perfluorotridecanoic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
Perfluoroundecanoic Acid	<2	<2	<2	<2	<2	<2	<2	<2	<2	<1,000	--	<1,000 UJ
PFOA	**7.9**	**7.5**	**9.1**	**9.6**	**8.7**	**9**	**4**	**4.1**	**3.8**	<1,700	--	<1,000 UJ
PFOS	**16**	**16**	**3.3**	**2.8**	**2.3**	**2.5**	**6.1**	**6.2**	**5.7**	<4,000	--	<2,500 UJ
Other Parameters												
Percent Moisture	--	--	--	--	--	--	--	--	--	**81.5**	**62.2 J**	**59.7**
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	VEG	VEG	VEG	VEG	VEG	VEG	VEG	VEG	VEG	VEG	VEG	VEG
Location ID	EU-12	EU-2	EU-3	EU-4	EU-5	EU-6	EU-7	EU-8	EU-9	SLEA-SED1-VEG	SLEA-SED2-VEG	SLEA-SED3-VEG
Field Sample ID	EU-12-VEG-082019	EU2-veg	EU-3-veg	EU-4-VEG-081919	EU-5-VEG-082319	EU6-veg	EU-7-VEG-081919	EU-8-VEG-081619	EU-9-VEG-082119	SLEA-SED1-VEG-20191021	SLEA-SED2-VEG-20191021	SLEA-SED3-VEG-20191021
Sample Date	20-Aug-19	25-Jul-19	31-Jul-19	19-Aug-19	23-Aug-19	25-Jul-19	19-Aug-19	16-Aug-19	21-Aug-19	21-Oct-19	21-Oct-19	21-Oct-19
Sample Matrix	Offsite-Veg	Offsite-Veg	Offsite-Veg	Offsite-Veg	Offsite-Veg	Offsite-Veg	Offsite-Veg	Offsite-Veg	Offsite-Veg	CFR-Veg	CFR-Veg	CFR-Veg
Eco SLEA Data Use	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs	EPCs
Sample Delivery Group (SDG)	320-53490-1	320-52868-1	320-52871-1	320-53490-1	320-53637-1	320-52868-1	320-53490-1	320-53490-1	320-53607-1	320-55583-1	320-55583-1	320-55583-1
Lab Sample ID	320-53490-13	320-52868-7	320-52871-2	320-53490-2	320-53637-2	320-52868-11	320-53490-5	320-53490-8	320-53607-2	320-55583-1	320-55583-2	320-55583-3
Table 3+ Lab SOP (ppt)												
HFPO-DA	**55,000**	**34,000 J**	**2,200 J**	**540**	**1,500**	**2,000 J**	**1,200**	**580**	**890**	**2,100**	**3,200**	**13,000**
PFMOAA	<1,000 R	**59,000 J**	<1,000 R	<1,000 R	<1,000 R	<1,000 R	<1,000 R	<5,000 UJ	**970 J**	<1,000	<1,000	**370,000 J**
PFO2HxA	<1,000 UJ	**6,600 J**	**4,800 J**	**1,200 J**	**790 J**	**1,200 J**	**1,100 J**	**1,500 J**	<1,000 UJ	<1,000	<1,000	**29,000 J**
PFO3OA	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<5,000	<1,000 UJ	<1,000	<1,000	<2,400
PFO4DA	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**530 J**	<1,000 UJ	<1,000 UJ	<5,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<2,400
PFO5DA	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<5,000	<1,000	<1,000	<1,000	<2,400
PMPA	**390 J**	**34,000 J**	**3,700 J**	**2,200 J**	**1,900 J**	**8,200 J**	**2,900 J**	**4,200 J**	**2,000 J**	<1,000	<1,000	**66,000**
PEPA	<1,000 UJ	**2,300 J**	**410 J**	<1,000 UJ	**410 J**	**850 J**	<1,000 UJ	<5,000	<1,000 UJ	<1,000	<1,000	<2,400
PFESA-BP1	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<5,000	<1,000	<1,000	<1,000	<2,400
PFESA-BP2	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<5,000	<1,000	<1,000	<1,000	<2,400
Byproduct 4	**960 J**	**3,400 J**	<1,000 UJ	**19,000 J**	**600 J**	<1,000 UJ	<1,000	**2,100 J**	**650 J**	<1,000	<1,000	**3,300**
Byproduct 5	<1,000	<1,000 UJ	<1,000 UJ	**370 J**	<1,000 UJ	<1,000 UJ	<1,000	<5,000	<1,000	<1,000	<1,000	<2,400
Byproduct 6	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000	<1,000 UJ	<1,000 UJ	<1,000	<5,000	<1,000	<1,000	<1,000	<2,400
NVHOS	**24,000 J**	**1,700 J**	**650 J**	**2,700 J**	**26,000 J**	**18,000 J**	**3,700 J**	<5,000	**6,700 J**	<1,000	<1,000	<2,400
EVE Acid	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<5,000	<1,000 UJ	<1,000	<1,000	<2,400
Hydro-EVE Acid	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<5,000	<1,000	<1,000	<1,000	<2,400
R-EVE	<1,000	**3,100 J**	**4,400 J**	<1,000	**4,100 J**	**3,100 J**	**240 J**	**2,600 J**	<1,000	<1,000	<1,000	**2,800**
PES	<1,000 UJ	<1,000 UJ	<1,000 UJ	**1,100 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	<5,000	**300 J**	<1,000	<1,000	<2,400
PFECA B	**320 J**	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	**3,100 J**	<1,000 UJ	<5,000	<1,000 UJ	<1,000	<1,000	<2,400
PFECA-G	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ	<5,000	<1,000 UJ	<1,000 UJ	<1,000 UJ	<2,400
Other PFAS (ppt)												
10:2 Fluorotelomer sulfonate	<7,800	<4,000 UJ	<3,600 UJ	<19,000	<3,000	<3,500 UJ	<5,700	<1,000	--	<1,000	<1,000	<1,000
11Cl-PF3OUdS	<6,600	<1,000 UJ	<1,000 UJ	<6,400	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<75,000	<39,000 UJ	<35,000 UJ	<180,000	<29,000	<34,000 UJ	<55,000	<10,000	--	<10,000	<10,000	<10,000
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<110,000	<10,000 UJ	<10,000 UJ	<110,000	<10,000	<10,000 UJ	<81,000	<10,000	--	<10,000	<10,000	<10,000
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<1,000	--	<1,000 UJ	<10,000	<1,000	--	**240**	<1,000	--	<1,000	<1,000	<1,000
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<1,000	--	<1,000 UJ	<20,000	<1,000	--	<1,500	<1,400	--	<2,000 UJ	<1,000	<1,000
6:2 Fluorotelomer sulfonate	<45,000	<23,000 UJ	<21,000 UJ	<110,000	<10,000	<20,000 UJ	<33,000	<10,000	--	<10,000	<10,000	<10,000
9Cl-PF3ONS	<22,000	<1,100 UJ	<1,000 UJ	<21,000	<1,000	<1,000 UJ	<1,600	<1,400	--	<1,000	<1,000	<1,000
ADONA	<5,600	<1,000 UJ	<1,000 UJ	<5,500	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,100	<1,100	<1,100
NaDONA	<5,700	<1,100 UJ	<1,100 UJ	<5,500	<1,100	<1,100 UJ	<1,100	<1,100	--	<1,100	<1,100	<1,100
N-ethyl perfluorooctane sulfonamidoacetic acid	<10,000	<10,000 UJ	<10,000 UJ	<110,000	<10,000	<10,000 UJ	<10,000	<10,000	--	<10,000	<10,000	<10,000
N-ethylperfluoro-1-octanesulfonamide	<2,900	--	<2,700 UJ	<56,000	<22,000	--	<4,200	<3,800	--	<1,000 UJ	<1,000	<1,000 UJ
N-methyl perfluoro-1-octanesulfonamide	<1,000	--	<1,000 UJ	<9,300	<1,000	--	<1,000	<1,000	--	<1,000 UJ	<1,000	<1,000 UJ
N-methyl perfluorooctane sulfonamidoacetic acid	<10,000	<10,000 UJ	<10,000 UJ	<110,000	<10,000	<10,000 UJ	<10,000	<10,000	--	<10,000	<10,000	<10,000
Perfluorobutane Sulfonic Acid	<7,500	**470 B**	<1,000 UJ	<7,300	<1,000	<1,000 UJ	**310 J**	**370**	--	<1,000	<1,000	<1,000
Perfluorobutanoic Acid	<1,000	**4,100 J**	**820 J**	<8,100	**680**	**820 J**	**510**	<1,000	--	<1,000	**1,400**	**2,400 J**
Perfluorodecane Sulfonic Acid	<12,000	<1,000 UJ	<1,000 UJ	<11,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorodecanoic Acid	<6,600	<1,000 UJ	<1,000 UJ	<6,400	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorododecane sulfonic acid (PFDoS)	<18,000	<1,000 UJ	<1,000 UJ	<17,000	<1,000	<1,000 UJ	<1,300	<1,200	--	<1,000	<1,000	<1,000
Perfluorododecanoic Acid	<1,000	**1,200 J**	**580 J**	<20,000	<1,000	**1,400 J**	<1,500	<1,300	--	<1,000	<1,000	<1,000
Perfluoroheptane sulfonic acid (PFHpS)	<10,000	<1,000 UJ	<1,000 UJ	<10,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluoroheptanoic Acid	<1,000	<1,000 UJ	<1,000 UJ	<8,400	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorohexadecanoic acid (PFHxDA)	<1,000	<6,800 UJ	<6,100 UJ	<13,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000 UJ
Perfluorohexane Sulfonic Acid	<9,300	<1,000 UJ	<1,000 UJ	<9,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorohexanoic Acid	<1,000	<1,000 UJ	<1,000 UJ	<12,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorononanesulfonic acid	<6,000	<1,000 UJ	<1,000 UJ	<5,800	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorononanoic Acid	<1,000	<1,000 UJ	<1,000 UJ	<10,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluorooctadecanoic acid	<1,000	<4,400 UJ	<1,000 UJ	<8,100	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000 UJ
Perfluorooctane Sulfonamide	<1,200	<1,300 UJ	<1,100 UJ	<24,000	<1,000	<1,100 UJ	<1,800	<1,600	--	<1,000	<1,000	<1,000
Perfluoropentane sulfonic acid (PFPeS)	<6,000	<1,000 UJ	<1,000 UJ	<5,800	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
Perfluoropentanoic Acid	<1,200	<1,200 UJ	**1,000 J**	<22,000	<1,000	<1,000 UJ	**480**	<1,500	--	<1,000	**1,300**	**10,000**
Perfluorotetradecanoic Acid	<1,000	<1,000 UJ	<1,000 UJ	<16,000	<1,000	<1,000 UJ	<1,200	<1,100	--	<1,000	<1,000	<1,000 UJ
Perfluorotridecanoic Acid	<1,000	<1,000 UJ	<1,000 UJ	<15,000	<1,000	<1,000 UJ	<1,100	<1,000	--	<1,000	<1,000	<1,000
Perfluoroundecanoic Acid	<1,000	<1,000 UJ	<1,000 UJ	<10,000	<1,000	<1,000 UJ	<1,000	<1,000	--	<1,000	<1,000	<1,000
PFOA	<1,300	<1,300 UJ	<1,200 UJ	<25,000	<1,000	<1,200 UJ	<1,900	<1,700	--	<1,000	<1,000	<1,000
PFOS	<60,000	<3,100 UJ	<2,800 UJ	<58,000	<2,500	<2,700 UJ	<4,400	**870**	--	**4,700**	**3,000**	<2,500
Other Parameters												
Percent Moisture	**67.9**	**68.8**	**66**	**66.3**	**62.4**	**64.4**	**78**	**83.8**	**80.3 J**	--	--	--
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
Data Summary Tables
Chemours Fayetteville Works, North Carolina

Media	VEG	VEG	VEG	Worm	Worm	Worm	Worm	Worm	Worm	Worm
Location ID	SLEA-SED4-VEG	SLEA-SED5-VEG	SLEA-SED6-VEG	INTAKE-WORM	INTAKE-WORM	SEEP-A-WORMS	SEEP-B-WORM	SEEP-C-WORM	SEEP-D-WORM	WC-WORM
Field Sample ID	SLEA-SED4-VEG-20191021	SLEA-SED5-VEG-20191021	SLEA-SED6-VEG-20191021	INTAKE-WORM-092419	INTAKE-WORM-092419-D	SEEP-A-WORMS-091319	SEEP-B-WORMS-092519	SEEP-C-WORM-092619	SEEP-D-WORM-092619	WC-WORM-092419
Sample Date	21-Oct-19	21-Oct-19	21-Oct-19	24-Sep-19	24-Sep-19	13-Sep-19	25-Sep-19	26-Sep-19	26-Sep-19	24-Sep-19
Sample Matrix	CFR-Veg	CFR-Veg	CFR-Veg	Onsite-Invert	Onsite-Invert	Onsite-Invert	Onsite-Invert	Onsite-Invert	Onsite-Invert	Onsite-Invert
Eco SLEA Data Use	EPCs	EPCs	EPCs	EPCs/BSAF	ECPs/BSAF/Field Duplicate	EPCs/BSAF	EPCs/BSAF	EPCs/BSAF	EPCs/BSAF	EPCs/BSAF
Sample Delivery Group (SDG)	320-55583-1	320-55583-1	320-55583-1	320-54699-1	320-54699-1	320-54394-1	320-54770-1	320-54770-1	320-54770-1	320-54699-1
Lab Sample ID	320-55583-4	320-55583-5	320-55583-6	320-54699-9	320-54699-10	320-54394-2	320-54770-13	320-54770-12	320-54770-11	320-54699-11
Table 3+ Lab SOP (ppt)										
HFPO-DA	**26,000**	<1,300	<1,300	**4,900**	**5,200**	**6,200 J**	**19,000**	**1,400**	**5,200**	**5,700**
PFMOAA	**130,000**	<1,000	<1,000 R	<1,300 R	<1,200 R	**18,000 J**	**57,000**	<1,200 R	<1,000 R	<1,000 R
PFO2HxA	**38,000**	<1,000	<1,000	<1,300 UJ	<1,200 UJ	**4,200**	**14,000**	**870 J**	**2,300 J**	<1,000 UJ
PFO3OA	<1,300 UJ	**1,100 J**	<1,000 UJ	**240 J**	**230 J**	**2,600**	**6,700 J**	**520 J**	**3,500 J**	**610 J**
PFO4DA	<1,300 UJ	**1,700 J**	**1,000 J**	<1,300 R	<1,200 R	**410 J**	**280 J**	<1,200 UJ	**330 J**	<1,000 UJ
PFO5DA	<1,300	**1,500**	**1,400**	<1,500	**380**	**14,000 J**	**5,500 J**	**850**	**3,100 J**	**1,800**
PMPA	**60,000**	<1,000	<1,000	**3,600 J**	**680 J**	**1,800 J**	**1,100 J**	<1,200 UJ	<1,000 UJ	<1,000 UJ
PEPA	**12,000 J**	<1,000	<1,000	**1,900 J**	**990 J**	**1,300**	**1,400 J**	**520 J**	**730 J**	**1,300 J**
PFESA-BP1	<1,300	<1,000	<1,000 UJ	<1,300 UJ	<1,200 UJ	**220 J**	**630 J**	<1,200 UJ	<1,000 UJ	<1,000 UJ
PFESA-BP2	<1,300	<1,000	<1,000	<1,300 UJ	**210 J**	**1,500**	**4,200 J**	**420**	**2,100 J**	**360 J**
Byproduct 4	**1,400 J**	**1,700 J**	<1,000	**15,000 J**	**21,000 J**	**3,800 J**	**44,000 J**	**10,000 J**	**12,000 J**	**11,000 J**
Byproduct 5	<1,300	<1,000	<1,000	**2,100 J**	**1,900 J**	**6,200 J**	**20,000 J**	**450 J**	**480 J**	<1,100
Byproduct 6	<1,300	<1,000	<1,000	<1,300 UJ	<1,200 UJ	<2,200	<1,000 UJ	<1,200	<1,000 UJ	<1,000 UJ
NVHOS	**34,000 J**	<1,000	<1,000	<1,300 UJ	<1,200 UJ	**1,000**	**7,500**	**420 J**	**880 J**	<1,000 UJ
EVE Acid	<1,300 UJ	<1,000	<1,000 UJ	<1,300 UJ	<1,200 UJ	<2,200 UJ	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ
Hydro-EVE Acid	<1,300	<1,000	<1,000	<1,300 UJ	<1,200 UJ	**380**	**930 J**	<1,200	**400 J**	<1,000 UJ
R-EVE	**1,700 J**	<1,000	<1,000	**4,100 J**	**4,900 J**	**1,100 J**	**9,500 J**	**4,900 J**	**6,000 J**	**3,200**
PES	<1,300	<1,000	<1,000	<1,300 UJ	<1,200 UJ	<2,200	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ
PFECA B	<1,300 UJ	<1,000	<1,000	<1,300 UJ	<1,200 UJ	<2,200	<1,000 UJ	<1,200 UJ	<1,000 UJ	<1,000 UJ
PFECA-G	<1,300 UJ	<1,000 UJ	<1,000 UJ	<1,300 R	<1,200 R	<2,200	<1,000 R	<1,200 UJ	<1,000 UJ	<1,000 R
Other PFAS (ppt)										
10:2 Fluorotelomer sulfonate	<1,000	<1,000	<1,000	<1,000	<1,000	<1,300	<1,000	<1,000	<1,000	<1,000
11Cl-PF3OUdS	<1,000	<1,000	<1,000	<1,000	<1,000	<1,100	--	--	--	<1,000
1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	<10,000	<10,000	<10,000	<10,000	<10,000	<12,000	<10,000	<10,000	<10,000	<10,000
1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	<10,000	<10,000	<10,000	<11,000	<10,000	<18,000	<10,000	<10,000	<10,000	<10,000
2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	<1,000	<1,000	<1,000	**250**	<1,000	<2,000 UJ	--	--	--	<1,000
2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	<1,000	<1,000	<1,000	<2,000	<2,000	<3,900 UJ	--	--	--	<1,500
6:2 Fluorotelomer sulfonate	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000	<10,000
9Cl-PF3ONS	<1,000	<1,000	<1,000	<2,100	<2,000	<3,500	--	--	--	<1,600
ADONA	<1,100	<1,100	<1,100	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
NaDONA	<1,100	<1,100	<1,100	<1,100	<1,100	<1,100	<1,100	<1,100	<1,100	<1,100
N-ethyl perfluorooctane sulfonamidoacetic acid	<10,000	<10,000	<10,000	<11,000	<10,000	<18,000	--	--	--	<10,000
N-ethylperfluoro-1-octanesulfonamide	<1,000	<1,000	<1,000	<5,500	<5,400	<11,000 UJ	<4,500	<5,100	<4,800 UJ	<4,200
N-methyl perfluoro-1-octanesulfonamide	<1,000	<1,000	<1,000	<1,000	<1,000	<1,800 UJ	--	--	--	<1,000
N-methyl perfluorooctane sulfonamidoacetic acid	<10,000	<10,000	<10,000	<11,000	<11,000	**2,100**	<10,000	**2,000**	**5,600**	**5,900**
Perfluorobutane Sulfonic Acid	<1,000	<1,000	<1,000	<1,000	**240**	**230**	**260**	**430**	**610**	**340**
Perfluorobutanoic Acid	**3,500**	<1,000	<1,000	**600**	**350**	**580**	**690**	**490**	<1,000	**480**
Perfluorodecane Sulfonic Acid	<1,000	<1,000	<1,000	<1,100	<1,100	**170**	<1,000	<1,000	**560**	**410**
Perfluorodecanoic Acid	<1,000	<1,000	<1,000	<1,000	<1,000	**580**	**570**	<1,000	**670**	**450**
Perfluorododecane sulfonic acid (PFDoS)	<1,000	<1,000	<1,000	<1,700	<1,700	<2,900	<1,400	<1,600	<1,500	<1,300
Perfluorododecanoic Acid	<1,000	**1,300**	**1,000**	**350**	**540**	**1,700**	**1,300**	**870**	**1,900**	**2,500**
Perfluoroheptane sulfonic acid (PFHpS)	<1,000	<1,000	<1,000	<1,000	<1,000	<1,700	<1,000	<1,000	**230**	<1,000
Perfluoroheptanoic Acid	<1,000	<1,000	<1,000	<1,000	<1,000	**310**	**730**	<1,000	**920**	**500**
Perfluorohexadecanoic acid (PFHxDA)	<1,000	<1,000	<1,000	**350 J**	**570 J**	**1,200 J**	**1,000 J**	**250 J**	**1,700 J**	**520 J**
Perfluorohexane Sulfonic Acid	<1,000	<1,000	<1,000	**250**	**330**	**800**	**1,600**	**360**	**1,800**	**570**
Perfluorohexanoic Acid	<1,000	<1,000	<1,000	**360**	<1,200	<2,100	<1,000	<1,100	<1,100	<1,000
Perfluorononanesulfonic acid	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Perfluorononanoic Acid	<1,000	<1,000	<1,000	<1,000	<1,000	**540**	**670**	<1,000	**630**	<1,000
Perfluorooctadecanoic acid	<1,000	<1,000	<1,000	<1,000 UJ	<1,000	<1,400	<1,000 UJ	<1,000 UJ	<1,000 UJ	<1,000 UJ
Perfluorooctane Sulfonamide	<1,000	<1,000	<1,000	<2,400	<2,300	**420 J**	**400**	<2,200	**420**	<1,800
Perfluoropentane sulfonic acid (PFPeS)	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000
Perfluoropentanoic Acid	**2,500**	<1,000	<1,000	<2,200	<2,200	<3,800	**670**	<2,000	<1,900	<1,700
Perfluorotetradecanoic Acid	<1,000	<1,000	<1,000	**1,200**	**1,900**	**2,600**	**2,400**	**1,100**	**4,200 J**	**3,000 J**
Perfluorotridecanoic Acid	<1,000	<1,000	<1,000	**470 J**	**1,100 J**	**1,600**	**1,400**	**720**	**1,700**	**1,600**
Perfluoroundecanoic Acid	<1,000	**1,700**	<1,000	**240**	**330**	**1,000**	**890**	**470**	**1,200**	**1,800**
PFOA	<1,000	<1,000	<1,000	<2,500	<2,400	**540**	**610**	<2,300	**980**	**450**
PFOS	<2,500	<2,500	<2,500	**3,000**	**3,100**	**7,400**	**6,700**	**3,100**	**12,000**	**6,100**
Other Parameters										
Percent Moisture	--	--	--	**84.2**	**82.6**	**92 J**	**79.8**	**81.9**	**80.8**	**77.3**
Total Organic Carbon (mg/kg)	--	--	--	--	--	--	--	--	--	--

Notes:
Bold - Analyte detected above associated reporting limit
B - analyte detected in an associated blank
EPA - Environmental Protection Agency
J - Analyte detected. Value may not be accurate or precise
mg/kg - milligrams per kilogram
ppt - part per trillion
QA/QC - Quality assurance/ quality control
R - Result rejected based on QA/QC criteria
SDG - Sample Delivery Group
SOP - standard operating procedure
< - Analyte not detected above associated reporting limit
-- - No data reported
UJ – Analyte not detected. Reporting limit may not be accurate or precise.

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
NC License No.: C-3500 and C-295

APPENDIX C
Photo Log

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_7 **Comments: Leafy vegetation taken as sample. No invertebrates found.**	
DU6_7 **Comments: Leafy vegetation taken as sample. No invertebrates found. (34.814; -78.835)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_10 **Comments: Moved across the street to avoid manure pile. Leafy vegetation collected. No invertebrates found. (34.815; -78.833)**	
DU6_16 **Comments: Flowery plant collected. No invertebrates found. (34.817; -78.832)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_5	
Comments: Moved to other side of highway to avoid U-turn. No invertebrates found. Thin vegetation collected. (34.811; -78.834)	
DU6_17	
Comments: Moved out of center of highway. No invertebrates found. Small leafy vegetation collected. (34.809; -78.832)	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_23 **Comments: Moved across highway. No invertebrates found. Weedy vegetation collected. (34.805; -78.828)**	
DU6_12 **Comments: Moved off highway. Rocky soil found. No invertebrates found. Long leafy vegetation collected. (34.799; -78.822)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_22 **Comments: No invertebrates found. Small ferns collected. (34.799; -78.823)**	
DU10_26 **Comments: No invertebrates found. (34.780532; -78.836691)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU10_10 **Comments: Point moved off driveway. No visible invertebrates. (34.78; -78.764)**	
DU6_27 **Comments: No invertebrates found. Thin leafy vegetation collected. (34.799; -78.823)**	

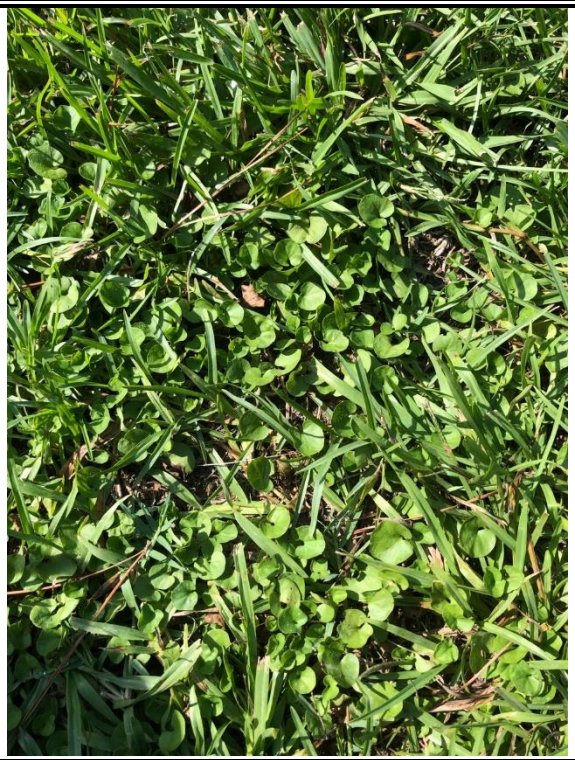
GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_30 **Comments: Long bladed grass. (34.819; -78.796)**	
DU6_15 **Comments: No invertebrates; thin leafy vegetation . (34.834; -78.802)**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU6_11 **Comments: No invertebrates found. Long grasses collected. (34.829; -78.807)**	
DU6_13 **Comments: Moved back from the EU border. Ferns collected. No invertebrates found. (34.834; -78.812)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU2_23 **Comments: Moved point out of street and closer to sample location. (34.835311; -78.823966)**	
DU2_30 **Comments: No visible invertebrates. (34.835525; -78.824683)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU2_25 **Comments: No visible invertebrates. (34.832244; -78.825641)**	
DU2_25 **Comments: No visible invertebrates. (34.832244; -78.825641)**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU2_2 **Comments: multiple crickets and grasshoppers caught. (34.827473; -78.825059)**	
DU2_20 **Comments: moved closer to side of the road and took sample at point. One cricket caught at location. (34.82626; -78.824887)**	

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU2_6

Comments:
34.825906;
-78.824892

DU2_8

Comments:
34.821777;
-78.825388

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU2_22 **Comments: EU2_22(0-0.5ft). (34.820023; -78.828723)**	
DU2_17 **Comments: EU2_17(0-0.5ft) one cricket caught. (34.839601; -78.812775)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU2_12 **Comments: EU2_12(0-0.5ft) no invertebrates caught. (34.839491; -78.812656)**	
DU11_19 **Comments: Moved to avoid private drive. No invertebrates found. Flowery vegetation collected. (34.839491; -78.812656)**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU11_1 **Comments: No invertebrates found. Leafy vegetation collected. (34.806; -78.936)**	
DU11_16 **Comments: (34.787; -78.854)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU11_10	
Comments: Moved away from other point. No invertebrates found. Leafy vegetation collected. (34.774; -78.877)	

DU11_7	
Comments: No invertebrates found. Leafy vegetation collected. (34.764; -78.895)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU3_12 **Comments: No invertebrates, leafy vegetation. (34.836; -78.857)**	
DU3_12 **Comments: No invertebrates, leafy vegetation. (34.836; -78.857)**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU3_19 **Comments: No invertebrates, leafy vegetation. (34.835; -78.857)**	
DU3_30 **Comments: No invertebrates, grassy vegetation. (34.834; -78.856)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU3_1 **Comments: No invertebrates, grassy vegetation. (34.826; -78.849)**	
DU3_3 **Comments: No invertebrates, grassy vegetation. (34.82; -78.849)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU3_10 **Comments: No invertebrates, grassy vegetation. (34.827; -78.85)**	
DU3_4 **Comments: No invertebrates, grassy vegetation. (34.829; -78.852)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

SS-4-4.5	
Comments: EU-8-Soil-4-4.5-081319. Duplicate made. Shallow sample taken as well at same location. No invertebrates found.	

EU1-4-4.5	
Comments: Shallow taken as well. No invertebrates in top 18 inches.	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU8-1 **Comments: No invertebrates, flowery vegetation. (34.868; -78.847)**	
DU8-1 **Comments: No invertebrates, flowery vegetation. (34.868; -78.847)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU8_6	
Comments: No invertebrates, leafy vegetation. (34.867; -78.87)	
DU8_4	
Comments: No invertebrates, fern collected. (34.87; -78.868)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU8_19 **Comments: No invertebrates, leafy vegetation. (34.868; -78.88)**	
DU8_11 **Comments: No invertebrates, leafy vegetation. (34.859; -78.88)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU8_22	
Comments: No invertebrates, leafy vegetation. (34.852; -78.877)	
DU8_13	
Comments: No invertebrates, leafy vegetation. (34.855; -78.877)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU4_11 **Comments: Moved due to private property. No invertebrates, grassy vegetation. (34.853; -78.854)**	
DU4_17 **Comments: No invertebrates, leafy vegetation. (34.848; -78.859)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU4_9	
Comments: No invertebrates, leafy vegetation. (34.848; -78.86)	

DU4_16	
Comments: 2 invertebrates, grassy vegetation. (34.845; -78.855)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU4_5 **Comments: 1 invertebrates, grassy vegetation. (34.845; -78.855)**	
DU7_27 **Comments: Leafy vegetation collected. No invertebrates found. (34.833; -78.865)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU7_2	
Comments: Leafy vegetation collected. No invertebrates found. (34.83; -78.873)	
DU7_10	
Comments: Tall grass collected. No invertebrates found. (34.813; -78.872)	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU7_1 **Comments: Long grasses collected. No invertebrates found. (34.815; -78.865)**	
DU12_10 **Comments: No invertebrates, leafy vegetation; (34.921; -78.844)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU12_9 **Comments: No invertebrates, leafy vegetation. (34.911; -78.839)**	
DU12_27 **Comments: 6 grasshopper, grassy vegetation. (34.901; -78.853)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU12_5	
Comments: No invertebrates, flowery vegetation. (34.886; -78.849)	

DU12_18	
Comments: 1 invertebrates, grassy vegetation. (34.905; -78.856)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU12_22	
Comments: 2 invertebrates, leafy vegetation. (34.909; -78.864)	

DU12_1	
Comments: No invertebrates, leafy vegetation. (34.902; -78.911)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU12_15	
Comments: No invertebrates, grassy vegetation. (34.893; -78.916)	

DU12_12	
Comments: No invertebrates, tall grassy vegetation. (34.894; -78.897)	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU12_26 **Comments: No invertebrates, leafy vegetation. (34.893; -78.884)**	
DU12_28 **Comments: No invertebrates, leafy vegetation. (34.857; -78.908)**	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU12_3	
Comments: 1 invertebrates, no vegetation. (34.855; -78.909)	
DU9_6	
Comments: No invertebrates, leafy vegetation. (34.892; -78.827)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU9_16	
Comments: No invertebrates, fern collected. (34.886; -78.823)	
DU9_12	
Comments: No invertebrates, leafy vegetation. (34.924; -78.823)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU9_10	
Comments: 2 invertebrates, grassy vegetation. (34.912; -78.823)	
DU9_19	
Comments: No invertebrates; grass. (34.88; -78.807)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU9_5	
Comments: 2 invertebrates, leafy vegetation. (34.874; -78.787)	
DU9_20	
Comments: No invertebrates; leafy vegetation. (34.894; -78.797)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU9_30	
Comments: Leafy vegetation: 2 invertebrates, one a dragonfly. (34.884; -78.789)	
DU10_24	
Comments: No invertebrates, tall grassy vegetation. (34.826; -78.735)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU10_20	
Comments: No invertebrates, fern collected. (34.803; -78.778)	

DU10_17	
Comments: 1 invertebrates, leafy vegetation. (34.834; -78.77)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU10_5	
Comments: 1 invertebrates, grassy vegetation. (34.76; -78.805)	
DU10_29	
Comments: 1 invertebrates, grassy vegetation. (34.761; -78.806)	

GEOSYNTEC CONSULTANTS Photographic Record	
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU5_8 **Comments: Moved due to private property. 2 invertebrates found. Long grasses collected. (34.878; -78.831)**	
DU5_8 **Comments: Moved due to private property. 2 invertebrates found. Long grasses collected. (34.878; -78.831)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU5_3 **Comments: Moved due to private property. Long grasses collected. No invertebrates found. (34.877; -78.821)**	
DU5_3 **Comments: Moved due to private property. Long grasses collected. No invertebrates found. (34.877; -78.821)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU5_5	
Comments: 1 invertebrates found. Tall grasses collected. (34.865; -78.797)	
DU5_22	
Comments: Leafy vegetation collected. No invertebrates found. (34.863; -78.834)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU5_9	
Comments: No invertebrates found. Grasses collected. (34.863; -78.832)	
DU1_7	
Comments: No invertebrates, leafy vegetation. (34.856; -78.833)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU1_20	
Comments: Leafy vegetation. No invertebrates. (34.841; -78.813)	

DU1_22	
Comments: Beetle, grasshoper, leafy vegetation. (34.857; -78.836)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU1_17	
Comments: No invertebrates found. Leafy vegetation. (34.841; -78.813)	

DU1_9	
Comments: No invertebrates, leafy vegetation. (34.858; -78.836)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU1_27	
Comments: No invertebrates, leafy vegetation. (34.86; -78.836)	
DU1_23	
Comments: No invertebrates, leafy vegetation. (34.861; -78.834)	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU1_30 **Comments: No invertebrates, leafy vegetation. (34.858; -78.832)**	
DU1_5 **Comments: No invertebrates. Leafy vegetation. (34.862; -78.838)**	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: Chemours	**Project Number: TR0795**
Site Name: Fayetteville Works	**Site Location: Fayetteville, North Carolina**

DU1_19	
Comments: No invertebrate, leafy vegetation. (34.857; -78.832)	
DU1_6	
Comments: No invertebrates, leafy vegetation. (34.858; -78.829)	

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
NC License No.: C-3500 and C-295

APPENDIX D
ProUCL Output

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.112/2/2019 9:53:39 AM

User Selected Options

From File ProUCL_Inputdata_Terr_d.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_d.xls

Onsite Invertebrate General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	6	0	6	0	0.00%	N/A	N/A	7093	36929080	6077	0.857
PFMOAA	6	0	2	4	66.67%	1000	1200	13167	4.228E+8	20562	1.562
PFO2HxA	6	0	4	2	33.33%	1000	1200	3852	22031447	4694	1.219
PFO3OA	6	0	6	0	0.00%	N/A	N/A	2360	6234197	2497	1.058
PFO4DA	6	0	3	3	50.00%	1000	1200	340	2867	53.54	0.157
PFO5DA	6	0	6	0	0.00%	N/A	N/A	4272	26092459	5108	1.196
PMPA	6	0	3	3	50.00%	1000	1200	1348	210434	458.7	0.34
PEPA	6	0	6	0	0.00%	N/A	N/A	1116	152020	389.9	0.349
PFESA-BP1	6	0	2	4	66.67%	1000	1200	425	42025	205	0.482
PFESA-BP2	6	0	6	0	0.00%	N/A	N/A	1465	2355153	1535	1.048
Byproduct 4	6	0	6	0	0.00%	N/A	N/A	16458	2.025E+8	14229	0.865
Byproduct 5	6	0	5	1	16.67%	1100	1100	4930	49534344	7038	1.428
Byproduct 6	6	0	0	6	100.00%	1000	2200	N/A	N/A	N/A	N/A
NVHOS	6	0	4	2	33.33%	1000	1200	1865	6403787	2531	1.357
EVE Acid	6	0	0	6	100.00%	1000	2200	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	3	3	50.00%	1000	1200	570	64867	254.7	0.447
R-EVE	6	0	6	0	0.00%	N/A	N/A	4865	7972150	2823	0.58
PES	6	0	0	6	100.00%	1000	2200	N/A	N/A	N/A	N/A
PFECA B	6	0	0	6	100.00%	1000	2200	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	6	100.00%	1000	2200	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	6	0	1400	19000	7093	5450	36929080	6077	845.8	1.985	0.857
PFMOAA	2	0	18000	57000	37500	37500	7.605E+8	27577	28910	N/A	0.735
PFO2HxA	4	0	870	14000	5343	3250	35172558	5931	2468	1.693	1.11
PFO3OA	6	0	231.6	6700	2360	1605	6234197	2497	1822	1.195	1.058
PFO4DA	3	0	280	410	340	330	4300	65.57	74.13	0.67	0.193
PFO5DA	6	0	382.8	14000	4272	2450	26092459	5108	2718	1.816	1.196
PMPA	3	0	1100	2156	1685	1800	288787	537.4	528.2	-0.916	0.319
PEPA	6	0	520	1444	1116	1300	152020	389.9	180.8	-1.001	0.349
PFESA-BP1	2	0	220	630	425	425	84050	289.9	303.9	N/A	0.682
PFESA-BP2	6	0	208.8	4200	1465	960	2355153	1535	1002	1.349	1.048
Byproduct 4	6	0	3800	44000	16458	11500	2.025E+8	14229	5890	1.911	0.865
Byproduct 5	5	0	450	20000	5823	1984	68321039	8266	2274	1.834	1.42
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	4	0	420	7500	2450	940	11396933	3376	429.9	1.967	1.378
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	3	0	380	930	570	400	97300	311.9	29.65	1.724	0.547
R-EVE	6	0	1100	9500	4865	4695	7972150	2823	2076	0.573	0.58
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	6	0	3230	5059	5094	5450	6075	6200	12600	15800	18360
PFMOAA	6	0	1000	1000	1050	1200	13800	18000	37500	47250	55050
PFO2HxA	6	0	935	1000	1050	1750	3725	4200	9100	11550	13510
PFO3OA	6	0	375.8	520	542.5	1605	3275	3500	5100	5900	6540
PFO4DA	6	0	305	330	350	705	1150	1200	1200	1200	1200
PFO5DA	6	0	616.4	850	1088	2450	4900	5500	9750	11875	13575
PMPA	6	0	1000	1000	1025	1150	1650	1800	1978	2067	2138
PEPA	6	0	625	730	872.5	1300	1375	1400	1422	1433	1442
PFESA-BP1	6	0	425	630	722.5	1000	1150	1200	1200	1200	1200
PFESA-BP2	6	0	284.4	360	375	960	1950	2100	3150	3675	4095
Byproduct 4	6	0	6900	10000	10250	11500	16459	17945	30973	37486	42697
Byproduct 5	6	0	465	480	635	1542	5146	6200	13100	16550	19310
Byproduct 6	6	0	1000	1000	1000	1100	1200	1200	1700	1950	2150
NVHOS	6	0	650	880	910	1000	1150	1200	4350	5925	7185
EVE Acid	6	0	1000	1000	1000	1100	1200	1200	1700	1950	2150
Hydro-EVE Acid	6	0	390	400	532.5	965	1150	1200	1200	1200	1200
R-EVE	6	0	2150	3200	3523	4695	5725	6000	7750	8625	9325
PES	6	0	1000	1000	1000	1100	1200	1200	1700	1950	2150
PFECA B	6	0	1000	1000	1000	1100	1200	1200	1700	1950	2150
PFECA-G	6	0	1000	1000	1050	1200	1200	1200	1700	1950	2150

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.112/2/2019 11:47:20 AM
From File	ReRun OffSite Veg and OnSite Invert_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Onsite Invertebrate UCLs

Hfpo Dimer Acid

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	1400	Mean	7093
Maximum	19000	Median	5450
SD	6077	Std. Error of Mean	2481
Coefficient of Variation	0.857	Skewness	1.985

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.739	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.392	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	12092	95% Adjusted-CLT UCL (Chen-1995)	13322
		95% Modified-t UCL (Johnson-1978)	12427

Gamma GOF Test

A-D Test Statistic	0.574	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.704	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.311	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.336	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.981	k star (bias corrected MLE)	1.102
Theta hat (MLE)	3581	Theta star (bias corrected MLE)	6439
nu hat (MLE)	23.77	nu star (bias corrected)	13.22
MLE Mean (bias corrected)	7093	MLE Sd (bias corrected)	6758
		Approximate Chi Square Value (0.05)	6.04
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	4.408

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	15524	95% Adjusted Gamma UCL (use when n<50)	21269

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.884	**Shapiro Wilk Lognormal GOF Test**

5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.302	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	7.244	Mean of logged Data	8.594
Maximum of Logged Data	9.852	SD of logged Data	0.829

Assuming Lognormal Distribution

95% H-UCL	28475	90% Chebyshev (MVUE) UCL	14258
95% Chebyshev (MVUE) UCL	17497	97.5% Chebyshev (MVUE) UCL	21993
99% Chebyshev (MVUE) UCL	30823		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	11174	95% Jackknife UCL	12092
95% Standard Bootstrap UCL	10838	95% Bootstrap-t UCL	25345
95% Hall's Bootstrap UCL	33407	95% Percentile Bootstrap UCL	11443
95% BCA Bootstrap UCL	12267		
90% Chebyshev(Mean, Sd) UCL	14536	95% Chebyshev(Mean, Sd) UCL	17907
97.5% Chebyshev(Mean, Sd) UCL	22586	99% Chebyshev(Mean, Sd) UCL	31778

Suggested UCL to Use

95% Adjusted Gamma UCL	21269

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	4
Number of Detects	2	Number of Non-Detects	4
Number of Distinct Detects	2	Number of Distinct Non-Detects	2
Minimum Detect	18000	Minimum Non-Detect	1000
Maximum Detect	57000	Maximum Non-Detect	1200
Variance Detects	7.605E+8	Percent Non-Detects	66.67%
Mean Detects	37500	SD Detects	27577
Median Detects	37500	CV Detects	0.735
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	10.37	SD of Logged Detects	0.815

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	13167	KM Standard Error of Mean	11872
KM SD	20562	95% KM (BCA) UCL	N/A
95% KM (t) UCL	37089	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	32694	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	48782	95% KM Chebyshev UCL	64914
97.5% KM Chebyshev UCL	87305	99% KM Chebyshev UCL	131288

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	3.329	k star (bias corrected MLE)	N/A
Theta hat (MLE)	11263	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	13.32	nu star (bias corrected)	N/A
Mean (detects)	37500		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	13167	SD (KM)	20562
Variance (KM)	4.228E+8	SE of Mean (KM)	11872
k hat (KM)	0.41	k star (KM)	0.316
nu hat (KM)	4.92	nu star (KM)	3.793
theta hat (KM)	32112	theta star (KM)	41650
80% gamma percentile (KM)	20439	90% gamma percentile (KM)	38578
95% gamma percentile (KM)	59219	99% gamma percentile (KM)	112519

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0122
Approximate Chi Square Value (3.79, α)	0.642	Adjusted Chi Square Value (3.79, β)	0.306
95% Gamma Approximate KM-UCL (use when n>=50)	77819	95% Gamma Adjusted KM-UCL (use when n<50)	163087

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	13235	Mean in Log Scale	7.939
SD in Original Scale	22490	SD in Log Scale	2.047
95% t UCL (assumes normality of ROS data)	31736	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A	95% Bootstrap t UCL	N/A
95% H-UCL (Log ROS)	30799619		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	8.063	KM Geo Mean	3176
KM SD (logged)	1.668	95% Critical H Value (KM-Log)	6.486
KM Standard Error of Mean (logged)	0.963	95% H-UCL (KM -Log)	1609932
KM SD (logged)	1.668	95% Critical H Value (KM-Log)	6.486
KM Standard Error of Mean (logged)	0.963		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	12867	Mean in Log Scale	7.662
SD in Original Scale	22720	SD in Log Scale	2.134
95% t UCL (Assumes normality)	31557	95% H-Stat UCL	51575792

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL 64914

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO2HxA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
Number of Detects	4	Number of Non-Detects	2
Number of Distinct Detects	4	Number of Distinct Non-Detects	2
Minimum Detect	870	Minimum Non-Detect	1000
Maximum Detect	14000	Maximum Non-Detect	1200
Variance Detects	35172558	Percent Non-Detects	33.33%
Mean Detects	5343	SD Detects	5931
Median Detects	3250	CV Detects	1.11
Skewness Detects	1.693	Kurtosis Detects	2.951
Mean of Logged Detects	8.1	SD of Logged Detects	1.163

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.827	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.326	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.375	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3852	KM Standard Error of Mean	2213
KM SD	4694	95% KM (BCA) UCL	N/A
95% KM (t) UCL	8310	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	7491	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	10490	95% KM Chebyshev UCL	13496
97.5% KM Chebyshev UCL	17670	99% KM Chebyshev UCL	25867

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.258	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.665	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.224	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.401	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.172	k star (bias corrected MLE)	0.46

Theta hat (MLE)	4558	Theta star (bias corrected MLE)	11621
nu hat (MLE)	9.377	nu star (bias corrected)	3.678
Mean (detects)	5343		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	3562
Maximum	14000	Median	1585
SD	5359	CV	1.505
k hat (MLE)	0.174	k star (bias corrected MLE)	0.198
Theta hat (MLE)	20438	Theta star (bias corrected MLE)	17966
nu hat (MLE)	2.091	nu star (bias corrected)	2.379
Adjusted Level of Significance (β)	0.0122		
Approximate Chi Square Value (2.38, α)	0.215	Adjusted Chi Square Value (2.38, β)	0.104
95% Gamma Approximate UCL (use when n>=50)	39404	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3852	SD (KM)	4694
Variance (KM)	22031447	SE of Mean (KM)	2213
k hat (KM)	0.673	k star (KM)	0.448
nu hat (KM)	8.08	nu star (KM)	5.374
theta hat (KM)	5720	theta star (KM)	8601
80% gamma percentile (KM)	6284	90% gamma percentile (KM)	10654
95% gamma percentile (KM)	15385	99% gamma percentile (KM)	27146

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (5.37, α)	1.329	Adjusted Chi Square Value (5.37, β)	0.736
95% Gamma Approximate KM-UCL (use when n>=50)	15578	95% Gamma Adjusted KM-UCL (use when n<50)	28116

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.997	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.167	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.375	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	3803	Mean in Log Scale	7.594
SD in Original Scale	5176	SD in Log Scale	1.193
95% t UCL (assumes normality of ROS data)	8061	95% Percentile Bootstrap UCL	7386
95% BCA Bootstrap UCL	8521	95% Bootstrap t UCL	20446
95% H-UCL (Log ROS)	52375		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.656	KM Geo Mean	2113
KM SD (logged)	1.034	95% Critical H Value (KM-Log)	4.248
KM Standard Error of Mean (logged)	0.488	95% H-UCL (KM -Log)	25726
KM SD (logged)	1.034	95% Critical H Value (KM-Log)	4.248
KM Standard Error of Mean (logged)	0.488		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	3745	Mean in Log Scale	7.502

SD in Original Scale	5218	SD in Log Scale	1.293
95% t UCL (Assumes normality)	8038	95% H-Stat UCL	81767

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	8310

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO3OA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	231.6	Mean	2360
Maximum	6700	Median	1605
SD	2497	Std. Error of Mean	1019
Coefficient of Variation	1.058	Skewness	1.195

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.858	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.258	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	4414	95% Adjusted-CLT UCL (Chen-1995)	4568
		95% Modified-t UCL (Johnson-1978)	4497

Gamma GOF Test

A-D Test Statistic	0.325	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.716	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.262	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.341	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.953	k star (bias corrected MLE)	0.588
Theta hat (MLE)	2476	Theta star (bias corrected MLE)	4015
nu hat (MLE)	11.44	nu star (bias corrected)	7.054
MLE Mean (bias corrected)	2360	MLE Sd (bias corrected)	3079
		Approximate Chi Square Value (0.05)	2.2
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	1.353

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	7567	95% Adjusted Gamma UCL (use when n<50)	12302

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.935	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.216	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.445	Mean of logged Data	7.158
Maximum of Logged Data	8.81	SD of logged Data	1.307

Assuming Lognormal Distribution

95% H-UCL	62566	90% Chebyshev (MVUE) UCL	6249
95% Chebyshev (MVUE) UCL	7965	97.5% Chebyshev (MVUE) UCL	10345
99% Chebyshev (MVUE) UCL	15022		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	4037	95% Jackknife UCL	4414
95% Standard Bootstrap UCL	3917	95% Bootstrap-t UCL	5187
95% Hall's Bootstrap UCL	5651	95% Percentile Bootstrap UCL	3972
95% BCA Bootstrap UCL	4405		
90% Chebyshev(Mean, Sd) UCL	5418	95% Chebyshev(Mean, Sd) UCL	6803
97.5% Chebyshev(Mean, Sd) UCL	8726	99% Chebyshev(Mean, Sd) UCL	12502

Suggested UCL to Use

95% Student's-t UCL	4414

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO4DA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	5
Number of Detects	3	Number of Non-Detects	3
Number of Distinct Detects	3	Number of Distinct Non-Detects	2
Minimum Detect	280	Minimum Non-Detect	1000
Maximum Detect	410	Maximum Non-Detect	1200
Variance Detects	4300	Percent Non-Detects	50%
Mean Detects	340	SD Detects	65.57
Median Detects	330	CV Detects	0.193
Skewness Detects	0.67	Kurtosis Detects	N/A
Mean of Logged Detects	5.817	SD of Logged Detects	0.191

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.983	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.227	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	340	KM Standard Error of Mean	37.86
KM SD	53.54	95% KM (BCA) UCL	N/A
95% KM (t) UCL	416.3	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	402.3	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	453.6	95% KM Chebyshev UCL	505
97.5% KM Chebyshev UCL	576.4	99% KM Chebyshev UCL	716.7

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	40.93	k star (bias corrected MLE)	N/A
Theta hat (MLE)	8.307	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	245.6	nu star (bias corrected)	N/A
Mean (detects)	340		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	280	Mean	339.5
Maximum	410	Median	334.2
SD	49.12	CV	0.145
k hat (MLE)	57.93	k star (bias corrected MLE)	29.07
Theta hat (MLE)	5.862	Theta star (bias corrected MLE)	11.68
nu hat (MLE)	695.1	nu star (bias corrected)	348.9
Adjusted Level of Significance (β)	0.0122		
Approximate Chi Square Value (348.89, α)	306.6	Adjusted Chi Square Value (348.89, β)	292.2
95% Gamma Approximate UCL (use when n>=50)	386.4	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	340	SD (KM)	53.54
Variance (KM)	2867	SE of Mean (KM)	37.86
k hat (KM)	40.33	k star (KM)	20.27
nu hat (KM)	483.9	nu star (KM)	243.3
theta hat (KM)	8.431	theta star (KM)	16.77
80% gamma percentile (KM)	401.4	90% gamma percentile (KM)	439.6
95% gamma percentile (KM)	473	99% gamma percentile (KM)	539.8

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (243.29, α)	208.2	Adjusted Chi Square Value (243.29, β)	196.4
95% Gamma Approximate KM-UCL (use when n>=50)	397.3	95% Gamma Adjusted KM-UCL (use when n<50)	421.2

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.994	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.203	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	338.8	Mean in Log Scale	5.817
SD in Original Scale	48.94	SD in Log Scale	0.143
95% t UCL (assumes normality of ROS data)	379	95% Percentile Bootstrap UCL	371
95% BCA Bootstrap UCL	370.9	95% Bootstrap t UCL	394.7
95% H-UCL (Log ROS)	385.6		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.817	KM Geo Mean	335.9
KM SD (logged)	0.156	95% Critical H Value (KM-Log)	2.01
KM Standard Error of Mean (logged)	0.11	95% H-UCL (KM -Log)	391.2
KM SD (logged)	0.156	95% Critical H Value (KM-Log)	2.01
KM Standard Error of Mean (logged)	0.11		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	453.3	Mean in Log Scale	6.076
SD in Original Scale	135.9	SD in Log Scale	0.316
95% t UCL (Assumes normality)	565.1	95% H-Stat UCL	629.7

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 416.3

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO5DA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	382.8	Mean	4272
Maximum	14000	Median	2450
SD	5108	Std. Error of Mean	2085
Coefficient of Variation	1.196	Skewness	1.816

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.794	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.257	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	8474	95% Adjusted-CLT UCL (Chen-1995)	9354
		95% Modified-t UCL (Johnson-1978)	8732

Gamma GOF Test

A-D Test Statistic	0.198	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.717	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.141	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.342	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.926	k star (bias corrected MLE)	0.574
Theta hat (MLE)	4611	Theta star (bias corrected MLE)	7438
nu hat (MLE)	11.12	nu star (bias corrected)	6.892
MLE Mean (bias corrected)	4272	MLE Sd (bias corrected)	5637
		Approximate Chi Square Value (0.05)	2.112
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	1.288

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	13944	95% Adjusted Gamma UCL (use when n<50)	22854

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.994	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.11	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.948	Mean of logged Data	7.731
Maximum of Logged Data	9.547	SD of logged Data	1.294

Assuming Lognormal Distribution

95% H-UCL	103541	90% Chebyshev (MVUE) UCL	10909
95% Chebyshev (MVUE) UCL	13894	97.5% Chebyshev (MVUE) UCL	18036
99% Chebyshev (MVUE) UCL	26173		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	7702	95% Jackknife UCL	8474
95% Standard Bootstrap UCL	7444	95% Bootstrap-t UCL	15919
95% Hall's Bootstrap UCL	23218	95% Percentile Bootstrap UCL	7722
95% BCA Bootstrap UCL	8733		
90% Chebyshev(Mean, Sd) UCL	10528	95% Chebyshev(Mean, Sd) UCL	13362
97.5% Chebyshev(Mean, Sd) UCL	17295	99% Chebyshev(Mean, Sd) UCL	25021

Suggested UCL to Use

95% Student's-t UCL 8474

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PMPA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	5
Number of Detects	3	Number of Non-Detects	3
Number of Distinct Detects	3	Number of Distinct Non-Detects	2
Minimum Detect	1100	Minimum Non-Detect	1000
Maximum Detect	2156	Maximum Non-Detect	1200
Variance Detects	288787	Percent Non-Detects	50%
Mean Detects	1685	SD Detects	537.4
Median Detects	1800	CV Detects	0.319
Skewness Detects	-0.916	Kurtosis Detects	N/A
Mean of Logged Detects	7.392	SD of Logged Detects	0.348

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.966	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.251	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1348	KM Standard Error of Mean	229.6
KM SD	458.7	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1811	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1726	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	2037	95% KM Chebyshev UCL	2349
97.5% KM Chebyshev UCL	2782	99% KM Chebyshev UCL	3633

Gamma GOF Tests on Detected Observations Only
Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	13.26	k star (bias corrected MLE)	N/A
Theta hat (MLE)	127.1	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	79.54	nu star (bias corrected)	N/A
Mean (detects)	1685		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	185.3	Mean	1076
Maximum	2156	Median	874.6
SD	765.1	CV	0.711
k hat (MLE)	1.941	k star (bias corrected MLE)	1.082
Theta hat (MLE)	554.5	Theta star (bias corrected MLE)	995.1
nu hat (MLE)	23.29	nu star (bias corrected)	12.98
Adjusted Level of Significance (β)	0.0122		
Approximate Chi Square Value (12.98, α)	5.878	Adjusted Chi Square Value (12.98, β)	4.274
95% Gamma Approximate UCL (use when n>=50)	2376	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1348	SD (KM)	458.7
Variance (KM)	210434	SE of Mean (KM)	229.6
k hat (KM)	8.639	k star (KM)	4.43
nu hat (KM)	103.7	nu star (KM)	53.16
theta hat (KM)	156.1	theta star (KM)	304.3
80% gamma percentile (KM)	1837	90% gamma percentile (KM)	2206
95% gamma percentile (KM)	2545	99% gamma percentile (KM)	3264

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (53.16, α)	37.41	Adjusted Chi Square Value (53.16, β)	32.71
95% Gamma Approximate KM-UCL (use when n>=50)	1916	95% Gamma Adjusted KM-UCL (use when n<50)	2192

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.284	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1187	Mean in Log Scale	6.956
SD in Original Scale	649.1	SD in Log Scale	0.542
95% t UCL (assumes normality of ROS data)	1721	95% Percentile Bootstrap UCL	1625
95% BCA Bootstrap UCL	1628	95% Bootstrap t UCL	2200
95% H-UCL (Log ROS)	2362		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.155	KM Geo Mean	1280
KM SD (logged)	0.311	95% Critical H Value (KM-Log)	2.246
KM Standard Error of Mean (logged)	0.156	95% H-UCL (KM -Log)	1837
KM SD (logged)	0.311	95% Critical H Value (KM-Log)	2.246
KM Standard Error of Mean (logged)	0.156		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1109	Mean in Log Scale	6.833
SD in Original Scale	717.7	SD in Log Scale	0.653
95% t UCL (Assumes normality)	1700	95% H-Stat UCL	2792

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1811

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PEPA

General Statistics

Total Number of Observations	6	Number of Distinct Observations	5
		Number of Missing Observations	0
Minimum	520	Mean	1116
Maximum	1444	Median	1300
SD	389.9	Std. Error of Mean	159.2
Coefficient of Variation	0.349	Skewness	-1.001

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.805	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.348	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data Not Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	1436	95% Adjusted-CLT UCL (Chen-1995)	1308
		95% Modified-t UCL (Johnson-1978)	1426

Gamma GOF Test

A-D Test Statistic	0.745	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.698	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.377	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.333	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	7.725	k star (bias corrected MLE)	3.974
Theta hat (MLE)	144.4	Theta star (bias corrected MLE)	280.8
nu hat (MLE)	92.7	nu star (bias corrected)	47.68
MLE Mean (bias corrected)	1116	MLE Sd (bias corrected)	559.7
		Approximate Chi Square Value (0.05)	32.84
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	28.46

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1620	95% Adjusted Gamma UCL (use when n<50)	1869

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.782	**Shapiro Wilk Lognormal GOF Test**

5% Shapiro Wilk Critical Value	0.788	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.364	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.325	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.254	Mean of logged Data	6.951
Maximum of Logged Data	7.275	SD of logged Data	0.425

Assuming Lognormal Distribution

95% H-UCL	1825	90% Chebyshev (MVUE) UCL	1709
95% Chebyshev (MVUE) UCL	1974	97.5% Chebyshev (MVUE) UCL	2341
99% Chebyshev (MVUE) UCL	3063		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	1377	95% Jackknife UCL	1436
95% Standard Bootstrap UCL	1358	95% Bootstrap-t UCL	1385
95% Hall's Bootstrap UCL	1274	95% Percentile Bootstrap UCL	1357
95% BCA Bootstrap UCL	1317		
90% Chebyshev(Mean, Sd) UCL	1593	95% Chebyshev(Mean, Sd) UCL	1809
97.5% Chebyshev(Mean, Sd) UCL	2110	99% Chebyshev(Mean, Sd) UCL	2699

Suggested UCL to Use

95% Student's-t UCL	1436

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PFESA-BP1

General Statistics

Total Number of Observations	6	Number of Distinct Observations	4
Number of Detects	2	Number of Non-Detects	4
Number of Distinct Detects	2	Number of Distinct Non-Detects	2
Minimum Detect	220	Minimum Non-Detect	1000
Maximum Detect	630	Maximum Non-Detect	1200
Variance Detects	84050	Percent Non-Detects	66.67%
Mean Detects	425	SD Detects	289.9
Median Detects	425	CV Detects	0.682
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	5.92	SD of Logged Detects	0.744

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	425	KM Standard Error of Mean	205
KM SD	205	95% KM (BCA) UCL	N/A
95% KM (t) UCL	838.1	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	762.2	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1040	95% KM Chebyshev UCL	1319
97.5% KM Chebyshev UCL	1705	99% KM Chebyshev UCL	2465

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	3.935	k star (bias corrected MLE)	N/A
Theta hat (MLE)	108	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	15.74	nu star (bias corrected)	N/A
Mean (detects)	425		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	425	SD (KM)	205
Variance (KM)	42025	SE of Mean (KM)	205
k hat (KM)	4.298	k star (KM)	2.26
nu hat (KM)	51.58	nu star (KM)	27.12
theta hat (KM)	98.88	theta star (KM)	188
80% gamma percentile (KM)	627.1	90% gamma percentile (KM)	803.4
95% gamma percentile (KM)	970.3	99% gamma percentile (KM)	1338

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0122
Approximate Chi Square Value (27.12, α)	16.25	Adjusted Chi Square Value (27.12, β)	13.3
95% Gamma Approximate KM-UCL (use when n>=50)	709.5	95% Gamma Adjusted KM-UCL (use when n<50)	866.4

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	425	Mean in Log Scale	5.92
SD in Original Scale	224.6	SD in Log Scale	0.576
95% t UCL (assumes normality of ROS data)	609.7	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A	95% Bootstrap t UCL	N/A
95% H-UCL (Log ROS)	911.2		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.92	KM Geo Mean	372.3
KM SD (logged)	0.526	95% Critical H Value (KM-Log)	2.701
KM Standard Error of Mean (logged)	0.526	95% H-UCL (KM -Log)	807.1
KM SD (logged)	0.526	95% Critical H Value (KM-Log)	2.701
KM Standard Error of Mean (logged)	0.526		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	508.3	Mean in Log Scale	6.177
SD in Original Scale	151.6	SD in Log Scale	0.396
95% t UCL (Assumes normality)	633	95% H-Stat UCL	798.2

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL 1319

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFESA-BP2

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	208.8	Mean	1465
Maximum	4200	Median	960
SD	1535	Std. Error of Mean	626.5
Coefficient of Variation	1.048	Skewness	1.349

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.842	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.252	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2727	95% Adjusted-CLT UCL (Chen-1995)	2864
		95% Modified-t UCL (Johnson-1978)	2785

Gamma GOF Test

A-D Test Statistic	0.337	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.714	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.268	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.34	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.085	k star (bias corrected MLE)	0.653
Theta hat (MLE)	1350	Theta star (bias corrected MLE)	2242
nu hat (MLE)	13.02	nu star (bias corrected)	7.841

MLE Mean (bias corrected)	1465	MLE Sd (bias corrected)	1812
		Approximate Chi Square Value (0.05)	2.643
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	1.685

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	4345	95% Adjusted Gamma UCL (use when n<50)	6819

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.933	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.231	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.341	Mean of logged Data	6.762
Maximum of Logged Data	8.343	SD of logged Data	1.174

Assuming Lognormal Distribution

95% H-UCL	20714	90% Chebyshev (MVUE) UCL	3537
95% Chebyshev (MVUE) UCL	4471	97.5% Chebyshev (MVUE) UCL	5768
99% Chebyshev (MVUE) UCL	8315		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	2495	95% Jackknife UCL	2727
95% Standard Bootstrap UCL	2415	95% Bootstrap-t UCL	3355
95% Hall's Bootstrap UCL	6490	95% Percentile Bootstrap UCL	2445
95% BCA Bootstrap UCL	2760		
90% Chebyshev(Mean, Sd) UCL	3344	95% Chebyshev(Mean, Sd) UCL	4196
97.5% Chebyshev(Mean, Sd) UCL	5377	99% Chebyshev(Mean, Sd) UCL	7699

Suggested UCL to Use

95% Student's-t UCL	2727

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 4

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	3800	Mean	16458
Maximum	44000	Median	11500
SD	14229	Std. Error of Mean	5809
Coefficient of Variation	0.865	Skewness	1.911

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.784	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.292	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	28163	95% Adjusted-CLT UCL (Chen-1995)	30854
		95% Modified-t UCL (Johnson-1978)	28918

Gamma GOF Test

A-D Test Statistic	0.377	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.704	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.239	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.336	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.011	k star (bias corrected MLE)	1.117
Theta hat (MLE)	8184	Theta star (bias corrected MLE)	14740
nu hat (MLE)	24.13	nu star (bias corrected)	13.4
MLE Mean (bias corrected)	16458	MLE Sd (bias corrected)	15575
		Approximate Chi Square Value (0.05)	6.162
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	4.51

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	35787	95% Adjusted Gamma UCL (use when n<50)	48893

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.954	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.22	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	8.243	Mean of logged Data	9.44
Maximum of Logged Data	10.69	SD of logged Data	0.8

Assuming Lognormal Distribution

95% H-UCL	60093	90% Chebyshev (MVUE) UCL	32085
95% Chebyshev (MVUE) UCL	39249	97.5% Chebyshev (MVUE) UCL	49193
99% Chebyshev (MVUE) UCL	68726		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	26013	95% Jackknife UCL	28163
95% Standard Bootstrap UCL	25211	95% Bootstrap-t UCL	46133
95% Hall's Bootstrap UCL	79237	95% Percentile Bootstrap UCL	26300
95% BCA Bootstrap UCL	28658		
90% Chebyshev(Mean, Sd) UCL	33885	95% Chebyshev(Mean, Sd) UCL	41779
97.5% Chebyshev(Mean, Sd) UCL	52735	99% Chebyshev(Mean, Sd) UCL	74257

Suggested UCL to Use

95% Student's-t UCL 28163

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 5

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
Number of Detects	5	Number of Non-Detects	1
Number of Distinct Detects	5	Number of Distinct Non-Detects	1
Minimum Detect	450	Minimum Non-Detect	1100
Maximum Detect	20000	Maximum Non-Detect	1100
Variance Detects	68321039	Percent Non-Detects	16.67%
Mean Detects	5823	SD Detects	8266
Median Detects	1984	CV Detects	1.42
Skewness Detects	1.834	Kurtosis Detects	3.318
Mean of Logged Detects	7.702	SD of Logged Detects	1.643

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.756	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.762	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.282	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	4930	KM Standard Error of Mean	3212
KM SD	7038	95% KM (BCA) UCL	10481
95% KM (t) UCL	11403	95% KM (Percentile Bootstrap) UCL	10486
95% KM (z) UCL	10214	95% KM Bootstrap t UCL	43926
90% KM Chebyshev UCL	14567	95% KM Chebyshev UCL	18932
97.5% KM Chebyshev UCL	24991	99% KM Chebyshev UCL	36893

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.355	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.704	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.232	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.369	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.634	k star (bias corrected MLE)	0.387
Theta hat (MLE)	9188	Theta star (bias corrected MLE)	15053
nu hat (MLE)	6.337	nu star (bias corrected)	3.868

Mean (detects)	5823

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	4852
Maximum	20000	Median	1232
SD	7766	CV	1.6
k hat (MLE)	0.25	k star (bias corrected MLE)	0.236
Theta hat (MLE)	19380	Theta star (bias corrected MLE)	20534
nu hat (MLE)	3.005	nu star (bias corrected)	2.836
Adjusted Level of Significance (β)	0.0122		
Approximate Chi Square Value (2.84, α)	0.325	Adjusted Chi Square Value (2.84, β)	0.146
95% Gamma Approximate UCL (use when n>=50)	42280	95% Gamma Adjusted UCL (use when n<50)	94010

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4930	SD (KM)	7038
Variance (KM)	49534344	SE of Mean (KM)	3212
k hat (KM)	0.491	k star (KM)	0.356
nu hat (KM)	5.888	nu star (KM)	4.277
theta hat (KM)	10048	theta star (KM)	13831
80% gamma percentile (KM)	7830	90% gamma percentile (KM)	14196
95% gamma percentile (KM)	21306	99% gamma percentile (KM)	39413

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.28, α)	0.834	Adjusted Chi Square Value (4.28, β)	0.419
95% Gamma Approximate KM-UCL (use when n>=50)	25278	95% Gamma Adjusted KM-UCL (use when n<50)	50373

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.913	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.224	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.343	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	4932	Mean in Log Scale	7.446
SD in Original Scale	7709	SD in Log Scale	1.597
95% t UCL (assumes normality of ROS data)	11273	95% Percentile Bootstrap UCL	10239
95% BCA Bootstrap UCL	12142	95% Bootstrap t UCL	43990
95% H-UCL (Log ROS)	526407		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.442	KM Geo Mean	1707
KM SD (logged)	1.462	95% Critical H Value (KM-Log)	5.743
KM Standard Error of Mean (logged)	0.667	95% H-UCL (KM -Log)	212224
KM SD (logged)	1.462	95% Critical H Value (KM-Log)	5.743
KM Standard Error of Mean (logged)	0.667		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	4944	Mean in Log Scale	7.47
SD in Original Scale	7700	SD in Log Scale	1.575
95% t UCL (Assumes normality)	11278	95% H-Stat UCL	462594

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 11403

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 6

General Statistics

Total Number of Observations	6	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	6
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	6	Number of Distinct Observations	5
Number of Detects	4	Number of Non-Detects	2
Number of Distinct Detects	4	Number of Distinct Non-Detects	2
Minimum Detect	420	Minimum Non-Detect	1000
Maximum Detect	7500	Maximum Non-Detect	1200
Variance Detects	11396933	Percent Non-Detects	33.33%
Mean Detects	2450	SD Detects	3376
Median Detects	940	CV Detects	1.378
Skewness Detects	1.967	Kurtosis Detects	3.896
Mean of Logged Detects	7.163	SD of Logged Detects	1.234

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.698	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.748	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.416	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.375	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1865	KM Standard Error of Mean	1196
KM SD	2531	95% KM (BCA) UCL	N/A
95% KM (t) UCL	4275	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	3832	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	5453	95% KM Chebyshev UCL	7078
97.5% KM Chebyshev UCL	9334	99% KM Chebyshev UCL	13765

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.568	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.668	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.396	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.403	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.91	k star (bias corrected MLE)	0.394
Theta hat (MLE)	2691	Theta star (bias corrected MLE)	6214
nu hat (MLE)	7.284	nu star (bias corrected)	3.154
Mean (detects)	2450		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	77.33	Mean	1741
Maximum	7500	Median	723.2
SD	2841	CV	1.632
k hat (MLE)	0.671	k star (bias corrected MLE)	0.447
Theta hat (MLE)	2593	Theta star (bias corrected MLE)	3896
nu hat (MLE)	8.055	nu star (bias corrected)	5.361
Adjusted Level of Significance (β)	0.0122		
Approximate Chi Square Value (5.36, α)	1.322	Adjusted Chi Square Value (5.36, β)	0.732
95% Gamma Approximate UCL (use when n>=50)	7056	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1865	SD (KM)	2531
Variance (KM)	6403787	SE of Mean (KM)	1196
k hat (KM)	0.543	k star (KM)	0.383
nu hat (KM)	6.515	nu star (KM)	4.591
theta hat (KM)	3434	theta star (KM)	4874
80% gamma percentile (KM)	2993	90% gamma percentile (KM)	5308
95% gamma percentile (KM)	7867	99% gamma percentile (KM)	14334

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.59, α)	0.968	Adjusted Chi Square Value (4.59, β)	0.501
95% Gamma Approximate KM-UCL (use when n>=50)	8842	95% Gamma Adjusted KM-UCL (use when n<50)	17081

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.877	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.332	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.375	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1849	Mean in Log Scale	6.928
SD in Original Scale	2777	SD in Log Scale	1.028
95% t UCL (assumes normality of ROS data)	4133	95% Percentile Bootstrap UCL	4037
95% BCA Bootstrap UCL	4174	95% Bootstrap t UCL	22238
95% H-UCL (Log ROS)	12078		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.933	KM Geo Mean	1025
KM SD (logged)	0.957	95% Critical H Value (KM-Log)	3.966
KM Standard Error of Mean (logged)	0.472	95% H-UCL (KM -Log)	8852
KM SD (logged)	0.957	95% Critical H Value (KM-Log)	3.966
KM Standard Error of Mean (logged)	0.472		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1817	Mean in Log Scale	6.877
SD in Original Scale	2793	SD in Log Scale	1.055
95% t UCL (Assumes normality)	4114	95% H-Stat UCL	12989

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Bootstrap t UCL	N/A	a Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	17081

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

EVE Acid

General Statistics

Total Number of Observations	6	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	6
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	6	Number of Distinct Observations	5
Number of Detects	3	Number of Non-Detects	3
Number of Distinct Detects	3	Number of Distinct Non-Detects	2
Minimum Detect	380	Minimum Non-Detect	1000
Maximum Detect	930	Maximum Non-Detect	1200
Variance Detects	97300	Percent Non-Detects	50%
Mean Detects	570	SD Detects	311.9
Median Detects	400	CV Detects	0.547
Skewness Detects	1.724	Kurtosis Detects	N/A

Mean of Logged Detects	6.256	SD of Logged Detects	0.503

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.777	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.374	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	570	KM Standard Error of Mean	180.1
KM SD	254.7	95% KM (BCA) UCL	N/A
95% KM (t) UCL	932.9	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	866.2	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1110	95% KM Chebyshev UCL	1355
97.5% KM Chebyshev UCL	1695	99% KM Chebyshev UCL	2362

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	5.715	k star (bias corrected MLE)	N/A
Theta hat (MLE)	99.73	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	34.29	nu star (bias corrected)	N/A
Mean (detects)	570		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	380	Mean	564.6
Maximum	930	Median	475.9
SD	227.9	CV	0.404
k hat (MLE)	8.091	k star (bias corrected MLE)	4.157
Theta hat (MLE)	69.78	Theta star (bias corrected MLE)	135.8
nu hat (MLE)	97.1	nu star (bias corrected)	49.88
Adjusted Level of Significance (β)	0.0122		
Approximate Chi Square Value (49.88, α)	34.66	Adjusted Chi Square Value (49.88, β)	30.15
95% Gamma Approximate UCL (use when n>=50)	812.5	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	570	SD (KM)	254.7
Variance (KM)	64867	SE of Mean (KM)	180.1
k hat (KM)	5.009	k star (KM)	2.615
nu hat (KM)	60.1	nu star (KM)	31.39
theta hat (KM)	113.8	theta star (KM)	217.9

80% gamma percentile (KM)	826.5	90% gamma percentile (KM)	1042
95% gamma percentile (KM)	1245	99% gamma percentile (KM)	1688

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (31.39, α)	19.59	Adjusted Chi Square Value (31.39, β)	16.31
95% Gamma Approximate KM-UCL (use when n>=50)	913.4	95% Gamma Adjusted KM-UCL (use when n<50)	1097

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.793	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.367	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	552.6	Mean in Log Scale	6.256
SD in Original Scale	220.1	SD in Log Scale	0.366
95% t UCL (assumes normality of ROS data)	733.7	95% Percentile Bootstrap UCL	703.9
95% BCA Bootstrap UCL	707.2	95% Bootstrap t UCL	941.3
95% H-UCL (Log ROS)	817.4		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.256	KM Geo Mean	520.9
KM SD (logged)	0.41	95% Critical H Value (KM-Log)	2.437
KM Standard Error of Mean (logged)	0.29	95% H-UCL (KM -Log)	886.2
KM SD (logged)	0.41	95% Critical H Value (KM-Log)	2.437
KM Standard Error of Mean (logged)	0.29		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	568.3	Mean in Log Scale	6.296
SD in Original Scale	200.6	SD in Log Scale	0.328
95% t UCL (Assumes normality)	733.4	95% H-Stat UCL	798.8

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	932.9

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

R-EVE

General Statistics

Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	1100	Mean	4865
Maximum	9500	Median	4695
SD	2823	Std. Error of Mean	1153
Coefficient of Variation	0.58	Skewness	0.573

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.972	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.177	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	7188	95% Adjusted-CLT UCL (Chen-1995)	7049
		95% Modified-t UCL (Johnson-1978)	7233

Gamma GOF Test

A-D Test Statistic	0.246	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.702	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.192	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.335	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.884	k star (bias corrected MLE)	1.553
Theta hat (MLE)	1687	Theta star (bias corrected MLE)	3133
nu hat (MLE)	34.6	nu star (bias corrected)	18.64
MLE Mean (bias corrected)	4865	MLE Sd (bias corrected)	3904
		Approximate Chi Square Value (0.05)	9.851
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	7.656

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	9203	95% Adjusted Gamma UCL (use when n<50)	11841

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.919	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.223	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	7.003	Mean of logged Data	8.307
Maximum of Logged Data	9.159	SD of logged Data	0.732

Assuming Lognormal Distribution

95% H-UCL	15451	90% Chebyshev (MVUE) UCL	9519
95% Chebyshev (MVUE) UCL	11552	97.5% Chebyshev (MVUE) UCL	14374
99% Chebyshev (MVUE) UCL	19916		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	6761	95% Jackknife UCL	7188

95% Standard Bootstrap UCL	6575	95% Bootstrap-t UCL	7554
95% Hall's Bootstrap UCL	8903	95% Percentile Bootstrap UCL	6682
95% BCA Bootstrap UCL	6750		
90% Chebyshev(Mean, Sd) UCL	8323	95% Chebyshev(Mean, Sd) UCL	9889
97.5% Chebyshev(Mean, Sd) UCL	12064	99% Chebyshev(Mean, Sd) UCL	16334

Suggested UCL to Use

95% Student's-t UCL	7188

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PES

General Statistics

Total Number of Observations	6	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	6
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	6	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	6
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	6	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	6
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/11/2019 1:41:56 PM

User Selected Options

From File ProUCL_Inputdata_Terr_a.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_a.xls

Onsite Soil General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	11	0	11	0	0.00%	N/A	N/A	10564	92376545	9611	0.91
PFMOAA	11	0	11	0	0.00%	N/A	N/A	26036	2.058E+9	45371	1.743
PFO2HxA	11	0	11	0	0.00%	N/A	N/A	13936	1.595E+8	12629	0.906
PFO3OA	11	0	9	2	18.18%	1000	2800	3873	10479862	3237	0.836
PFO4DA	11	0	8	3	27.27%	1000	2800	2214	2373692	1541	0.696
PFO5DA	11	0	10	1	9.09%	1000	1000	3036	6418678	2534	0.834
PMPA	11	0	8	3	27.27%	1000	2800	4724	25539987	5054	1.07
PEPA	11	0	6	5	45.45%	1000	2800	1913	2172189	1474	0.771
PFESA-BP1	11	0	1	10	90.91%	1000	2800	1182	330579	575	0.487
PFESA-BP2	11	0	4	7	63.64%	1000	2800	1280	179600	423.8	0.331
Byproduct 4	11	0	2	9	81.82%	1000	2800	1160	174400	417.6	0.36
Byproduct 5	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A
Byproduct 6	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A
NVHOS	11	0	1	10	90.91%	1000	2800	1030	8100	90	0.0874
EVE Acid	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A
Hydro-EVE Acid	11	0	2	9	81.82%	1000	2800	1040	6400	80	0.0769
R-EVE	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A
PES	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A
PFECA B	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A
PFECA-G	11	0	0	11	100.00%	1000	2800	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	11	0	1300	29500	10564	7900	92376545	9611	8895	1.041	0.91
PFMOAA	11	0	1100	150000	26036	7500	2.058E+9	45371	8747	2.49	1.743
PFO2HxA	11	0	2200	47000	13936	9300	1.595E+8	12629	6375	2.047	0.906
PFO3OA	9	0	1500	12000	4422	2200	12479444	3533	1038	1.437	0.799
PFO4DA	8	0	1200	5400	2625	1800	2990714	1729	815.4	1.017	0.659
PFO5DA	10	0	1000	10000	3240	2200	7338222	2709	1483	1.969	0.836
PMPA	8	0	1000	19000	6050	4850	32660000	5715	3632	1.976	0.945
PEPA	6	0	1300	6150	2592	2050	3440417	1855	1038	1.854	0.716
PFESA-BP1	1	0	3000	3000	3000	3000	N/A	N/A	0	N/A	N/A
PFESA-BP2	4	0	1100	2100	1700	1800	206667	454.6	370.6	-0.894	0.267
Byproduct 4	2	0	1200	2400	1800	1800	720000	848.5	889.5	N/A	0.471
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	1	0	1300	1300	1300	1300	N/A	N/A	0	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	2	0	1200	1200	1200	1200	0	0	0	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	11	0	1400	1900	3350	7900	15000	17000	25000	27250	29050
PFMOAA	11	0	1600	2500	2950	7500	19000	21000	68000	109000	141800
PFO2HxA	11	0	5000	6000	6350	9300	16250	17500	24000	35500	44700
PFO3OA	11	0	1500	2000	2000	2200	5150	5200	7700	9850	11570
PFO4DA	11	0	1000	1200	1250	1400	2900	3000	5100	5250	5370
PFO5DA	11	0	1000	1400	1400	2200	4000	4200	4700	7350	9470
PMPA	11	0	1000	1000	1550	2800	6050	6100	7800	13400	17880
PEPA	11	0	1000	1000	1000	1300	2650	2700	2800	4475	5815
PFESA-BP1	11	0	1000	1000	1000	1000	1000	1000	2800	2900	2980
PFESA-BP2	11	0	1000	1000	1000	1000	1800	2000	2100	2450	2730
Byproduct 4	11	0	1000	1000	1000	1000	1100	1200	2400	2600	2760
Byproduct 5	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620
Byproduct 6	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620
NVHOS	11	0	1000	1000	1000	1000	1000	1000	1300	2050	2650
EVE Acid	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620
Hydro-EVE Acid	11	0	1000	1000	1000	1000	1100	1200	1200	2000	2640
R-EVE	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620
PES	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620
PFECA B	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620
PFECA-G	11	0	1000	1000	1000	1000	1000	1000	1000	1900	2620

UCL Statistics for Data Sets with Non-Detects

Onsite Soil UCLs

User Selected Options	
Date/Time of Computation	ProUCL 5.111/11/2019 4:56:48 PM
From File	ProUCL_Inputdata_Terr_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hfpo Dimer Acid

General Statistics

Total Number of Observations	11	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	1300	Mean	10564
Maximum	29500	Median	7900
SD	9611	Std. Error of Mean	2898
Coefficient of Variation	0.91	Skewness	1.041

Normal GOF Test

Shapiro Wilk Test Statistic	0.869	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.85	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.238	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.251	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	15816	95% Adjusted-CLT UCL (Chen-1995)	16302
		95% Modified-t UCL (Johnson-1978)	15968

Gamma GOF Test

A-D Test Statistic	0.261	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.748	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.146	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.261	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.213	k star (bias corrected MLE)	0.943
Theta hat (MLE)	8706	Theta star (bias corrected MLE)	11201
nu hat (MLE)	26.7	nu star (bias corrected)	20.75
MLE Mean (bias corrected)	10564	MLE Sd (bias corrected)	10878
		Approximate Chi Square Value (0.05)	11.4
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	10.29

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	19218	95% Adjusted Gamma UCL (use when n<50)	21296

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.929	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.144	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	7.17	Mean of logged Data	8.8
Maximum of Logged Data	10.29	SD of logged Data	1.102

Assuming Lognormal Distribution

95% H-UCL	37078	90% Chebyshev (MVUE) UCL	23209
95% Chebyshev (MVUE) UCL	28625	97.5% Chebyshev (MVUE) UCL	36141
99% Chebyshev (MVUE) UCL	50906		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	15330	95% Jackknife UCL	15816
95% Standard Bootstrap UCL	15226	95% Bootstrap-t UCL	18219
95% Hall's Bootstrap UCL	18158	95% Percentile Bootstrap UCL	15218
95% BCA Bootstrap UCL	16345		
90% Chebyshev(Mean, Sd) UCL	19257	95% Chebyshev(Mean, Sd) UCL	23195
97.5% Chebyshev(Mean, Sd) UCL	28661	99% Chebyshev(Mean, Sd) UCL	39397

Suggested UCL to Use

95% Student's-t UCL	15816

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	1100	Mean	26036
Maximum	150000	Median	7500
SD	45371	Std. Error of Mean	13680
Coefficient of Variation	1.743	Skewness	2.49

Normal GOF Test

Shapiro Wilk Test Statistic	0.607	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.85	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.362	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.251	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	50830	95% Adjusted-CLT UCL (Chen-1995)	59513
		95% Modified-t UCL (Johnson-1978)	52542

Gamma GOF Test

A-D Test Statistic	0.637	**Anderson-Darling Gamma GOF Test**	
5% A-D Critical Value	0.776	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.217	**Kolmogorov-Smirnov Gamma GOF Test**	
5% K-S Critical Value	0.268	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.564	k star (bias corrected MLE)	0.471
Theta hat (MLE)	46187	Theta star (bias corrected MLE)	55328
nu hat (MLE)	12.4	nu star (bias corrected)	10.35
MLE Mean (bias corrected)	26036	MLE Sd (bias corrected)	37954
		Approximate Chi Square Value (0.05)	4.163
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	3.547

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	64742	95% Adjusted Gamma UCL (use when n<50)	76001

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.961	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.122	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	7.003	Mean of logged Data	9.061
Maximum of Logged Data	11.92	SD of logged Data	1.531

Assuming Lognormal Distribution

95% H-UCL	202191	90% Chebyshev (MVUE) UCL	57484
95% Chebyshev (MVUE) UCL	73067	97.5% Chebyshev (MVUE) UCL	94697
99% Chebyshev (MVUE) UCL	137183		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	48538	95% Jackknife UCL	50830
95% Standard Bootstrap UCL	47451	95% Bootstrap-t UCL	157981
95% Hall's Bootstrap UCL	152278	95% Percentile Bootstrap UCL	50073
95% BCA Bootstrap UCL	60164		
90% Chebyshev(Mean, Sd) UCL	67076	95% Chebyshev(Mean, Sd) UCL	85665
97.5% Chebyshev(Mean, Sd) UCL	111466	99% Chebyshev(Mean, Sd) UCL	162148

Suggested UCL to Use

95% Adjusted Gamma UCL	76001

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO2HxA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	2200	Mean	13936
Maximum	47000	Median	9300
SD	12629	Std. Error of Mean	3808
Coefficient of Variation	0.906	Skewness	2.047

Normal GOF Test

Shapiro Wilk Test Statistic	0.786	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.85	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.207	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.251	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	20838	95% Adjusted-CLT UCL (Chen-1995)	22711
		95% Modified-t UCL (Johnson-1978)	21230

Gamma GOF Test

A-D Test Statistic	0.242	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.741	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.141	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.259	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.755	k star (bias corrected MLE)	1.337
Theta hat (MLE)	7940	Theta star (bias corrected MLE)	10423
nu hat (MLE)	38.61	nu star (bias corrected)	29.42
MLE Mean (bias corrected)	13936	MLE Sd (bias corrected)	12052
		Approximate Chi Square Value (0.05)	18.03
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	16.6

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	22732	95% Adjusted Gamma UCL (use when n<50)	24703

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.993	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.104	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	7.696	Mean of logged Data	9.231
Maximum of Logged Data	10.76	SD of logged Data	0.83

Assuming Lognormal Distribution

95% H-UCL	29149	90% Chebyshev (MVUE) UCL	24753
95% Chebyshev (MVUE) UCL	29689	97.5% Chebyshev (MVUE) UCL	36539
99% Chebyshev (MVUE) UCL	49995		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	20200	95% Jackknife UCL	20838
95% Standard Bootstrap UCL	19814	95% Bootstrap-t UCL	27929
95% Hall's Bootstrap UCL	48990	95% Percentile Bootstrap UCL	20355
95% BCA Bootstrap UCL	22382		
90% Chebyshev(Mean, Sd) UCL	25360	95% Chebyshev(Mean, Sd) UCL	30534
97.5% Chebyshev(Mean, Sd) UCL	37716	99% Chebyshev(Mean, Sd) UCL	51824

Suggested UCL to Use

95% Student's-t UCL 20838

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO3OA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	10
Number of Detects	9	Number of Non-Detects	2
Number of Distinct Detects	8	Number of Distinct Non-Detects	2
Minimum Detect	1500	Minimum Non-Detect	1000
Maximum Detect	12000	Maximum Non-Detect	2800
Variance Detects	12479444	Percent Non-Detects	18.18%
Mean Detects	4422	SD Detects	3533
Median Detects	2200	CV Detects	0.799
Skewness Detects	1.437	Kurtosis Detects	1.635
Mean of Logged Detects	8.144	SD of Logged Detects	0.729

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.802	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.829	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.291	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.274	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3873	KM Standard Error of Mean	1036
KM SD	3237	95% KM (BCA) UCL	5636
95% KM (t) UCL	5751	95% KM (Percentile Bootstrap) UCL	5621
95% KM (z) UCL	5577	95% KM Bootstrap t UCL	7298
90% KM Chebyshev UCL	6981	95% KM Chebyshev UCL	8389
97.5% KM Chebyshev UCL	10344	99% KM Chebyshev UCL	14183

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.661	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.729	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.306	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.282	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.149	k star (bias corrected MLE)	1.506
Theta hat (MLE)	2058	Theta star (bias corrected MLE)	2935
nu hat (MLE)	38.68	nu star (bias corrected)	27.12
Mean (detects)	4422		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	3748
Maximum	12000	Median	2100
SD	3512	CV	0.937
k hat (MLE)	0.482	k star (bias corrected MLE)	0.411
Theta hat (MLE)	7769	Theta star (bias corrected MLE)	9109
nu hat (MLE)	10.61	nu star (bias corrected)	9.053
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (9.05, α)	3.359	Adjusted Chi Square Value (9.05, β)	2.818
95% Gamma Approximate UCL (use when n>=50)	10102	95% Gamma Adjusted UCL (use when n<50)	12042

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3873	SD (KM)	3237
Variance (KM)	10479862	SE of Mean (KM)	1036
k hat (KM)	1.431	k star (KM)	1.101
nu hat (KM)	31.48	nu star (KM)	24.23
theta hat (KM)	2706	theta star (KM)	3516
80% gamma percentile (KM)	6181	90% gamma percentile (KM)	8707
95% gamma percentile (KM)	11214	99% gamma percentile (KM)	16995

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (24.23, α)	14.02	Adjusted Chi Square Value (24.23, β)	12.77
95% Gamma Approximate KM-UCL (use when n>=50)	6691	95% Gamma Adjusted KM-UCL (use when n<50)	7346

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.879	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.286	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.274	Detected Data Not Lognormal at 5% Significance Level	

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	3842	Mean in Log Scale	7.933
SD in Original Scale	3423	SD in Log Scale	0.836
95% t UCL (assumes normality of ROS data)	5713	95% Percentile Bootstrap UCL	5530
95% BCA Bootstrap UCL	5955	95% Bootstrap t UCL	7264
95% H-UCL (Log ROS)	8065		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.97	KM Geo Mean	2892
KM SD (logged)	0.738	95% Critical H Value (KM-Log)	2.528
KM Standard Error of Mean (logged)	0.238	95% H-UCL (KM -Log)	6849
KM SD (logged)	0.738	95% Critical H Value (KM-Log)	2.528
KM Standard Error of Mean (logged)	0.238		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	3791	Mean in Log Scale	7.887
SD in Original Scale	3464	SD in Log Scale	0.898
95% t UCL (Assumes normality)	5684	95% H-Stat UCL	8836

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL 7346 95% GROS Adjusted Gamma UCL 12042

Warning: Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO4DA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	9
Number of Detects	8	Number of Non-Detects	3
Number of Distinct Detects	7	Number of Distinct Non-Detects	2
Minimum Detect	1200	Minimum Non-Detect	1000
Maximum Detect	5400	Maximum Non-Detect	2800
Variance Detects	2990714	Percent Non-Detects	27.27%
Mean Detects	2625	SD Detects	1729
Median Detects	1800	CV Detects	0.659
Skewness Detects	1.017	Kurtosis Detects	-0.738
Mean of Logged Detects	7.698	SD of Logged Detects	0.617

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.79	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.261	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.283	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2214	KM Standard Error of Mean	498.2
KM SD	1541	95% KM (BCA) UCL	3044
95% KM (t) UCL	3117	95% KM (Percentile Bootstrap) UCL	3018
95% KM (z) UCL	3034	95% KM Bootstrap t UCL	4077
90% KM Chebyshev UCL	3709	95% KM Chebyshev UCL	4386
97.5% KM Chebyshev UCL	5325	99% KM Chebyshev UCL	7171

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.669	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.721	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.284	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.296	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.013	k star (bias corrected MLE)	1.966
Theta hat (MLE)	871.3	Theta star (bias corrected MLE)	1335
nu hat (MLE)	48.21	nu star (bias corrected)	31.46
Mean (detects)	2625		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2003
Maximum	5400	Median	1400
SD	1816	CV	0.907
k hat (MLE)	0.31	k star (bias corrected MLE)	0.286
Theta hat (MLE)	6456	Theta star (bias corrected MLE)	6998
nu hat (MLE)	6.826	nu star (bias corrected)	6.298
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (6.30, α)	1.794	Adjusted Chi Square Value (6.30, β)	1.431
95% Gamma Approximate UCL (use when n>=50)	7033	95% Gamma Adjusted UCL (use when n<50)	8818

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2214	SD (KM)	1541
Variance (KM)	2373692	SE of Mean (KM)	498.2
k hat (KM)	2.066	k star (KM)	1.563
nu hat (KM)	45.44	nu star (KM)	34.38
theta hat (KM)	1072	theta star (KM)	1417
80% gamma percentile (KM)	3410	90% gamma percentile (KM)	4568
95% gamma percentile (KM)	5690	99% gamma percentile (KM)	8215

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (34.38, α)	21.97	Adjusted Chi Square Value (34.38, β)	20.37
95% Gamma Approximate KM-UCL (use when n>=50)	3465	95% Gamma Adjusted KM-UCL (use when n<50)	3738

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.846	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.269	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2119	Mean in Log Scale	7.389
SD in Original Scale	1696	SD in Log Scale	0.77
95% t UCL (assumes normality of ROS data)	3045	95% Percentile Bootstrap UCL	2975
95% BCA Bootstrap UCL	3049	95% Bootstrap t UCL	3942
95% H-UCL (Log ROS)	4081		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.507	KM Geo Mean	1821
KM SD (logged)	0.591	95% Critical H Value (KM-Log)	2.301
KM Standard Error of Mean (logged)	0.192	95% H-UCL (KM -Log)	3333
KM SD (logged)	0.591	95% Critical H Value (KM-Log)	2.301
KM Standard Error of Mean (logged)	0.192		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2127	Mean in Log Scale	7.387
SD in Original Scale	1695	SD in Log Scale	0.788
95% t UCL (Assumes normality)	3054	95% H-Stat UCL	4219

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 3117

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO5DA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	8
Number of Detects	10	Number of Non-Detects	1
Number of Distinct Detects	8	Number of Distinct Non-Detects	1
Minimum Detect	1000	Minimum Non-Detect	1000
Maximum Detect	10000	Maximum Non-Detect	1000
Variance Detects	7338222	Percent Non-Detects	9.091%
Mean Detects	3240	SD Detects	2709
Median Detects	2200	CV Detects	0.836
Skewness Detects	1.969	Kurtosis Detects	4.388
Mean of Logged Detects	7.835	SD of Logged Detects	0.713

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.77	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.842	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.249	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.262	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3036	KM Standard Error of Mean	805.2
KM SD	2534	95% KM (BCA) UCL	4536
95% KM (t) UCL	4496	95% KM (Percentile Bootstrap) UCL	4427
95% KM (z) UCL	4361	95% KM Bootstrap t UCL	5897
90% KM Chebyshev UCL	5452	95% KM Chebyshev UCL	6546
97.5% KM Chebyshev UCL	8065	99% KM Chebyshev UCL	11048

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.473	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.218	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.27	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.168	k star (bias corrected MLE)	1.584
Theta hat (MLE)	1494	Theta star (bias corrected MLE)	2045
nu hat (MLE)	43.36	nu star (bias corrected)	31.68
Mean (detects)	3240		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2945
Maximum	10000	Median	2200
SD	2749	CV	0.933
k hat (MLE)	0.496	k star (bias corrected MLE)	0.421
Theta hat (MLE)	5944	Theta star (bias corrected MLE)	6997
nu hat (MLE)	10.9	nu star (bias corrected)	9.262
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (9.26, α)	3.486	Adjusted Chi Square Value (9.26, β)	2.932
95% Gamma Approximate UCL (use when n>=50)	7826	95% Gamma Adjusted UCL (use when n<50)	9303

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3036	SD (KM)	2534
Variance (KM)	6418678	SE of Mean (KM)	805.2
k hat (KM)	1.436	k star (KM)	1.105
nu hat (KM)	31.6	nu star (KM)	24.32
theta hat (KM)	2114	theta star (KM)	2747
80% gamma percentile (KM)	4845	90% gamma percentile (KM)	6821
95% gamma percentile (KM)	8782	99% gamma percentile (KM)	13302

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (24.32, α)	14.09	Adjusted Chi Square Value (24.32, β)	12.83
95% Gamma Approximate KM-UCL (use when n>=50)	5240	95% Gamma Adjusted KM-UCL (use when n<50)	5752

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.937	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.177	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.262	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2986	Mean in Log Scale	7.677
SD in Original Scale	2705	SD in Log Scale	0.856
95% t UCL (assumes normality of ROS data)	4464	95% Percentile Bootstrap UCL	4358
95% BCA Bootstrap UCL	4903	95% Bootstrap t UCL	5633
95% H-UCL (Log ROS)	6516		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.751	KM Geo Mean	2324
KM SD (logged)	0.697	95% Critical H Value (KM-Log)	2.462
KM Standard Error of Mean (logged)	0.222	95% H-UCL (KM -Log)	5101
KM SD (logged)	0.697	95% Critical H Value (KM-Log)	2.462
KM Standard Error of Mean (logged)	0.222		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2991	Mean in Log Scale	7.688
SD in Original Scale	2699	SD in Log Scale	0.834
95% t UCL (Assumes normality)	4466	95% H-Stat UCL	6284

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	4496

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PMPA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	9
Number of Detects	8	Number of Non-Detects	3
Number of Distinct Detects	8	Number of Distinct Non-Detects	2
Minimum Detect	1000	Minimum Non-Detect	1000
Maximum Detect	19000	Maximum Non-Detect	2800
Variance Detects	32660000	Percent Non-Detects	27.27%
Mean Detects	6050	SD Detects	5715
Median Detects	4850	CV Detects	0.945
Skewness Detects	1.976	Kurtosis Detects	4.48
Mean of Logged Detects	8.363	SD of Logged Detects	0.9

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.788	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.255	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	4724	KM Standard Error of Mean	1631
KM SD	5054	95% KM (BCA) UCL	7482
95% KM (t) UCL	7679	95% KM (Percentile Bootstrap) UCL	7373
95% KM (z) UCL	7406	95% KM Bootstrap t UCL	10367
90% KM Chebyshev UCL	9616	95% KM Chebyshev UCL	11832
97.5% KM Chebyshev UCL	14907	99% KM Chebyshev UCL	20949

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.243	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.728	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.15	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.299	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.596	k star (bias corrected MLE)	1.081
Theta hat (MLE)	3790	Theta star (bias corrected MLE)	5596
nu hat (MLE)	25.54	nu star (bias corrected)	17.3
Mean (detects)	6050		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	4400
Maximum	19000	Median	2700
SD	5554	CV	1.262
k hat (MLE)	0.206	k star (bias corrected MLE)	0.21
Theta hat (MLE)	21396	Theta star (bias corrected MLE)	20936
nu hat (MLE)	4.524	nu star (bias corrected)	4.624
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (4.62, α)	0.982	Adjusted Chi Square Value (4.62, β)	0.742
95% Gamma Approximate UCL (use when n>=50)	20708	95% Gamma Adjusted UCL (use when n<50)	27431

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4724	SD (KM)	5054
Variance (KM)	25539987	SE of Mean (KM)	1631
k hat (KM)	0.874	k star (KM)	0.696
nu hat (KM)	19.22	nu star (KM)	15.31
theta hat (KM)	5407	theta star (KM)	6787
80% gamma percentile (KM)	7766	90% gamma percentile (KM)	11873
95% gamma percentile (KM)	16111	99% gamma percentile (KM)	26233

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.31, α)	7.479	Adjusted Chi Square Value (15.31, β)	6.606
95% Gamma Approximate KM-UCL (use when n>=50)	9671	95% Gamma Adjusted KM-UCL (use when n<50)	10949

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.987	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.146	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	4601	Mean in Log Scale	7.855
SD in Original Scale	5390	SD in Log Scale	1.177
95% t UCL (assumes normality of ROS data)	7546	95% Percentile Bootstrap UCL	7173
95% BCA Bootstrap UCL	8577	95% Bootstrap t UCL	10211
95% H-UCL (Log ROS)	17942		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.998	KM Geo Mean	2974
KM SD (logged)	0.947	95% Critical H Value (KM-Log)	2.897
KM Standard Error of Mean (logged)	0.309	95% H-UCL (KM -Log)	11080
KM SD (logged)	0.947	95% Critical H Value (KM-Log)	2.897
KM Standard Error of Mean (logged)	0.309		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	4618	Mean in Log Scale	7.871
SD in Original Scale	5379	SD in Log Scale	1.162
95% t UCL (Assumes normality)	7557	95% H-Stat UCL	17393

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	7679

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PEPA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	7
Number of Detects	6	Number of Non-Detects	5
Number of Distinct Detects	5	Number of Distinct Non-Detects	2
Minimum Detect	1300	Minimum Non-Detect	1000
Maximum Detect	6150	Maximum Non-Detect	2800
Variance Detects	3440417	Percent Non-Detects	45.45%
Mean Detects	2592	SD Detects	1855
Median Detects	2050	CV Detects	0.716
Skewness Detects	1.854	Kurtosis Detects	3.644
Mean of Logged Detects	7.69	SD of Logged Detects	0.604

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.757	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.31	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1913	KM Standard Error of Mean	491.5
KM SD	1474	95% KM (BCA) UCL	2686
95% KM (t) UCL	2803	95% KM (Percentile Bootstrap) UCL	2741
95% KM (z) UCL	2721	95% KM Bootstrap t UCL	3675
90% KM Chebyshev UCL	3387	95% KM Chebyshev UCL	4055
97.5% KM Chebyshev UCL	4982	99% KM Chebyshev UCL	6803

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.542	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.701	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.253	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.334	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	3.102	k star (bias corrected MLE)	1.662
Theta hat (MLE)	835.4	Theta star (bias corrected MLE)	1559
nu hat (MLE)	37.23	nu star (bias corrected)	19.95
Mean (detects)	2592		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1473
Maximum	6150	Median	1300
SD	1846	CV	1.253
k hat (MLE)	0.179	k star (bias corrected MLE)	0.191
Theta hat (MLE)	8235	Theta star (bias corrected MLE)	7725
nu hat (MLE)	3.935	nu star (bias corrected)	4.195
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (4.20, α)	0.8	Adjusted Chi Square Value (4.20, β)	0.593
95% Gamma Approximate UCL (use when n>=50)	7722	95% Gamma Adjusted UCL (use when n<50)	10424

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1913	SD (KM)	1474
Variance (KM)	2172189	SE of Mean (KM)	491.5
k hat (KM)	1.684	k star (KM)	1.285
nu hat (KM)	37.05	nu star (KM)	28.28
theta hat (KM)	1136	theta star (KM)	1488
80% gamma percentile (KM)	3008	90% gamma percentile (KM)	4139
95% gamma percentile (KM)	5250	99% gamma percentile (KM)	7783

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (28.28, α)	17.15	Adjusted Chi Square Value (28.28, β)	15.75
95% Gamma Approximate KM-UCL (use when n>=50)	3155	95% Gamma Adjusted KM-UCL (use when n<50)	3435

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.859	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.234	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1705	Mean in Log Scale	7.094
SD in Original Scale	1671	SD in Log Scale	0.861
95% t UCL (assumes normality of ROS data)	2618	95% Percentile Bootstrap UCL	2566
95% BCA Bootstrap UCL	2972	95% Bootstrap t UCL	3542
95% H-UCL (Log ROS)	3679		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.364	KM Geo Mean	1578
KM SD (logged)	0.561	95% Critical H Value (KM-Log)	2.258
KM Standard Error of Mean (logged)	0.189	95% H-UCL (KM -Log)	2755
KM SD (logged)	0.561	95% Critical H Value (KM-Log)	2.258
KM Standard Error of Mean (logged)	0.189		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1723	Mean in Log Scale	7.113
SD in Original Scale	1668	SD in Log Scale	0.841
95% t UCL (Assumes normality)	2634	95% H-Stat UCL	3589

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	2803

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFESA-BP1

General Statistics

Total Number of Observations	11	Number of Distinct Observations	3
Number of Detects	1	Number of Non-Detects	10
Number of Distinct Detects	1	Number of Distinct Non-Detects	2

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	11	Number of Distinct Observations	6
Number of Detects	4	Number of Non-Detects	7
Number of Distinct Detects	4	Number of Distinct Non-Detects	2
Minimum Detect	1100	Minimum Non-Detect	1000
Maximum Detect	2100	Maximum Non-Detect	2800
Variance Detects	206667	Percent Non-Detects	63.64%
Mean Detects	1700	SD Detects	454.6
Median Detects	1800	CV Detects	0.267
Skewness Detects	-0.894	Kurtosis Detects	-0.748
Mean of Logged Detects	7.408	SD of Logged Detects	0.295

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.918	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.245	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.375	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1280	KM Standard Error of Mean	154.7
KM SD	423.8	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1560	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1535	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1744	95% KM Chebyshev UCL	1955
97.5% KM Chebyshev UCL	2246	99% KM Chebyshev UCL	2820

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.359	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.657	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.276	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.394	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	16.54	k star (bias corrected MLE)	4.302
Theta hat (MLE)	102.8	Theta star (bias corrected MLE)	395.1
nu hat (MLE)	132.3	nu star (bias corrected)	34.42
Mean (detects)	1700		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	910.2
Maximum	2100	Median	835.8
SD	728.1	CV	0.8
k hat (MLE)	0.498	k star (bias corrected MLE)	0.423
Theta hat (MLE)	1826	Theta star (bias corrected MLE)	2151
nu hat (MLE)	10.96	nu star (bias corrected)	9.308
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (9.31, α)	3.514	Adjusted Chi Square Value (9.31, β)	2.958
95% Gamma Approximate UCL (use when n>=50)	2411	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1280	SD (KM)	423.8
Variance (KM)	179600	SE of Mean (KM)	154.7
k hat (KM)	9.122	k star (KM)	6.695
nu hat (KM)	200.7	nu star (KM)	147.3
theta hat (KM)	140.3	theta star (KM)	191.2
80% gamma percentile (KM)	1667	90% gamma percentile (KM)	1941
95% gamma percentile (KM)	2187	99% gamma percentile (KM)	2701

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (147.29, α)	120.2	Adjusted Chi Square Value (147.29, β)	116.3
95% Gamma Approximate KM-UCL (use when n>=50)	1568	95% Gamma Adjusted KM-UCL (use when n<50)	1622

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.891	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.244	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.375	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1057	Mean in Log Scale	6.823
SD in Original Scale	591.1	SD in Log Scale	0.558
95% t UCL (assumes normality of ROS data)	1380	95% Percentile Bootstrap UCL	1340
95% BCA Bootstrap UCL	1388	95% Bootstrap t UCL	1458
95% H-UCL (Log ROS)	1598		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.108	KM Geo Mean	1221
KM SD (logged)	0.293	95% Critical H Value (KM-Log)	1.943
KM Standard Error of Mean (logged)	0.107	95% H-UCL (KM -Log)	1527
KM SD (logged)	0.293	95% Critical H Value (KM-Log)	1.943
KM Standard Error of Mean (logged)	0.107		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1018	Mean in Log Scale	6.742
SD in Original Scale	650.9	SD in Log Scale	0.629
95% t UCL (Assumes normality)	1374	95% H-Stat UCL	1650

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	1560

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 4

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	2	Number of Non-Detects	9
Number of Distinct Detects	2	Number of Distinct Non-Detects	2
Minimum Detect	1200	Minimum Non-Detect	1000
Maximum Detect	2400	Maximum Non-Detect	2800
Variance Detects	720000	Percent Non-Detects	81.82%
Mean Detects	1800	SD Detects	848.5
Median Detects	1800	CV Detects	0.471
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	7.437	SD of Logged Detects	0.49

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1160	KM Standard Error of Mean	186.8
KM SD	417.6	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1498	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1467	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1720	95% KM Chebyshev UCL	1974
97.5% KM Chebyshev UCL	2326	99% KM Chebyshev UCL	3018

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	8.653	k star (bias corrected MLE)	N/A
Theta hat (MLE)	208	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	34.61	nu star (bias corrected)	N/A
Mean (detects)	1800		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1160	SD (KM)	417.6

Variance (KM)	174400	SE of Mean (KM)	186.8
k hat (KM)	7.716	k star (KM)	5.672
nu hat (KM)	169.7	nu star (KM)	124.8
theta hat (KM)	150.3	theta star (KM)	204.5
80% gamma percentile (KM)	1538	90% gamma percentile (KM)	1811
95% gamma percentile (KM)	2060	99% gamma percentile (KM)	2581

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0278
Approximate Chi Square Value (124.78, α)	99.98	Adjusted Chi Square Value (124.78, β)	96.37
95% Gamma Approximate KM-UCL (use when n>=50)	1448	95% Gamma Adjusted KM-UCL (use when n<50)	1502

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	456.3	Mean in Log Scale	5.143
SD in Original Scale	727.3	SD in Log Scale	1.498
95% t UCL (assumes normality of ROS data)	853.7	95% Percentile Bootstrap UCL	845.5
95% BCA Bootstrap UCL	959.5	95% Bootstrap t UCL	2220
95% H-UCL (Log ROS)	3542		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.014	KM Geo Mean	1112
KM SD (logged)	0.262	95% Critical H Value (KM-Log)	1.914
KM Standard Error of Mean (logged)	0.117	95% H-UCL (KM -Log)	1348
KM SD (logged)	0.262	95% Critical H Value (KM-Log)	1.914
KM Standard Error of Mean (logged)	0.117		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	818.2	Mean in Log Scale	6.53
SD in Original Scale	616.1	SD in Log Scale	0.565
95% t UCL (Assumes normality)	1155	95% H-Stat UCL	1205

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	1498	KM H-UCL	1348
95% KM (BCA) UCL	N/A		

Warning: One or more Recommended UCL(s) not available!

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 5

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 5 was not processed!

Byproduct 6

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	11	Number of Distinct Observations	3
Number of Detects	1	Number of Non-Detects	10
Number of Distinct Detects	1	Number of Distinct Non-Detects	2

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable NVHOS was not processed!

EVE Acid

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	11	Number of Distinct Observations	3
Number of Detects	2	Number of Non-Detects	9
Number of Distinct Detects	1	Number of Distinct Non-Detects	2

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Hydro-EVE Acid was not processed!

R-EVE

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable R-EVE was not processed!

PES

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	11	Number of Distinct Observations	2
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	2

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/11/2019 1:47:29 PM

User Selected Options

From File ProUCL_Inputdata_Terr_g.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_g.xls

Onsite Surface Water General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	3	0	3	0	0.00%	N/A	N/A	811.7	12658	112.5	0.139
PFMOAA	3	0	3	0	0.00%	N/A	N/A	248.3	58.33	7.638	0.0308
PFO2HxA	3	0	3	0	0.00%	N/A	N/A	705	325	18.03	0.0256
PFO3OA	3	0	3	0	0.00%	N/A	N/A	92.33	10.33	3.215	0.0348
PFO4DA	3	0	3	0	0.00%	N/A	N/A	38.33	2.333	1.528	0.0398
PFO5DA	3	0	3	0	0.00%	N/A	N/A	9.867	0.0233	0.153	0.0155
PMPA	3	0	3	0	0.00%	N/A	N/A	830	300	17.32	0.0209
PEPA	3	0	3	0	0.00%	N/A	N/A	281.7	158.3	12.58	0.0447
PFESA-BP1	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
PFESA-BP2	3	0	3	0	0.00%	N/A	N/A	31.5	0.75	0.866	0.0275
Byproduct 4	3	0	3	0	0.00%	N/A	N/A	94.17	13.08	3.617	0.0384
Byproduct 5	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
Byproduct 6	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
NVHOS	3	0	3	0	0.00%	N/A	N/A	5.983	0.116	0.34	0.0569
EVE Acid	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
Hydro-EVE Acid	3	0	3	0	0.00%	N/A	N/A	3.45	0.0075	0.0866	0.0251
R-EVE	3	0	3	0	0.00%	N/A	N/A	54.83	7.583	2.754	0.0502
PES	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
PFECA B	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
PFECA-G	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	3	0	730	940	811.7	765	12658	112.5	51.89	1.545	0.139
PFMOAA	3	0	240	255	248.3	250	58.33	7.638	7.413	-0.935	0.0308
PFO2HxA	3	0	690	725	705	700	325	18.03	14.83	1.152	0.0256
PFO3OA	3	0	90	96	92.33	91	10.33	3.215	1.483	1.545	0.0348
PFO4DA	3	0	37	40	38.33	38	2.333	1.528	1.483	0.935	0.0398
PFO5DA	3	0	9.7	10	9.867	9.9	0.0233	0.153	0.148	-0.935	0.0155
PMPA	3	0	820	850	830	820	300	17.32	0	1.732	0.0209
PEPA	3	0	270	295	281.7	280	158.3	12.58	14.83	0.586	0.0447
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	3	0	31	32.5	31.5	31	0.75	0.866	0	1.732	0.0275
Byproduct 4	3	0	90	96.5	94.17	96	13.08	3.617	0.741	-1.695	0.0384
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	3	0	5.6	6.25	5.983	6.1	0.116	0.34	0.222	-1.361	0.0569
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	3	0	3.4	3.55	3.45	3.4	0.0075	0.0866	0	1.732	0.0251
R-EVE	3	0	52	57.5	54.83	55	7.583	2.754	3.706	-0.271	0.0502
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	3	0	737	744	747.5	765	852.5	870	905	922.5	936.5
PFMOAA	3	0	242	244	245	250	252.5	253	254	254.5	254.9
PFO2HxA	3	0	692	694	695	700	712.5	715	720	722.5	724.5
PFO3OA	3	0	90.2	90.4	90.5	91	93.5	94	95	95.5	95.9
PFO4DA	3	0	37.2	37.4	37.5	38	39	39.2	39.6	39.8	39.96
PFO5DA	3	0	9.74	9.78	9.8	9.9	9.95	9.96	9.98	9.99	9.998
PMPA	3	0	820	820	820	820	835	838	844	847	849.4
PEPA	3	0	272	274	275	280	287.5	289	292	293.5	294.7
PFESA-BP1	3	0	2	2	2	2	2	2	2	2	2
PFESA-BP2	3	0	31	31	31	31	31.75	31.9	32.2	32.35	32.47
Byproduct 4	3	0	91.2	92.4	93	96	96.25	96.3	96.4	96.45	96.49
Byproduct 5	3	0	2	2	2	2	2	2	2	2	2
Byproduct 6	3	0	2	2	2	2	2	2	2	2	2
NVHOS	3	0	5.7	5.8	5.85	6.1	6.175	6.19	6.22	6.235	6.247
EVE Acid	3	0	2	2	2	2	2	2	2	2	2
Hydro-EVE Acid	3	0	3.4	3.4	3.4	3.4	3.475	3.49	3.52	3.535	3.547
R-EVE	3	0	52.6	53.2	53.5	55	56.25	56.5	57	57.25	57.45
PES	3	0	2	2	2	2	2	2	2	2	2
PFECA B	3	0	2	2	2	2	2	2	2	2	2
PFECA-G	3	0	2	2	2	2	2	2	2	2	2

UCL Statistics for Data Sets with Non-Detects

Onsite Surface Water UCLs

User Selected Options	
Date/Time of Computation	ProUCL 5.111/11/2019 5:06:33 PM
From File	ProUCL_Inputdata_Terr_g.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hfpo Dimer Acid

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	730	Mean	811.7
Maximum	940	Median	765
SD	112.5	Std. Error of Mean	64.96
Coefficient of Variation	0.139	Skewness	1.545

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.871	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	1001	95% Adjusted-CLT UCL (Chen-1995)	980.4
		95% Modified-t UCL (Johnson-1978)	1011

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	81.38	k star (bias corrected MLE)	N/A
Theta hat (MLE)	9.973	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	488.3	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.883	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.32	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.593	Mean of logged Data	6.693
Maximum of Logged Data	6.846	SD of logged Data	0.135

Assuming Lognormal Distribution

95% H-UCL	1073	90% Chebyshev (MVUE) UCL	1000
95% Chebyshev (MVUE) UCL	1086	97.5% Chebyshev (MVUE) UCL	1204
99% Chebyshev (MVUE) UCL	1437		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	918.5	95% Jackknife UCL	1001
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	1007	95% Chebyshev(Mean, Sd) UCL	1095
97.5% Chebyshev(Mean, Sd) UCL	1217	99% Chebyshev(Mean, Sd) UCL	1458

Suggested UCL to Use

95% Student's-t UCL	1001

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	240	Mean	248.3
Maximum	255	Median	250
SD	7.638	Std. Error of Mean	4.41
Coefficient of Variation	0.0308	Skewness	-0.935

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.964	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.253	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	261.2	95% Adjusted-CLT UCL (Chen-1995)	253

95% Modified-t UCL (Johnson-1978)	260.8

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	1575	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.158	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	9451	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.961	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.256	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.481	Mean of logged Data	5.514
Maximum of Logged Data	5.541	SD of logged Data	0.0309

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	261.6
95% Chebyshev (MVUE) UCL	267.7	97.5% Chebyshev (MVUE) UCL	276
99% Chebyshev (MVUE) UCL	292.4		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	255.6	95% Jackknife UCL	261.2
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	261.6	95% Chebyshev(Mean, Sd) UCL	267.6
97.5% Chebyshev(Mean, Sd) UCL	275.9	99% Chebyshev(Mean, Sd) UCL	292.2

Suggested UCL to Use

95% Student's-t UCL	261.2

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PFO2HxA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	690	Mean	705
Maximum	725	Median	700
SD	18.03	Std. Error of Mean	10.41
Coefficient of Variation	0.0256	Skewness	1.152

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.276	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	735.4	95% Adjusted-CLT UCL (Chen-1995)	729.5
		95% Modified-t UCL (Johnson-1978)	736.5

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	2308	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.305	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	13851	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.945	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.274	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.537	Mean of logged Data	6.558
Maximum of Logged Data	6.586	SD of logged Data	0.0255

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	736.1
95% Chebyshev (MVUE) UCL	750.2	97.5% Chebyshev (MVUE) UCL	769.7
99% Chebyshev (MVUE) UCL	808.1		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	722.1	95% Jackknife UCL	735.4
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	736.2	95% Chebyshev(Mean, Sd) UCL	750.4
97.5% Chebyshev(Mean, Sd) UCL	770	99% Chebyshev(Mean, Sd) UCL	808.6

Suggested UCL to Use

95% Student's-t UCL	735.4

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO3OA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	90	Mean	92.33
Maximum	96	Median	91
SD	3.215	Std. Error of Mean	1.856
Coefficient of Variation	0.0348	Skewness	1.545

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.871	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.328	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	97.75	95% Adjusted-CLT UCL (Chen-1995)	97.16
		95% Modified-t UCL (Johnson-1978)	98.03

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	1252	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0738	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	7512	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A

		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.874	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.326	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.5	Mean of logged Data	4.525
Maximum of Logged Data	4.564	SD of logged Data	0.0345

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	97.85
95% Chebyshev (MVUE) UCL	100.4	97.5% Chebyshev (MVUE) UCL	103.8
99% Chebyshev (MVUE) UCL	110.6		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	95.39	95% Jackknife UCL	97.75
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	97.9	95% Chebyshev(Mean, Sd) UCL	100.4
97.5% Chebyshev(Mean, Sd) UCL	103.9	99% Chebyshev(Mean, Sd) UCL	110.8

Suggested UCL to Use

95% Student's-t UCL	97.75

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO4DA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	37	Mean	38.33
Maximum	40	Median	38
SD	1.528	Std. Error of Mean	0.882
Coefficient of Variation	0.0398	Skewness	0.935

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).

Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.964	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.253	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	40.91	95% Adjusted-CLT UCL (Chen-1995)	40.29
		95% Modified-t UCL (Johnson-1978)	40.99

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	951.9	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0403	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	5712	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.968	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.249	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.611	Mean of logged Data	3.646
Maximum of Logged Data	3.689	SD of logged Data	0.0396

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	40.96
95% Chebyshev (MVUE) UCL	42.15	97.5% Chebyshev (MVUE) UCL	43.81
99% Chebyshev (MVUE) UCL	47.06		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	39.78	95% Jackknife UCL	40.91
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	40.98	95% Chebyshev(Mean, Sd) UCL	42.18
97.5% Chebyshev(Mean, Sd) UCL	43.84	99% Chebyshev(Mean, Sd) UCL	47.11

Suggested UCL to Use

95% Student's-t UCL	40.91

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO5DA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	9.7	Mean	9.867
Maximum	10	Median	9.9
SD	0.153	Std. Error of Mean	0.0882
Coefficient of Variation	0.0155	Skewness	-0.935

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.964	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.253	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	10.12	95% Adjusted-CLT UCL (Chen-1995)	9.961
		95% Modified-t UCL (Johnson-1978)	10.12

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	6238	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00158	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	37426	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.963	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.255	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.272	Mean of logged Data	2.289
Maximum of Logged Data	2.303	SD of logged Data	0.0155

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	10.13
95% Chebyshev (MVUE) UCL	10.25	97.5% Chebyshev (MVUE) UCL	10.42
99% Chebyshev (MVUE) UCL	10.75		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	10.01	95% Jackknife UCL	10.12
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	10.13	95% Chebyshev(Mean, Sd) UCL	10.25
97.5% Chebyshev(Mean, Sd) UCL	10.42	99% Chebyshev(Mean, Sd) UCL	10.74

Suggested UCL to Use

95% Student's-t UCL	10.12

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PMPA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	820	Mean	830
Maximum	850	Median	820
SD	17.32	Std. Error of Mean	10
Coefficient of Variation	0.0209	Skewness	1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	859.2	95% Adjusted-CLT UCL (Chen-1995)	857.1
		95% Modified-t UCL (Johnson-1978)	860.9

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	3472	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.239	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	20831	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.709	Mean of logged Data	6.721
Maximum of Logged Data	6.745	SD of logged Data	0.0207

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	859.8
95% Chebyshev (MVUE) UCL	873.3	97.5% Chebyshev (MVUE) UCL	892.1
99% Chebyshev (MVUE) UCL	928.9		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	846.4	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	860	95% Chebyshev(Mean, Sd) UCL	873.6
97.5% Chebyshev(Mean, Sd) UCL	892.4	99% Chebyshev(Mean, Sd) UCL	929.5

Suggested UCL to Use

95% Student's-t UCL	859.2

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PEPA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	270	Mean	281.7
Maximum	295	Median	280
SD	12.58	Std. Error of Mean	7.265
Coefficient of Variation	0.0447	Skewness	0.586

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.987	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.219	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	302.9	95% Adjusted-CLT UCL (Chen-1995)	296.2
		95% Modified-t UCL (Johnson-1978)	303.3

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	755.4	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.373	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	4532	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.989	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.214	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.598	Mean of logged Data	5.64
Maximum of Logged Data	5.687	SD of logged Data	0.0445

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	303.4
95% Chebyshev (MVUE) UCL	313.2	97.5% Chebyshev (MVUE) UCL	326.9

99% Chebyshev (MVUE) UCL	353.7

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	293.6	95% Jackknife UCL	302.9
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	303.5	95% Chebyshev(Mean, Sd) UCL	313.3
97.5% Chebyshev(Mean, Sd) UCL	327	99% Chebyshev(Mean, Sd) UCL	354

Suggested UCL to Use

95% Student's-t UCL	302.9

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFESA-BP1

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	31	Mean	31.5
Maximum	32.5	Median	31
SD	0.866	Std. Error of Mean	0.5
Coefficient of Variation	0.0275	Skewness	1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**	

5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	32.96	95% Adjusted-CLT UCL (Chen-1995)	32.86
		95% Modified-t UCL (Johnson-1978)	33.04

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	2005	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0157	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	12031	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.434	Mean of logged Data	3.45
Maximum of Logged Data	3.481	SD of logged Data	0.0273

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	32.99
95% Chebyshev (MVUE) UCL	33.66	97.5% Chebyshev (MVUE) UCL	34.6
99% Chebyshev (MVUE) UCL	36.44		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	32.32	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	33	95% Chebyshev(Mean, Sd) UCL	33.68
97.5% Chebyshev(Mean, Sd) UCL	34.62	99% Chebyshev(Mean, Sd) UCL	36.47

Suggested UCL to Use

95% Student's-t UCL	32.96

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 4

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	90	Mean	94.17
Maximum	96.5	Median	96
SD	3.617	Std. Error of Mean	2.088
Coefficient of Variation	0.0384	Skewness	-1.695

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.807	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.361	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	100.3	95% Adjusted-CLT UCL (Chen-1995)	95.42
		95% Modified-t UCL (Johnson-1978)	99.92

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	1002	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.094	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	6009	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.806	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.361	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.5	Mean of logged Data	4.545
Maximum of Logged Data	4.57	SD of logged Data	0.0388

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	100.5
95% Chebyshev (MVUE) UCL	103.4	97.5% Chebyshev (MVUE) UCL	107.4
99% Chebyshev (MVUE) UCL	115.2		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	97.6	95% Jackknife UCL	100.3
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	100.4	95% Chebyshev(Mean, Sd) UCL	103.3
97.5% Chebyshev(Mean, Sd) UCL	107.2	99% Chebyshev(Mean, Sd) UCL	114.9

Suggested UCL to Use

95% Student's-t UCL	100.3

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Byproduct 5

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 5 was not processed!

Byproduct 6

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	5.6	Mean	5.983
Maximum	6.25	Median	6.1
SD	0.34	Std. Error of Mean	0.196
Coefficient of Variation	0.0569	Skewness	-1.361

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.912	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.301	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	6.557	95% Adjusted-CLT UCL (Chen-1995)	6.142
		95% Modified-t UCL (Johnson-1978)	6.531

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	455.2	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0131	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	2731	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.906	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.305	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.723	Mean of logged Data	1.788
Maximum of Logged Data	1.833	SD of logged Data	0.0577

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	6.581
95% Chebyshev (MVUE) UCL	6.852	97.5% Chebyshev (MVUE) UCL	7.227

99% Chebyshev (MVUE) UCL	7.965

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	6.307	95% Jackknife UCL	6.557
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	6.573	95% Chebyshev(Mean, Sd) UCL	6.84
97.5% Chebyshev(Mean, Sd) UCL	7.21	99% Chebyshev(Mean, Sd) UCL	7.938

Suggested UCL to Use

95% Student's-t UCL	6.557

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

EVE Acid

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	3.4	Mean	3.45
Maximum	3.55	Median	3.4
SD	0.0866	Std. Error of Mean	0.05
Coefficient of Variation	0.0251	Skewness	1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	3.596	95% Adjusted-CLT UCL (Chen-1995)	3.586
		95% Modified-t UCL (Johnson-1978)	3.604

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	2403	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00144	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	14419	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.224	Mean of logged Data	1.238
Maximum of Logged Data	1.267	SD of logged Data	0.0249

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	3.599
95% Chebyshev (MVUE) UCL	3.666	97.5% Chebyshev (MVUE) UCL	3.76
99% Chebyshev (MVUE) UCL	3.944		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	3.532	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	3.6	95% Chebyshev(Mean, Sd) UCL	3.668
97.5% Chebyshev(Mean, Sd) UCL	3.762	99% Chebyshev(Mean, Sd) UCL	3.947

Suggested UCL to Use

95% Student's-t UCL	3.596

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

R-EVE

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	52	Mean	54.83
Maximum	57.5	Median	55
SD	2.754	Std. Error of Mean	1.59
Coefficient of Variation	0.0502	Skewness	-0.271

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.997	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.191	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	59.48	95% Adjusted-CLT UCL (Chen-1995)	57.18
		95% Modified-t UCL (Johnson-1978)	59.43

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	592.4	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0926	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3554	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.996	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.197	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.951	Mean of logged Data	4.003
Maximum of Logged Data	4.052	SD of logged Data	0.0504

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	59.62
95% Chebyshev (MVUE) UCL	61.78	97.5% Chebyshev (MVUE) UCL	64.79
99% Chebyshev (MVUE) UCL	70.7		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	57.45	95% Jackknife UCL	59.48
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	59.6	95% Chebyshev(Mean, Sd) UCL	61.76
97.5% Chebyshev(Mean, Sd) UCL	64.76	99% Chebyshev(Mean, Sd) UCL	70.65

Suggested UCL to Use

95% Student's-t UCL	59.48

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PES

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/11/2019 1:44:36 PM

User Selected Options

From File ProUCL_Inputdata_Terr_c.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_c.xls

Offsite Invertebrate General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	11	0	2	9	81.82%	1000	12000	1410	1281900	1132	0.803
PFMOAA	11	0	1	10	90.91%	1000	12000	1360	1166400	1080	0.794
PFO2HxA	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
PFO3OA	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
PFO4DA	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
PFO5DA	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
PMPA	11	0	3	8	72.73%	1000	12000	2707	26565708	5154	1.904
PEPA	11	0	1	10	90.91%	1000	12000	1067	35556	188.6	0.177
PFESA-BP1	11	0	1	10	90.91%	1000	1700	1227	516529	718.7	0.586
PFESA-BP2	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
Byproduct 4	11	0	1	10	90.91%	1000	12000	1460	1904400	1380	0.945
Byproduct 5	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
Byproduct 6	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
NVHOS	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
EVE Acid	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
R-EVE	11	0	2	9	81.82%	1000	12000	540	67600	260	0.481
PES	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
PFECA B	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A
PFECA-G	11	0	0	11	100.00%	1000	12000	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	2	0	1200	4800	3000	3000	6480000	2546	2669	N/A	0.849
PFMOAA	1	0	4600	4600	4600	4600	N/A	N/A	0	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	3	0	1300	19000	7233	1400	1.038E+8	10190	148.3	1.732	1.409
PEPA	1	0	1600	1600	1600	1600	N/A	N/A	0	N/A	N/A
PFESA-BP1	1	0	3500	3500	3500	3500	N/A	N/A	0	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	1	0	5600	5600	5600	5600	N/A	N/A	0	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	2	0	280	800	540	540	135200	367.7	385.5	N/A	0.681
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	11	0	1000	1000	1000	1200	2000	2300	4800	8400	11280
PFMOAA	11	0	1000	1000	1000	1000	1500	1700	4600	8300	11260
PFO2HxA	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
PFO3OA	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
PFO4DA	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
PFO5DA	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
PMPA	11	0	1000	1000	1000	1000	1350	1400	12000	15500	18300
PEPA	11	0	1000	1000	1000	1000	1450	1600	1700	6850	10970
PFESA-BP1	11	0	1000	1000	1000	1000	1150	1300	1700	2600	3320
PFESA-BP2	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
Byproduct 4	11	0	1000	1000	1000	1000	1350	1700	5600	8800	11360
Byproduct 5	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
Byproduct 6	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
NVHOS	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
EVE Acid	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
Hydro-EVE Acid	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
R-EVE	11	0	800	1000	1000	1000	1000	1000	1700	6850	10970
PES	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
PFECA B	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970
PFECA-G	11	0	1000	1000	1000	1000	1150	1300	1700	6850	10970

UCL Statistics for Data Sets with Non-Detects

Offsite Invertebrate UCLs

User Selected Options	
Date/Time of Computation	ProUCL 5.111/11/2019 4:59:20 PM
From File	ProUCL_Inputdata_Terr_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hfpo Dimer Acid

General Statistics

Total Number of Observations	11	Number of Distinct Observations	7
Number of Detects	2	Number of Non-Detects	9
Number of Distinct Detects	2	Number of Distinct Non-Detects	5
Minimum Detect	1200	Minimum Non-Detect	1000
Maximum Detect	4800	Maximum Non-Detect	12000
Variance Detects	6480000	Percent Non-Detects	81.82%
Mean Detects	3000	SD Detects	2546
Median Detects	3000	CV Detects	0.849
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	7.783	SD of Logged Detects	0.98

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1410	KM Standard Error of Mean	506.8
KM SD	1132	95% KM (BCA) UCL	N/A
95% KM (t) UCL	2329	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	2244	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	2930	95% KM Chebyshev UCL	3619
97.5% KM Chebyshev UCL	4575	99% KM Chebyshev UCL	6453

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	2.394	k star (bias corrected MLE)	N/A
Theta hat (MLE)	1253	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	9.577	nu star (bias corrected)	N/A
Mean (detects)	3000		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1410	SD (KM)	1132
Variance (KM)	1281900	SE of Mean (KM)	506.8
k hat (KM)	1.551	k star (KM)	1.189
nu hat (KM)	34.12	nu star (KM)	26.15
theta hat (KM)	909.1	theta star (KM)	1186
80% gamma percentile (KM)	2235	90% gamma percentile (KM)	3111
95% gamma percentile (KM)	3976	99% gamma percentile (KM)	5960

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0278
Approximate Chi Square Value (26.15, α)	15.49	Adjusted Chi Square Value (26.15, β)	14.17
95% Gamma Approximate KM-UCL (use when n>=50)	2380	95% Gamma Adjusted KM-UCL (use when n<50)	2602

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	670.8	Mean in Log Scale	5.333
SD in Original Scale	1408	SD in Log Scale	1.46
95% t UCL (assumes normality of ROS data)	1440	95% Percentile Bootstrap UCL	1492
95% BCA Bootstrap UCL	1925	95% Bootstrap t UCL	8638
95% H-UCL (Log ROS)	3715		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.092	KM Geo Mean	1202
KM SD (logged)	0.466	95% Critical H Value (KM-Log)	2.133
KM Standard Error of Mean (logged)	0.209	95% H-UCL (KM -Log)	1835
KM SD (logged)	0.466	95% Critical H Value (KM-Log)	2.133
KM Standard Error of Mean (logged)	0.209		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1559	Mean in Log Scale	6.874
SD in Original Scale	1935	SD in Log Scale	0.912
95% t UCL (Assumes normality)	2617	95% H-Stat UCL	3318

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	3619

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	5
Number of Detects	1	Number of Non-Detects	10
Number of Distinct Detects	1	Number of Distinct Non-Detects	4

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!

It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFMOAA was not processed!

PFO2HxA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11

Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO2HxA was not processed!

PFO3OA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO3OA was not processed!

PFO4DA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO4DA was not processed!

PFO5DA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO5DA was not processed!

PMPA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	5
Number of Detects	3	Number of Non-Detects	8
Number of Distinct Detects	3	Number of Distinct Non-Detects	2

Minimum Detect	1300	Minimum Non-Detect	1000
Maximum Detect	19000	Maximum Non-Detect	12000
Variance Detects	1.038E+8	Percent Non-Detects	72.73%
Mean Detects	7233	SD Detects	10190
Median Detects	1400	CV Detects	1.409
Skewness Detects	1.732	Kurtosis Detects	N/A
Mean of Logged Detects	8.089	SD of Logged Detects	1.528

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.754	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.383	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2707	KM Standard Error of Mean	1903
KM SD	5154	95% KM (BCA) UCL	N/A
95% KM (t) UCL	6157	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	5838	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	8417	95% KM Chebyshev UCL	11004
97.5% KM Chebyshev UCL	14594	99% KM Chebyshev UCL	21646

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	0.75	k star (bias corrected MLE)	N/A
Theta hat (MLE)	9638	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	4.503	nu star (bias corrected)	N/A
Mean (detects)	7233		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1973
Maximum	19000	Median	0.01
SD	5673	CV	2.876
k hat (MLE)	0.0938	k star (bias corrected MLE)	0.129
Theta hat (MLE)	21038	Theta star (bias corrected MLE)	15316
nu hat (MLE)	2.063	nu star (bias corrected)	2.834
Adjusted Level of Significance (β)	0.0278		
Approximate Chi Square Value (2.83, α)	0.325	Adjusted Chi Square Value (2.83, β)	0.227
95% Gamma Approximate UCL (use when n>=50)	17206	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2707	SD (KM)	5154
Variance (KM)	26565708	SE of Mean (KM)	1903
k hat (KM)	0.276	k star (KM)	0.261
nu hat (KM)	6.069	nu star (KM)	5.747

theta hat (KM)	9813	theta star (KM)	10363
80% gamma percentile (KM)	3991	90% gamma percentile (KM)	8098
95% gamma percentile (KM)	12931	99% gamma percentile (KM)	25720

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (5.75, α)	1.512	Adjusted Chi Square Value (5.75, β)	1.188
95% Gamma Approximate KM-UCL (use when n>=50)	10290	95% Gamma Adjusted KM-UCL (use when n<50)	13099

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.771	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.377	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2023	Mean in Log Scale	4.652
SD in Original Scale	5654	SD in Log Scale	2.703
95% t UCL (assumes normality of ROS data)	5113	95% Percentile Bootstrap UCL	5364
95% BCA Bootstrap UCL	7289	95% Bootstrap t UCL	29600
95% H-UCL (Log ROS)	1336402		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.236	KM Geo Mean	1388
KM SD (logged)	0.836	95% Critical H Value (KM-Log)	2.695
KM Standard Error of Mean (logged)	0.309	95% H-UCL (KM -Log)	4015
KM SD (logged)	0.836	95% Critical H Value (KM-Log)	2.695
KM Standard Error of Mean (logged)	0.309		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2836	Mean in Log Scale	6.952
SD in Original Scale	5603	SD in Log Scale	1.241
95% t UCL (Assumes normality)	5898	95% H-Stat UCL	8851

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	6157

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PEPA

General Statistics

Total Number of Observations	11	Number of Distinct Observations	5
Number of Detects	1	Number of Non-Detects	10
Number of Distinct Detects	1	Number of Distinct Non-Detects	4

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PEPA was not processed!

PFESA-BP1

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	1	Number of Non-Detects	10
Number of Distinct Detects	1	Number of Distinct Non-Detects	3

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP2 was not processed!

Byproduct 4

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	1	Number of Non-Detects	10
Number of Distinct Detects	1	Number of Distinct Non-Detects	3

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 4 was not processed!

Byproduct 5

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 5 was not processed!

Byproduct 6

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable NVHOS was not processed!

EVE Acid

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Hydro-EVE Acid was not processed!

R-EVE

General Statistics

Total Number of Observations	11	Number of Distinct Observations	5
Number of Detects	2	Number of Non-Detects	9
Number of Distinct Detects	2	Number of Distinct Non-Detects	3
Minimum Detect	280	Minimum Non-Detect	1000
Maximum Detect	800	Maximum Non-Detect	12000
Variance Detects	135200	Percent Non-Detects	81.82%
Mean Detects	540	SD Detects	367.7
Median Detects	540	CV Detects	0.681
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	6.16	SD of Logged Detects	0.742

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	540	KM Standard Error of Mean	260
KM SD	260	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1011	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	967.7	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1320	95% KM Chebyshev UCL	1673
97.5% KM Chebyshev UCL	2164	99% KM Chebyshev UCL	3127

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	3.951	k star (bias corrected MLE)	N/A
Theta hat (MLE)	136.7	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	15.8	nu star (bias corrected)	N/A
Mean (detects)	540		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	540	SD (KM)	260
Variance (KM)	67600	SE of Mean (KM)	260
k hat (KM)	4.314	k star (KM)	3.198
nu hat (KM)	94.9	nu star (KM)	70.35
theta hat (KM)	125.2	theta star (KM)	168.9
80% gamma percentile (KM)	764.4	90% gamma percentile (KM)	944.9
95% gamma percentile (KM)	1113	99% gamma percentile (KM)	1476

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.0278
Approximate Chi Square Value (70.35, α)	52.04	Adjusted Chi Square Value (70.35, β)	49.48
95% Gamma Approximate KM-UCL (use when n>=50)	730	95% Gamma Adjusted KM-UCL (use when n<50)	767.7

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	622.1	Mean in Log Scale	6.16
SD in Original Scale	513.6	SD in Log Scale	0.783
95% t UCL (assumes normality of ROS data)	902.7	95% Percentile Bootstrap UCL	884.6
95% BCA Bootstrap UCL	932.9	95% Bootstrap t UCL	1146
95% H-UCL (Log ROS)	1226		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.16	KM Geo Mean	473.3
KM SD (logged)	0.525	95% Critical H Value (KM-Log)	2.209
KM Standard Error of Mean (logged)	0.525	95% H-UCL (KM -Log)	783.8
KM SD (logged)	0.525	95% Critical H Value (KM-Log)	2.209
KM Standard Error of Mean (logged)	0.525		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1039	Mean in Log Scale	6.479
SD in Original Scale	1653	SD in Log Scale	0.79
95% t UCL (Assumes normality)	1942	95% H-Stat UCL	1711

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	1673

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PES

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	11	Number of Distinct Observations	4
Number of Detects	0	Number of Non-Detects	11
Number of Distinct Detects	0	Number of Distinct Non-Detects	4

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/11/2019 1:43:54 PM

User Selected Options

From File ProUCL_Inputdata_Terr_b.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_b.xls

Offsite Soil General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	12	0	2	10	83.33%	250	250	455	419192	647.5	1.423
PFMOAA	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO2HxA	12	0	2	10	83.33%	1000	1000	1142	134097	366.2	0.321
PFO3OA	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO4DA	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO5DA	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PMPA	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PEPA	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP1	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP2	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 4	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 5	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 6	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
NVHOS	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
EVE Acid	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
R-EVE	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PES	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA B	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA-G	12	0	0	12	100.00%	1000	1000	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	2	0	360	2600	1480	1480	2508800	1584	1660	N/A	1.07
PFMOAA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	2	0	1400	2300	1850	1850	405000	636.4	667.2	N/A	0.344
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	12	0	250	250	250	250	250	250	349	1368	2354
PFMOAA	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO2HxA	12	0	1000	1000	1000	1000	1000	1000	1360	1805	2201
PFO3OA	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO4DA	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO5DA	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PMPA	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PEPA	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP1	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP2	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 4	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 5	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 6	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
NVHOS	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
EVE Acid	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Hydro-EVE Acid	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
R-EVE	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PES	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA B	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA-G	12	0	1000	1000	1000	1000	1000	1000	1000	1000	1000

UCL Statistics for Data Sets with Non-Detects

Offsite Soil UCLs

User Selected Options	
Date/Time of Computation	ProUCL 5.111/11/2019 4:58:33 PM
From File	ProUCL_Inputdata_Terr_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hfpo Dimer Acid

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	360	Minimum Non-Detect	250
Maximum Detect	2600	Maximum Non-Detect	250
Variance Detects	2508800	Percent Non-Detects	83.33%
Mean Detects	1480	SD Detects	1584
Median Detects	1480	CV Detects	1.07
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	6.875	SD of Logged Detects	1.398

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	455	KM Standard Error of Mean	264.3
KM SD	647.5	95% KM (BCA) UCL	N/A
95% KM (t) UCL	929.7	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	889.8	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1248	95% KM Chebyshev UCL	1607
97.5% KM Chebyshev UCL	2106	99% KM Chebyshev UCL	3085

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	1.318	k star (bias corrected MLE)	N/A
Theta hat (MLE)	1123	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	5.272	nu star (bias corrected)	N/A
Mean (detects)	1480		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	455	SD (KM)	647.5
Variance (KM)	419192	SE of Mean (KM)	264.3
k hat (KM)	0.494	k star (KM)	0.426
nu hat (KM)	11.85	nu star (KM)	10.22
theta hat (KM)	921.3	theta star (KM)	1068
80% gamma percentile (KM)	739.2	90% gamma percentile (KM)	1271
95% gamma percentile (KM)	1850	99% gamma percentile (KM)	3296

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.029
Approximate Chi Square Value (10.22, α)	4.082	Adjusted Chi Square Value (10.22, β)	3.509
95% Gamma Approximate KM-UCL (use when n>=50)	1140	95% Gamma Adjusted KM-UCL (use when n<50)	1325

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	249.4	Mean in Log Scale	-0.512
SD in Original Scale	747.3	SD in Log Scale	4.764
95% t UCL (assumes normality of ROS data)	636.9	95% Percentile Bootstrap UCL	680.1
95% BCA Bootstrap UCL	898.8	95% Bootstrap t UCL	28542
95% H-UCL (Log ROS)	5.148E+11		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.747	KM Geo Mean	313.2
KM SD (logged)	0.646	95% Critical H Value (KM-Log)	2.335
KM Standard Error of Mean (logged)	0.264	95% H-UCL (KM -Log)	608.1
KM SD (logged)	0.646	95% Critical H Value (KM-Log)	2.335
KM Standard Error of Mean (logged)	0.264		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	350.8	Mean in Log Scale	5.169
SD in Original Scale	711.5	SD in Log Scale	0.901
95% t UCL (Assumes normality)	719.7	95% H-Stat UCL	555.6

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	1607

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFMOAA was not processed!

PFO2HxA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3

Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	1
Minimum Detect	1400	Minimum Non-Detect	1000
Maximum Detect	2300	Maximum Non-Detect	1000
Variance Detects	405000	Percent Non-Detects	83.33%
Mean Detects	1850	SD Detects	636.4
Median Detects	1850	CV Detects	0.344
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	7.492	SD of Logged Detects	0.351

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1142	KM Standard Error of Mean	149.5
KM SD	366.2	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1410	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1388	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1590	95% KM Chebyshev UCL	1793
97.5% KM Chebyshev UCL	2075	99% KM Chebyshev UCL	2629

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	16.56	k star (bias corrected MLE)	N/A
Theta hat (MLE)	111.7	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	66.24	nu star (bias corrected)	N/A
Mean (detects)	1850		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1142	SD (KM)	366.2
Variance (KM)	134097	SE of Mean (KM)	149.5
k hat (KM)	9.72	k star (KM)	7.345
nu hat (KM)	233.3	nu star (KM)	176.3
theta hat (KM)	117.5	theta star (KM)	155.4
80% gamma percentile (KM)	1473	90% gamma percentile (KM)	1704
95% gamma percentile (KM)	1911	99% gamma percentile (KM)	2342

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.029
Approximate Chi Square Value (176.29, α)	146.6	Adjusted Chi Square Value (176.29, β)	142.5
95% Gamma Approximate KM-UCL (use when n>=50)	1373	95% Gamma Adjusted KM-UCL (use when n<50)	1413

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	531.9	Mean in Log Scale	5.638
SD in Original Scale	673	SD in Log Scale	1.196
95% t UCL (assumes normality of ROS data)	880.8	95% Percentile Bootstrap UCL	846.9
95% BCA Bootstrap UCL	984.3	95% Bootstrap t UCL	1466
95% H-UCL (Log ROS)	1877		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.005	KM Geo Mean	1102
KM SD (logged)	0.24	95% Critical H Value (KM-Log)	1.875
KM Standard Error of Mean (logged)	0.0981	95% H-UCL (KM -Log)	1300
KM SD (logged)	0.24	95% Critical H Value (KM-Log)	1.875
KM Standard Error of Mean (logged)	0.0981		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	725	Mean in Log Scale	6.428
SD in Original Scale	559.4	SD in Log Scale	0.509
95% t UCL (Assumes normality)	1015	95% H-Stat UCL	979.2

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	1410	KM H-UCL	1300
95% KM (BCA) UCL	N/A		

Warning: One or more Recommended UCL(s) not available!

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO3OA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO3OA was not processed!

PFO4DA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO4DA was not processed!

PFO5DA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO5DA was not processed!

PMPA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PMPA was not processed!

PEPA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PEPA was not processed!

PFESA-BP1

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP2 was not processed!

Byproduct 4

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 4 was not processed!

Byproduct 5

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 5 was not processed!

Byproduct 6

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable NVHOS was not processed!

EVE Acid

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Hydro-EVE Acid was not processed!

R-EVE

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable R-EVE was not processed!

PES

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1

Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	12	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/11/2019 1:46:49 PM

User Selected Options

From File ProUCL_Inputdata_Terr_f.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_f.xls

Offsite Surface Water General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	3	0	3	0	0.00%	N/A	N/A	303.3	133.3	11.55	0.0381
PFMOAA	3	0	3	0	0.00%	N/A	N/A	67.67	9.333	3.055	0.0451
PFO2HxA	3	0	3	0	0.00%	N/A	N/A	216.7	33.33	5.774	0.0266
PFO3OA	3	0	3	0	0.00%	N/A	N/A	26.33	0.333	0.577	0.0219
PFO4DA	3	0	3	0	0.00%	N/A	N/A	8.667	0.0633	0.252	0.029
PFO5DA	3	0	2	1	33.33%	2	2	2.067	0.00222	0.0471	0.0228
PMPA	3	0	3	0	0.00%	N/A	N/A	346.7	33.33	5.774	0.0167
PEPA	3	0	3	0	0.00%	N/A	N/A	106.7	33.33	5.774	0.0541
PFESA-BP1	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
PFESA-BP2	3	0	3	0	0.00%	N/A	N/A	25	0	0	N/A
Byproduct 4	3	0	3	0	0.00%	N/A	N/A	140	100	10	0.0714
Byproduct 5	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
Byproduct 6	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
NVHOS	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
EVE Acid	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
Hydro-EVE Acid	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
R-EVE	3	0	3	0	0.00%	N/A	N/A	52.67	0.333	0.577	0.011
PES	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
PFECA B	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A
PFECA-G	3	0	0	3	100.00%	2	2	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	3	0	290	310	303.3	310	133.3	11.55	0	-1.732	0.0381
PFMOAA	3	0	65	71	67.67	67	9.333	3.055	2.965	0.935	0.0451
PFO2HxA	3	0	210	220	216.7	220	33.33	5.774	0	-1.732	0.0266
PFO3OA	3	0	26	27	26.33	26	0.333	0.577	0	1.732	0.0219
PFO4DA	3	0	8.4	8.9	8.667	8.7	0.0633	0.252	0.297	-0.586	0.029
PFO5DA	2	0	2.1	2.1	2.1	2.1	0	0	0	N/A	N/A
PMPA	3	0	340	350	346.7	350	33.33	5.774	0	-1.732	0.0167
PEPA	3	0	100	110	106.7	110	33.33	5.774	0	-1.732	0.0541
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	3	0	25	25	25	25	0	0	0	N/A	N/A
Byproduct 4	3	0	130	150	140	140	100	10	14.83	0	0.0714
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	3	0	52	53	52.67	53	0.333	0.577	0	-1.732	0.011
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	3	0	294	298	300	310	310	310	310	310	310
PFMOAA	3	0	65.4	65.8	66	67	69	69.4	70.2	70.6	70.92
PFO2HxA	3	0	212	214	215	220	220	220	220	220	220
PFO3OA	3	0	26	26	26	26	26.5	26.6	26.8	26.9	26.98
PFO4DA	3	0	8.46	8.52	8.55	8.7	8.8	8.82	8.86	8.88	8.896
PFO5DA	3	0	2.02	2.04	2.05	2.1	2.1	2.1	2.1	2.1	2.1
PMPA	3	0	342	344	345	350	350	350	350	350	350
PEPA	3	0	102	104	105	110	110	110	110	110	110
PFESA-BP1	3	0	2	2	2	2	2	2	2	2	2
PFESA-BP2	3	0	25	25	25	25	25	25	25	25	25
Byproduct 4	3	0	132	134	135	140	145	146	148	149	149.8
Byproduct 5	3	0	2	2	2	2	2	2	2	2	2
Byproduct 6	3	0	2	2	2	2	2	2	2	2	2
NVHOS	3	0	2	2	2	2	2	2	2	2	2
EVE Acid	3	0	2	2	2	2	2	2	2	2	2
Hydro-EVE Acid	3	0	2	2	2	2	2	2	2	2	2
R-EVE	3	0	52.2	52.4	52.5	53	53	53	53	53	53
PES	3	0	2	2	2	2	2	2	2	2	2
PFECA B	3	0	2	2	2	2	2	2	2	2	2
PFECA-G	3	0	2	2	2	2	2	2	2	2	2

UCL Statistics for Data Sets with Non-Detects

Offsite Surface Water UCLs

User Selected Options	
Date/Time of Computation	ProUCL 5.111/11/2019 5:03:57 PM
From File	ProUCL_Inputdata_Terr_f.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hfpo Dimer Acid

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	290	Mean	303.3
Maximum	310	Median	310
SD	11.55	Std. Error of Mean	6.667
Coefficient of Variation	0.0381	Skewness	-1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	322.8	95% Adjusted-CLT UCL (Chen-1995)	307.2
		95% Modified-t UCL (Johnson-1978)	321.7

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	1020	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.298	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	6118	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.67	Mean of logged Data	5.714

Maximum of Logged Data	5.737	SD of logged Data	0.0385

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	323.6
95% Chebyshev (MVUE) UCL	332.7	97.5% Chebyshev (MVUE) UCL	345.4
99% Chebyshev (MVUE) UCL	370.4		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	314.3	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	323.3	95% Chebyshev(Mean, Sd) UCL	332.4
97.5% Chebyshev(Mean, Sd) UCL	345	99% Chebyshev(Mean, Sd) UCL	369.7

Suggested UCL to Use

95% Student's-t UCL	322.8

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PFMOAA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	65	Mean	67.67
Maximum	71	Median	67
SD	3.055	Std. Error of Mean	1.764
Coefficient of Variation	0.0451	Skewness	0.935

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.964	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.253	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	72.82	95% Adjusted-CLT UCL (Chen-1995)	71.59

95% Modified-t UCL (Johnson-1978)	72.98

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	742.3	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0912	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	4454	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.968	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.248	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.174	Mean of logged Data	4.214
Maximum of Logged Data	4.263	SD of logged Data	0.0449

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	72.92
95% Chebyshev (MVUE) UCL	75.3	97.5% Chebyshev (MVUE) UCL	78.61
99% Chebyshev (MVUE) UCL	85.1		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	70.57	95% Jackknife UCL	72.82
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	72.96	95% Chebyshev(Mean, Sd) UCL	75.36
97.5% Chebyshev(Mean, Sd) UCL	78.68	99% Chebyshev(Mean, Sd) UCL	85.22

Suggested UCL to Use

95% Student's-t UCL	72.82

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO2HxA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	210	Mean	216.7

Maximum	220	Median	220
SD	5.774	Std. Error of Mean	3.333
Coefficient of Variation	0.0266	Skewness	-1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	226.4	95% Adjusted-CLT UCL (Chen-1995)	218.6
		95% Modified-t UCL (Johnson-1978)	225.8

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	2090	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.104	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	12543	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.347	Mean of logged Data	5.378
Maximum of Logged Data	5.394	SD of logged Data	0.0269

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	226.7
95% Chebyshev (MVUE) UCL	231.3	97.5% Chebyshev (MVUE) UCL	237.6
99% Chebyshev (MVUE) UCL	250.1		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	222.1	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	226.7	95% Chebyshev(Mean, Sd) UCL	231.2

97.5% Chebyshev(Mean, Sd) UCL	237.5	99% Chebyshev(Mean, Sd) UCL	249.8

Suggested UCL to Use

95% Student's-t UCL 226.4

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PFO3OA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	26	Mean	26.33
Maximum	27	Median	26
SD	0.577	Std. Error of Mean	0.333
Coefficient of Variation	0.0219	Skewness	1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	27.31	95% Adjusted-CLT UCL (Chen-1995)	27.24
		95% Modified-t UCL (Johnson-1978)	27.36

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	3146	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00837	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	18879	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.258	Mean of logged Data	3.271
Maximum of Logged Data	3.296	SD of logged Data	0.0218

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	27.33
95% Chebyshev (MVUE) UCL	27.78	97.5% Chebyshev (MVUE) UCL	28.4
99% Chebyshev (MVUE) UCL	29.63		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	26.88	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	27.33	95% Chebyshev(Mean, Sd) UCL	27.79
97.5% Chebyshev(Mean, Sd) UCL	28.41	99% Chebyshev(Mean, Sd) UCL	29.65

Suggested UCL to Use

95% Student's-t UCL	27.31

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO4DA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	8.4	Mean	8.667
Maximum	8.9	Median	8.7
SD	0.252	Std. Error of Mean	0.145
Coefficient of Variation	0.029	Skewness	-0.586

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.987	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.219	**Lilliefors GOF Test**

5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	9.091	95% Adjusted-CLT UCL (Chen-1995)	8.853
		95% Modified-t UCL (Johnson-1978)	9.083

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	1772	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00489	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	10630	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.985	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.223	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.128	Mean of logged Data	2.159
Maximum of Logged Data	2.186	SD of logged Data	0.0291

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	9.104
95% Chebyshev (MVUE) UCL	9.302	97.5% Chebyshev (MVUE) UCL	9.577
99% Chebyshev (MVUE) UCL	10.12		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	8.906	95% Jackknife UCL	9.091
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	9.103	95% Chebyshev(Mean, Sd) UCL	9.3
97.5% Chebyshev(Mean, Sd) UCL	9.574	99% Chebyshev(Mean, Sd) UCL	10.11

Suggested UCL to Use

95% Student's-t UCL	9.091

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be

reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PFO5DA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
Number of Detects	2	Number of Non-Detects	1
Number of Distinct Detects	1	Number of Distinct Non-Detects	1

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO5DA was not processed!

PMPA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	340	Mean	346.7
Maximum	350	Median	350
SD	5.774	Std. Error of Mean	3.333
Coefficient of Variation	0.0167	Skewness	-1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	356.4	95% Adjusted-CLT UCL (Chen-1995)	348.6
		95% Modified-t UCL (Johnson-1978)	355.8

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	5373	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.0645	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	32238	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level	

Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.829	Mean of logged Data	5.848
Maximum of Logged Data	5.858	SD of logged Data	0.0167

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	356.7
95% Chebyshev (MVUE) UCL	361.3	97.5% Chebyshev (MVUE) UCL	367.6
99% Chebyshev (MVUE) UCL	380		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	352.1	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	356.7	95% Chebyshev(Mean, Sd) UCL	361.2
97.5% Chebyshev(Mean, Sd) UCL	367.5	99% Chebyshev(Mean, Sd) UCL	379.8

Suggested UCL to Use

95% Student's-t UCL	356.4

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PEPA

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	100	Mean	106.7
Maximum	110	Median	110
SD	5.774	Std. Error of Mean	3.333
Coefficient of Variation	0.0541	Skewness	-1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors GOF Test**	

5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	116.4	95% Adjusted-CLT UCL (Chen-1995)	108.6
		95% Modified-t UCL (Johnson-1978)	115.8

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	501	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.213	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3006	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.385	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.605	Mean of logged Data	4.669
Maximum of Logged Data	4.7	SD of logged Data	0.055

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	116.8
95% Chebyshev (MVUE) UCL	121.4	97.5% Chebyshev (MVUE) UCL	127.8
99% Chebyshev (MVUE) UCL	140.4		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	112.1	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	116.7	95% Chebyshev(Mean, Sd) UCL	121.2
97.5% Chebyshev(Mean, Sd) UCL	127.5	99% Chebyshev(Mean, Sd) UCL	139.8

Suggested UCL to Use

95% Student's-t UCL	116.4

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PFESA-BP1

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
		Number of Missing Observations	0
Minimum	25	Mean	25
Maximum	25	Median	25

Warning: There is only one distinct observation value in this data set - resulting in '0' variance!
ProUCL (or any other software) should not be used on such a data set!
The data set for variable PFESA-BP2 was not processed!

It is suggested to collect at least 8 to 10 observations using these statistical methods!
If possible, compute and collect Data Quality Objectives (DQOs) based sample size and analytical results.
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Byproduct 4

General Statistics

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	130	Mean	140
Maximum	150	Median	140
SD	10	Std. Error of Mean	5.774
Coefficient of Variation	0.0714	Skewness	0

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	1	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.175	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	156.9	95% Adjusted-CLT UCL (Chen-1995)	149.5
		95% Modified-t UCL (Johnson-1978)	156.9

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	293.4	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.477	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	1760	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	1	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.177	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.868	Mean of logged Data	4.94
Maximum of Logged Data	5.011	SD of logged Data	0.0716

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	157.3
95% Chebyshev (MVUE) UCL	165.2	97.5% Chebyshev (MVUE) UCL	176.1
99% Chebyshev (MVUE) UCL	197.5		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	149.5	95% Jackknife UCL	156.9
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	157.3	95% Chebyshev(Mean, Sd) UCL	165.2
97.5% Chebyshev(Mean, Sd) UCL	176.1	99% Chebyshev(Mean, Sd) UCL	197.4

Suggested UCL to Use

95% Student's-t UCL	156.9

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 5

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1

Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 5 was not processed!

Byproduct 6

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable NVHOS was not processed!

EVE Acid

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Hydro-EVE Acid was not processed!

R-EVE

General Statistics

Total Number of Observations	3	Number of Distinct Observations	2
		Number of Missing Observations	0
Minimum	52	Mean	52.67
Maximum	53	Median	53
SD	0.577	Std. Error of Mean	0.333
Coefficient of Variation	0.011	Skewness	-1.732

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.75	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.767	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.425	Data appear Normal at 5% Significance Level	

Data appear Approximate Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	53.64	95% Adjusted-CLT UCL (Chen-1995)	52.86
		95% Modified-t UCL (Johnson-1978)	53.58

Gamma GOF Test

Not Enough Data to Perform GOF Test

Gamma Statistics

k hat (MLE)	12429	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.00424	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	74574	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A
		Approximate Chi Square Value (0.05)	N/A
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	N/A	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.75	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.767	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.385	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.425	Data appear Lognormal at 5% Significance Level	

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.951	Mean of logged Data	3.964
Maximum of Logged Data	3.97	SD of logged Data	0.011

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	53.67
95% Chebyshev (MVUE) UCL	54.12	97.5% Chebyshev (MVUE) UCL	54.75
99% Chebyshev (MVUE) UCL	55.99		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	53.21	95% Jackknife UCL	N/A
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	53.67	95% Chebyshev(Mean, Sd) UCL	54.12
97.5% Chebyshev(Mean, Sd) UCL	54.75	99% Chebyshev(Mean, Sd) UCL	55.98

Suggested UCL to Use

95% Student's-t UCL	53.64

Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

PES

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	3	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	3
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/11/2019 1:46:00 PM

User Selected Options

From File ProUCL_Inputdata_Terr_e.xls

Full Precision OFF

From File: ProUCL_Inputdata_Terr_e.xls

Offsite Vegetation General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	12	0	12	0	0.00%	N/A	N/A	9351	2.947E+8	17166	1.836
PFMOAA	12	0	3	9	75.00%	1000	5700	7392	2.696E+8	16418	2.221
PFO2HxA	12	0	9	3	25.00%	1000	1000	2380	4423633	2103	0.884
PFO3OA	12	0	1	11	91.67%	1000	5700	220	0	0	N/A
PFO4DA	12	0	2	10	83.33%	1000	5700	395	18225	135	0.342
PFO5DA	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A
PMPA	12	0	12	0	0.00%	N/A	N/A	10335	2.584E+8	16074	1.555
PEPA	12	0	5	7	58.33%	1000	5700	845.3	385732	621.1	0.735
PFESA-BP1	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A
PFESA-BP2	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A
Byproduct 4	12	0	8	4	33.33%	1000	1000	4405	52797275	7266	1.65
Byproduct 5	12	0	2	10	83.33%	1000	5700	470	10000	100	0.213
Byproduct 6	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A
NVHOS	12	0	10	2	16.67%	1000	5000	68415	3.987E+10	199668	2.918
EVE Acid	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A
Hydro-EVE Acid	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A
R-EVE	12	0	9	3	25.00%	1000	1000	2463	5477856	2340	0.95
PES	12	0	4	8	66.67%	1000	5000	681.8	585124	764.9	1.122
PFECA B	12	0	2	10	83.33%	1000	5700	598	695556	834	1.395
PFECA-G	12	0	0	12	100.00%	1000	5700	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	12	0	540	55000	9351	1850	2.947E+8	17166	1653	2.28	1.836
PFMOAA	3	0	970	59000	26657	20000	8.751E+8	29582	28213	0.961	1.11
PFO2HxA	9	0	790	6600	2910	1500	5371400	2318	1053	0.79	0.796
PFO3OA	1	0	220	220	220	220	N/A	N/A	0	N/A	N/A
PFO4DA	2	0	260	530	395	395	36450	190.9	200.1	N/A	0.483
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	12	0	390	52000	10335	3300	2.584E+8	16074	3091	2.128	1.555
PEPA	5	0	410	2300	1134	850	702230	838	652.3	0.697	0.739
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	8	0	600	22000	6239	1650	78962584	8886	1520	1.431	1.424
Byproduct 5	2	0	370	570	470	470	20000	141.4	148.3	N/A	0.301
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	10	0	650	730000	81845	5850	5.195E+10	227934	6931	3.152	2.785
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	9	0	240	8500	3204	3100	5745178	2397	1927	1.318	0.748
PES	4	0	300	2900	1350	1100	1210000	1100	593	1.27	0.815
PFECA B	2	0	320	3100	1710	1710	3864200	1966	2061	N/A	1.15
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	12	0	611	952	1123	1850	5000	7860	31490	43450	52690
PFMOAA	12	0	1000	1000	1000	1000	5175	5560	18570	37550	54710
PFO2HxA	12	0	1000	1000	1000	1200	3375	4420	5970	6325	6545
PFO3OA	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
PFO4DA	12	0	577	1000	1000	1000	1000	1000	4600	5315	5623
PFO5DA	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
PMPA	12	0	667	1920	1975	3300	9150	11240	31800	42100	50020
PEPA	12	0	454	880	962.5	1000	1850	2180	4730	5315	5623
PFESA-BP1	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
PFESA-BP2	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
Byproduct 4	12	0	681	968	990	1000	2425	3140	17440	20350	21670
Byproduct 5	12	0	613	1000	1000	1000	1000	1000	4600	5315	5623
Byproduct 6	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
NVHOS	12	0	1070	1900	2450	5000	19500	22800	25800	342800	652560
EVE Acid	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
Hydro-EVE Acid	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623
R-EVE	12	0	1000	1000	1000	2000	3350	3900	4370	6245	8049
PES	12	0	1000	1000	1000	1000	1100	1100	2720	3845	4769
PFECA B	12	0	1000	1000	1000	1000	1525	2680	4810	5315	5623
PFECA-G	12	0	1000	1000	1000	1000	1000	1000	4600	5315	5623

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.112/2/2019 11:47:08 AM
From File	ReRun OffSite Veg and OnSite Invert.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Offsite Vegetation UCLs

Hfpo Dimer Acid

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	540	Mean	9351
Maximum	55000	Median	1850
SD	17166	Std. Error of Mean	4955
Coefficient of Variation	1.836	Skewness	2.28

Normal GOF Test

Shapiro Wilk Test Statistic	0.578	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.379	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	18250	95% Adjusted-CLT UCL (Chen-1995)	20987
		95% Modified-t UCL (Johnson-1978)	18794

Gamma GOF Test

A-D Test Statistic	1.263	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.783	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.305	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.258	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.523	k star (bias corrected MLE)	0.448
Theta hat (MLE)	17881	Theta star (bias corrected MLE)	20883
nu hat (MLE)	12.55	nu star (bias corrected)	10.75
MLE Mean (bias corrected)	9351	MLE Sd (bias corrected)	13974
		Approximate Chi Square Value (0.05)	4.413
Adjusted Level of Significance	0.029	Adjusted Chi Square Value	3.814

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	22768	95% Adjusted Gamma UCL (use when n<50)	26350

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.879	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.859	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.231	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.243	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.292	Mean of logged Data	7.937
Maximum of Logged Data	10.92	SD of logged Data	1.494

Assuming Lognormal Distribution

95% H-UCL	49091	90% Chebyshev (MVUE) UCL	17563
95% Chebyshev (MVUE) UCL	22227	97.5% Chebyshev (MVUE) UCL	28700
99% Chebyshev (MVUE) UCL	41415		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	17502	95% Jackknife UCL	18250
95% Standard Bootstrap UCL	17115	95% Bootstrap-t UCL	65264
95% Hall's Bootstrap UCL	68965	95% Percentile Bootstrap UCL	17888
95% BCA Bootstrap UCL	20513		
90% Chebyshev(Mean, Sd) UCL	24217	95% Chebyshev(Mean, Sd) UCL	30951
97.5% Chebyshev(Mean, Sd) UCL	40298	99% Chebyshev(Mean, Sd) UCL	58657

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	30951

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	6
Number of Detects	3	Number of Non-Detects	9
Number of Distinct Detects	3	Number of Distinct Non-Detects	3
Minimum Detect	970	Minimum Non-Detect	1000
Maximum Detect	59000	Maximum Non-Detect	5700
Variance Detects	8.751E+8	Percent Non-Detects	75%
Mean Detects	26657	SD Detects	29582
Median Detects	20000	CV Detects	1.11
Skewness Detects	0.961	Kurtosis Detects	N/A
Mean of Logged Detects	9.255	SD of Logged Detects	2.129

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.962	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.256	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	7392	KM Standard Error of Mean	5805
KM SD	16418	95% KM (BCA) UCL	N/A
95% KM (t) UCL	17816	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	16940	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	24806	95% KM Chebyshev UCL	32694
97.5% KM Chebyshev UCL	43643	99% KM Chebyshev UCL	65149

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	0.653	k star (bias corrected MLE)	N/A
Theta hat (MLE)	40853	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	3.915	nu star (bias corrected)	N/A
Mean (detects)	26657		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	8207
Maximum	59000	Median	256.9
SD	17217	CV	2.098
k hat (MLE)	0.114	k star (bias corrected MLE)	0.141
Theta hat (MLE)	71752	Theta star (bias corrected MLE)	58067
nu hat (MLE)	2.745	nu star (bias corrected)	3.392
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (3.39, α)	0.498	Adjusted Chi Square Value (3.39, β)	0.362
95% Gamma Approximate UCL (use when n>=50)	55960	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	7392	SD (KM)	16418
Variance (KM)	2.696E+8	SE of Mean (KM)	5805
k hat (KM)	0.203	k star (KM)	0.208
nu hat (KM)	4.864	nu star (KM)	4.982
theta hat (KM)	36469	theta star (KM)	35611
80% gamma percentile (KM)	9926	90% gamma percentile (KM)	22355
95% gamma percentile (KM)	37715	99% gamma percentile (KM)	79749

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.98, α)	1.144	Adjusted Chi Square Value (4.98, β)	0.891
95% Gamma Approximate KM-UCL (use when n>=50)	32196	95% Gamma Adjusted KM-UCL (use when n<50)	41310

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.93	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.286	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	7858	Mean in Log Scale	7.392
SD in Original Scale	17032	SD in Log Scale	1.801
95% t UCL (assumes normality of ROS data)	16687	95% Percentile Bootstrap UCL	16755
95% BCA Bootstrap UCL	21802	95% Bootstrap t UCL	77214
95% H-UCL (Log ROS)	95993		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.472	KM Geo Mean	1758
KM SD (logged)	1.348	95% Critical H Value (KM-Log)	3.583
KM Standard Error of Mean (logged)	0.476	95% H-UCL (KM -Log)	18688
KM SD (logged)	1.348	95% Critical H Value (KM-Log)	3.583
KM Standard Error of Mean (logged)	0.476		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	7402	Mean in Log Scale	7.254

SD in Original Scale	17164	SD in Log Scale	1.637
95% t UCL (Assumes normality)	16300	95% H-Stat UCL	42461

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	17816

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO2HxA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	9
Number of Detects	9	Number of Non-Detects	3
Number of Distinct Detects	8	Number of Distinct Non-Detects	1
Minimum Detect	790	Minimum Non-Detect	1000
Maximum Detect	6600	Maximum Non-Detect	1000
Variance Detects	5371400	Percent Non-Detects	25%
Mean Detects	2910	SD Detects	2318
Median Detects	1500	CV Detects	0.796
Skewness Detects	0.79	Kurtosis Detects	-1.288
Mean of Logged Detects	7.681	SD of Logged Detects	0.817

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.814	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.829	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.284	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.274	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2380	KM Standard Error of Mean	644
KM SD	2103	95% KM (BCA) UCL	3483
95% KM (t) UCL	3537	95% KM (Percentile Bootstrap) UCL	3433
95% KM (z) UCL	3439	95% KM Bootstrap t UCL	3996
90% KM Chebyshev UCL	4312	95% KM Chebyshev UCL	5187
97.5% KM Chebyshev UCL	6402	99% KM Chebyshev UCL	8788

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.654	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.731	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.265	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.283	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.844	k star (bias corrected MLE)	1.303
Theta hat (MLE)	1578	Theta star (bias corrected MLE)	2233
nu hat (MLE)	33.19	nu star (bias corrected)	23.46
Mean (detects)	2910		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2200
Maximum	6600	Median	1200
SD	2357	CV	1.071
k hat (MLE)	0.305	k star (bias corrected MLE)	0.284
Theta hat (MLE)	7217	Theta star (bias corrected MLE)	7742
nu hat (MLE)	7.317	nu star (bias corrected)	6.821
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (6.82, α)	2.073	Adjusted Chi Square Value (6.82, β)	1.698
95% Gamma Approximate UCL (use when n>=50)	7241	95% Gamma Adjusted UCL (use when n<50)	8840

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2380	SD (KM)	2103
Variance (KM)	4423633	SE of Mean (KM)	644
k hat (KM)	1.28	k star (KM)	1.016
nu hat (KM)	30.73	nu star (KM)	24.38
theta hat (KM)	1859	theta star (KM)	2343
80% gamma percentile (KM)	3826	90% gamma percentile (KM)	5459
95% gamma percentile (KM)	7090	99% gamma percentile (KM)	10874

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (24.38, α)	14.14	Adjusted Chi Square Value (24.38, β)	12.96
95% Gamma Approximate KM-UCL (use when n>=50)	4104	95% Gamma Adjusted KM-UCL (use when n<50)	4477

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.876	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.229	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.274	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2319	Mean in Log Scale	7.325
SD in Original Scale	2249	SD in Log Scale	0.962
95% t UCL (assumes normality of ROS data)	3485	95% Percentile Bootstrap UCL	3378
95% BCA Bootstrap UCL	3550	95% Bootstrap t UCL	3889
95% H-UCL (Log ROS)	5507		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.429	KM Geo Mean	1684
KM SD (logged)	0.797	95% Critical H Value (KM-Log)	2.566
KM Standard Error of Mean (logged)	0.244	95% H-UCL (KM -Log)	4288
KM SD (logged)	0.797	95% Critical H Value (KM-Log)	2.566
KM Standard Error of Mean (logged)	0.244		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2308	Mean in Log Scale	7.314
SD in Original Scale	2257	SD in Log Scale	0.962
95% t UCL (Assumes normality)	3478	95% H-Stat UCL	5446

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	4477	95% GROS Adjusted Gamma UCL	8840

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO3OA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	4
Number of Detects	1	Number of Non-Detects	11
Number of Distinct Detects	1	Number of Distinct Non-Detects	3

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO3OA was not processed!

PFO4DA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	5
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	3
Minimum Detect	260	Minimum Non-Detect	1000
Maximum Detect	530	Maximum Non-Detect	5700
Variance Detects	36450	Percent Non-Detects	83.33%
Mean Detects	395	SD Detects	190.9
Median Detects	395	CV Detects	0.483
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	5.917	SD of Logged Detects	0.504

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only
Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	395	KM Standard Error of Mean	135
KM SD	135	95% KM (BCA) UCL	N/A
95% KM (t) UCL	637.4	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	617.1	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	800	95% KM Chebyshev UCL	983.5
97.5% KM Chebyshev UCL	1238	99% KM Chebyshev UCL	1738

Gamma GOF Tests on Detected Observations Only
Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	8.214	k star (bias corrected MLE)	N/A
Theta hat (MLE)	48.09	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	32.86	nu star (bias corrected)	N/A
Mean (detects)	395		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	395	SD (KM)	135
Variance (KM)	18225	SE of Mean (KM)	135

k hat (KM)	8.561	k star (KM)	6.476
nu hat (KM)	205.5	nu star (KM)	155.4
theta hat (KM)	46.14	theta star (KM)	60.99
80% gamma percentile (KM)	516.3	90% gamma percentile (KM)	602.4
95% gamma percentile (KM)	680	99% gamma percentile (KM)	842.3

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.029
Approximate Chi Square Value (155.43, α)	127.6	Adjusted Chi Square Value (155.43, β)	123.8
95% Gamma Approximate KM-UCL (use when n>=50)	481.1	95% Gamma Adjusted KM-UCL (use when n<50)	496.1

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	426.6	Mean in Log Scale	5.917
SD in Original Scale	243.8	SD in Log Scale	0.554
95% t UCL (assumes normality of ROS data)	553	95% Percentile Bootstrap UCL	540.5
95% BCA Bootstrap UCL	561.5	95% Bootstrap t UCL	626.1
95% H-UCL (Log ROS)	625.5		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.917	KM Geo Mean	371.2
KM SD (logged)	0.356	95% Critical H Value (KM-Log)	1.981
KM Standard Error of Mean (logged)	0.356	95% H-UCL (KM -Log)	489.2
KM SD (logged)	0.356	95% Critical H Value (KM-Log)	1.981
KM Standard Error of Mean (logged)	0.356		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	845	Mean in Log Scale	6.444
SD in Original Scale	860.9	SD in Log Scale	0.702
95% t UCL (Assumes normality)	1291	95% H-Stat UCL	1342

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL 983.5

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO5DA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO5DA was not processed!

PMPA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	390	Mean	10335
Maximum	52000	Median	3300
SD	16074	Std. Error of Mean	4640
Coefficient of Variation	1.555	Skewness	2.128

Normal GOF Test

Shapiro Wilk Test Statistic	0.649	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.315	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.243	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	18668	95% Adjusted-CLT UCL (Chen-1995)	21013
		95% Modified-t UCL (Johnson-1978)	19143

Gamma GOF Test

A-D Test Statistic	0.633	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.775	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.239	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.257	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.634	k star (bias corrected MLE)	0.531
Theta hat (MLE)	16306	Theta star (bias corrected MLE)	19466
nu hat (MLE)	15.21	nu star (bias corrected)	12.74
MLE Mean (bias corrected)	10335	MLE Sd (bias corrected)	14184
		Approximate Chi Square Value (0.05)	5.72
Adjusted Level of Significance	0.029	Adjusted Chi Square Value	5.02

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	23024	95% Adjusted Gamma UCL (use when n<50)	26235

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.959	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.859	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.149	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.243	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	5.966	Mean of logged Data	8.276
Maximum of Logged Data	10.86	SD of logged Data	1.474

Assuming Lognormal Distribution

95% H-UCL	64114	90% Chebyshev (MVUE) UCL	23875
95% Chebyshev (MVUE) UCL	30178	97.5% Chebyshev (MVUE) UCL	38927
99% Chebyshev (MVUE) UCL	56112		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	17967	95% Jackknife UCL	18668
95% Standard Bootstrap UCL	17650	95% Bootstrap-t UCL	43795
95% Hall's Bootstrap UCL	54398	95% Percentile Bootstrap UCL	18133
95% BCA Bootstrap UCL	20416		
90% Chebyshev(Mean, Sd) UCL	24256	95% Chebyshev(Mean, Sd) UCL	30561
97.5% Chebyshev(Mean, Sd) UCL	39313	99% Chebyshev(Mean, Sd) UCL	56504

Suggested UCL to Use

95% Adjusted Gamma UCL	26235

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PEPA

General Statistics

Total Number of Observations	12	Number of Distinct Observations	7
Number of Detects	5	Number of Non-Detects	7
Number of Distinct Detects	4	Number of Distinct Non-Detects	3
Minimum Detect	410	Minimum Non-Detect	1000
Maximum Detect	2300	Maximum Non-Detect	5700
Variance Detects	702230	Percent Non-Detects	58.33%
Mean Detects	1134	SD Detects	838
Median Detects	850	CV Detects	0.739
Skewness Detects	0.697	Kurtosis Detects	-1.645
Mean of Logged Detects	6.791	SD of Logged Detects	0.794

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.875	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.233	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	845.3	KM Standard Error of Mean	235.3
KM SD	621.1	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1268	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1232	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1551	95% KM Chebyshev UCL	1871
97.5% KM Chebyshev UCL	2315	99% KM Chebyshev UCL	3187

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.394	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.684	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.255	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.36	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.217	k star (bias corrected MLE)	1.02
Theta hat (MLE)	511.5	Theta star (bias corrected MLE)	1112
nu hat (MLE)	22.17	nu star (bias corrected)	10.2
Mean (detects)	1134		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	125.1	Mean	831.9
Maximum	2300	Median	722.9
SD	615.2	CV	0.74
k hat (MLE)	2.186	k star (bias corrected MLE)	1.695
Theta hat (MLE)	380.6	Theta star (bias corrected MLE)	490.8
nu hat (MLE)	52.46	nu star (bias corrected)	40.68
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (40.68, α)	27.06	Adjusted Chi Square Value (40.68, β)	25.38
95% Gamma Approximate UCL (use when n>=50)	1250	95% Gamma Adjusted UCL (use when n<50)	1333

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	845.3	SD (KM)	621.1
Variance (KM)	385732	SE of Mean (KM)	235.3
k hat (KM)	1.853	k star (KM)	1.445
nu hat (KM)	44.46	nu star (KM)	34.68
theta hat (KM)	456.3	theta star (KM)	585
80% gamma percentile (KM)	1313	90% gamma percentile (KM)	1778
95% gamma percentile (KM)	2230	99% gamma percentile (KM)	3253

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (34.68, α)	22.21	Adjusted Chi Square Value (34.68, β)	20.7
95% Gamma Approximate KM-UCL (use when n>=50)	1320	95% Gamma Adjusted KM-UCL (use when n<50)	1417

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.879	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.235	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.343	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	824.5	Mean in Log Scale	6.526
SD in Original Scale	597	SD in Log Scale	0.614
95% t UCL (assumes normality of ROS data)	1134	95% Percentile Bootstrap UCL	1106
95% BCA Bootstrap UCL	1201	95% Bootstrap t UCL	1568
95% H-UCL (Log ROS)	1259		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.525	KM Geo Mean	682.2
KM SD (logged)	0.618	95% Critical H Value (KM-Log)	2.296
KM Standard Error of Mean (logged)	0.26	95% H-UCL (KM -Log)	1267
KM SD (logged)	0.618	95% Critical H Value (KM-Log)	2.296
KM Standard Error of Mean (logged)	0.26		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1127	Mean in Log Scale	6.734
SD in Original Scale	935.6	SD in Log Scale	0.773
95% t UCL (Assumes normality)	1612	95% H-Stat UCL	2041

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL 1268

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFESA-BP1

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP2 was not processed!

Byproduct 4

General Statistics

Total Number of Observations	12	Number of Distinct Observations	9
Number of Detects	8	Number of Non-Detects	4
Number of Distinct Detects	8	Number of Distinct Non-Detects	1
Minimum Detect	600	Minimum Non-Detect	1000
Maximum Detect	22000	Maximum Non-Detect	1000
Variance Detects	78962584	Percent Non-Detects	33.33%
Mean Detects	6239	SD Detects	8886
Median Detects	1650	CV Detects	1.424
Skewness Detects	1.431	Kurtosis Detects	0.159
Mean of Logged Detects	7.808	SD of Logged Detects	1.428

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.669	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.375	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.283	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	4405	KM Standard Error of Mean	2243
KM SD	7266	95% KM (BCA) UCL	7717
95% KM (t) UCL	8433	95% KM (Percentile Bootstrap) UCL	7935

95% KM (z) UCL	8094	95% KM Bootstrap t UCL	33483
90% KM Chebyshev UCL	11133	95% KM Chebyshev UCL	14181
97.5% KM Chebyshev UCL	18411	99% KM Chebyshev UCL	26720

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.81	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.752	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.256	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.306	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.655	k star (bias corrected MLE)	0.493
Theta hat (MLE)	9518	Theta star (bias corrected MLE)	12655
nu hat (MLE)	10.49	nu star (bias corrected)	7.888
Mean (detects)	6239		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	4213
Maximum	22000	Median	805
SD	7696	CV	1.827
k hat (MLE)	0.197	k star (bias corrected MLE)	0.203
Theta hat (MLE)	21427	Theta star (bias corrected MLE)	20751
nu hat (MLE)	4.718	nu star (bias corrected)	4.872
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (4.87, α)	1.094	Adjusted Chi Square Value (4.87, β)	0.849
95% Gamma Approximate UCL (use when n>=50)	18768	95% Gamma Adjusted UCL (use when n<50)	24176

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	4405	SD (KM)	7266
Variance (KM)	52797275	SE of Mean (KM)	2243
k hat (KM)	0.367	k star (KM)	0.331
nu hat (KM)	8.819	nu star (KM)	7.948
theta hat (KM)	11987	theta star (KM)	13301
80% gamma percentile (KM)	6904	90% gamma percentile (KM)	12824
95% gamma percentile (KM)	19510	99% gamma percentile (KM)	36682

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.95, α)	2.705	Adjusted Chi Square Value (7.95, β)	2.261
95% Gamma Approximate KM-UCL (use when n>=50)	12943	95% Gamma Adjusted KM-UCL (use when n<50)	15485

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.858	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.192	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	4403	Mean in Log Scale	7.345
SD in Original Scale	7593	SD in Log Scale	1.38
95% t UCL (assumes normality of ROS data)	8340	95% Percentile Bootstrap UCL	7907
95% BCA Bootstrap UCL	9112	95% Bootstrap t UCL	33876
95% H-UCL (Log ROS)	18325		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.399	KM Geo Mean	1634
KM SD (logged)	1.24	95% Critical H Value (KM-Log)	3.37
KM Standard Error of Mean (logged)	0.387	95% H-UCL (KM -Log)	12431
KM SD (logged)	1.24	95% Critical H Value (KM-Log)	3.37
KM Standard Error of Mean (logged)	0.387		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	4326	Mean in Log Scale	7.277
SD in Original Scale	7631	SD in Log Scale	1.383
95% t UCL (Assumes normality)	8282	95% H-Stat UCL	17279

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Bootstrap t UCL	33483	a Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	15485

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 5

General Statistics

Total Number of Observations	12	Number of Distinct Observations	5
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	3
Minimum Detect	370	Minimum Non-Detect	1000
Maximum Detect	570	Maximum Non-Detect	5700
Variance Detects	20000	Percent Non-Detects	83.33%
Mean Detects	470	SD Detects	141.4
Median Detects	470	CV Detects	0.301
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	6.13	SD of Logged Detects	0.306

Warning: Data set has only 2 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	470	KM Standard Error of Mean	100
KM SD	100	95% KM (BCA) UCL	N/A
95% KM (t) UCL	649.6	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	634.5	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	770	95% KM Chebyshev UCL	905.9
97.5% KM Chebyshev UCL	1094	99% KM Chebyshev UCL	1465

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	21.75	k star (bias corrected MLE)	N/A
Theta hat (MLE)	21.61	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	87.01	nu star (bias corrected)	N/A
Mean (detects)	470		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	470	SD (KM)	100
Variance (KM)	10000	SE of Mean (KM)	100
k hat (KM)	22.09	k star (KM)	16.62
nu hat (KM)	530.2	nu star (KM)	399
theta hat (KM)	21.28	theta star (KM)	28.27
80% gamma percentile (KM)	563.3	90% gamma percentile (KM)	622.5
95% gamma percentile (KM)	674.3	99% gamma percentile (KM)	778.8

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.029
Approximate Chi Square Value (398.95, α)	353.7	Adjusted Chi Square Value (398.95, β)	347.1
95% Gamma Approximate KM-UCL (use when n>=50)	530.2	95% Gamma Adjusted KM-UCL (use when n<50)	540.1

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	483.5	Mean in Log Scale	6.13
SD in Original Scale	164.5	SD in Log Scale	0.336
95% t UCL (assumes normality of ROS data)	568.8	95% Percentile Bootstrap UCL	558.3
95% BCA Bootstrap UCL	572.4	95% Bootstrap t UCL	585.1
95% H-UCL (Log ROS)	592.6		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.13	KM Geo Mean	459.2
KM SD (logged)	0.216	95% Critical H Value (KM-Log)	1.855
KM Standard Error of Mean (logged)	0.216	95% H-UCL (KM -Log)	530.5
KM SD (logged)	0.216	95% Critical H Value (KM-Log)	1.855
KM Standard Error of Mean (logged)	0.216		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	857.5	Mean in Log Scale	6.48
SD in Original Scale	853.4	SD in Log Scale	0.666
95% t UCL (Assumes normality)	1300	95% H-Stat UCL	1309

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	649.6	KM H-UCL	530.5
95% KM (BCA) UCL	N/A		

Warning: One or more Recommended UCL(s) not available!

Warning: Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 6

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	12	Number of Distinct Observations	11
Number of Detects	10	Number of Non-Detects	2
Number of Distinct Detects	10	Number of Distinct Non-Detects	2
Minimum Detect	650	Minimum Non-Detect	1000
Maximum Detect	730000	Maximum Non-Detect	5000
Variance Detects	5.195E+10	Percent Non-Detects	16.67%
Mean Detects	81845	SD Detects	227934
Median Detects	5850	CV Detects	2.785
Skewness Detects	3.152	Kurtosis Detects	9.953
Mean of Logged Detects	9.091	SD of Logged Detects	1.951

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.401	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.842	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.497	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.262	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	68415	KM Standard Error of Mean	60757
KM SD	199668	95% KM (BCA) UCL	188408
95% KM (t) UCL	177528	95% KM (Percentile Bootstrap) UCL	187575
95% KM (z) UCL	168352	95% KM Bootstrap t UCL	1894137
90% KM Chebyshev UCL	250687	95% KM Chebyshev UCL	333249
97.5% KM Chebyshev UCL	447843	99% KM Chebyshev UCL	672941

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.385	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.812	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.368	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.288	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.309	k star (bias corrected MLE)	0.283
Theta hat (MLE)	264943	Theta star (bias corrected MLE)	289300
nu hat (MLE)	6.178	nu star (bias corrected)	5.658
Mean (detects)	81845		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	68204
Maximum	730000	Median	4350
SD	208621	CV	3.059
k hat (MLE)	0.174	k star (bias corrected MLE)	0.186
Theta hat (MLE)	392058	Theta star (bias corrected MLE)	366632
nu hat (MLE)	4.175	nu star (bias corrected)	4.465
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (4.46, α)	0.913	Adjusted Chi Square Value (4.46, β)	0.698
95% Gamma Approximate UCL (use when n>=50)	333377	95% Gamma Adjusted UCL (use when n<50)	436203

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	68415	SD (KM)	199668
Variance (KM)	3.987E+10	SE of Mean (KM)	60757
k hat (KM)	0.117	k star (KM)	0.144
nu hat (KM)	2.818	nu star (KM)	3.447
theta hat (KM)	582728	theta star (KM)	476398
80% gamma percentile (KM)	71778	90% gamma percentile (KM)	201547
95% gamma percentile (KM)	379653	99% gamma percentile (KM)	901223

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (3.45, α)	0.516	Adjusted Chi Square Value (3.45, β)	0.377
95% Gamma Approximate KM-UCL (use when n>=50)	456820	95% Gamma Adjusted KM-UCL (use when n<50)	625569

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.916	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.191	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.262	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	68343	Mean in Log Scale	8.662
SD in Original Scale	208572	SD in Log Scale	2.049
95% t UCL (assumes normality of ROS data)	176472	95% Percentile Bootstrap UCL	187365
95% BCA Bootstrap UCL	248841	95% Bootstrap t UCL	1945202
95% H-UCL (Log ROS)	1079733		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	8.724	KM Geo Mean	6149
KM SD (logged)	1.897	95% Critical H Value (KM-Log)	4.738
KM Standard Error of Mean (logged)	0.581	95% H-UCL (KM -Log)	558390
KM SD (logged)	1.897	95% Critical H Value (KM-Log)	4.738
KM Standard Error of Mean (logged)	0.581		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	68454	Mean in Log Scale	8.746
SD in Original Scale	208533	SD in Log Scale	1.97
95% t UCL (Assumes normality)	176563	95% H-Stat UCL	802095

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

97.5% KM (Chebyshev) UCL	447843	99% KM (Chebyshev) UCL	672941

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

EVE Acid

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Hydro-EVE Acid was not processed!

R-EVE

General Statistics

Total Number of Observations	12	Number of Distinct Observations	8
Number of Detects	9	Number of Non-Detects	3
Number of Distinct Detects	7	Number of Distinct Non-Detects	1
Minimum Detect	240	Minimum Non-Detect	1000
Maximum Detect	8500	Maximum Non-Detect	1000
Variance Detects	5745178	Percent Non-Detects	25%
Mean Detects	3204	SD Detects	2397
Median Detects	3100	CV Detects	0.748
Skewness Detects	1.318	Kurtosis Detects	2.632
Mean of Logged Detects	7.741	SD of Logged Detects	1.016

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.896	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.198	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.274	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2463	KM Standard Error of Mean	716.6
KM SD	2340	95% KM (BCA) UCL	3805
95% KM (t) UCL	3750	95% KM (Percentile Bootstrap) UCL	3717
95% KM (z) UCL	3642	95% KM Bootstrap t UCL	4175
90% KM Chebyshev UCL	4613	95% KM Chebyshev UCL	5587
97.5% KM Chebyshev UCL	6939	99% KM Chebyshev UCL	9594

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.302	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.733	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.169	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.284	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.655	k star (bias corrected MLE)	1.177
Theta hat (MLE)	1936	Theta star (bias corrected MLE)	2722
nu hat (MLE)	29.79	nu star (bias corrected)	21.19
Mean (detects)	3204		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2435
Maximum	8500	Median	2000
SD	2475	CV	1.017
k hat (MLE)	0.304	k star (bias corrected MLE)	0.283
Theta hat (MLE)	8015	Theta star (bias corrected MLE)	8592
nu hat (MLE)	7.29	nu star (bias corrected)	6.801
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (6.80, α)	2.062	Adjusted Chi Square Value (6.80, β)	1.688
95% Gamma Approximate UCL (use when n>=50)	8030	95% Gamma Adjusted UCL (use when n<50)	9808

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2463	SD (KM)	2340
Variance (KM)	5477856	SE of Mean (KM)	716.6
k hat (KM)	1.108	k star (KM)	0.886
nu hat (KM)	26.59	nu star (KM)	21.27
theta hat (KM)	2224	theta star (KM)	2779
80% gamma percentile (KM)	4000	90% gamma percentile (KM)	5843
95% gamma percentile (KM)	7703	99% gamma percentile (KM)	12061

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (21.27, α)	11.79	Adjusted Chi Square Value (21.27, β)	10.73
95% Gamma Approximate KM-UCL (use when n>=50)	4443	95% Gamma Adjusted KM-UCL (use when n<50)	4883

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.883	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.215	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.274	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2505	Mean in Log Scale	7.289
SD in Original Scale	2406	SD in Log Scale	1.209
95% t UCL (assumes normality of ROS data)	3752	95% Percentile Bootstrap UCL	3674
95% BCA Bootstrap UCL	3885	95% Bootstrap t UCL	4250
95% H-UCL (Log ROS)	10150		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	7.176	KM Geo Mean	1307
KM SD (logged)	1.283	95% Critical H Value (KM-Log)	3.454
KM Standard Error of Mean (logged)	0.393	95% H-UCL (KM -Log)	11324
KM SD (logged)	1.283	95% Critical H Value (KM-Log)	3.454

KM Standard Error of Mean (logged)	0.393

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2528	Mean in Log Scale	7.359
SD in Original Scale	2382	SD in Log Scale	1.108
95% t UCL (Assumes normality)	3763	95% H-Stat UCL	8207

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	3750

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PES

General Statistics

Total Number of Observations	12	Number of Distinct Observations	5
Number of Detects	4	Number of Non-Detects	8
Number of Distinct Detects	3	Number of Distinct Non-Detects	2
Minimum Detect	300	Minimum Non-Detect	1000
Maximum Detect	2900	Maximum Non-Detect	5000
Variance Detects	1210000	Percent Non-Detects	66.67%
Mean Detects	1350	SD Detects	1100
Median Detects	1100	CV Detects	0.815
Skewness Detects	1.27	Kurtosis Detects	2.426
Mean of Logged Detects	6.921	SD of Logged Detects	0.931

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.879	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.34	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.375	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	681.8	KM Standard Error of Mean	266.3
KM SD	764.9	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1160	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1120	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1481	95% KM Chebyshev UCL	1843
97.5% KM Chebyshev UCL	2345	99% KM Chebyshev UCL	3332

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.331	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.661	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.26	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.398	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.89	k star (bias corrected MLE)	0.639
Theta hat (MLE)	714.2	Theta star (bias corrected MLE)	2112
nu hat (MLE)	15.12	nu star (bias corrected)	5.114

Mean (detects)	1350

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	596.6
Maximum	2900	Median	319.2
SD	826.3	CV	1.385
k hat (MLE)	0.243	k star (bias corrected MLE)	0.238
Theta hat (MLE)	2457	Theta star (bias corrected MLE)	2510
nu hat (MLE)	5.829	nu star (bias corrected)	5.705
Adjusted Level of Significance (β)	0.029		
Approximate Chi Square Value (5.70, α)	1.491	Adjusted Chi Square Value (5.70, β)	1.189
95% Gamma Approximate UCL (use when n>=50)	2283	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	681.8	SD (KM)	764.9
Variance (KM)	585124	SE of Mean (KM)	266.3
k hat (KM)	0.794	k star (KM)	0.651
nu hat (KM)	19.07	nu star (KM)	15.63
theta hat (KM)	858.2	theta star (KM)	1047
80% gamma percentile (KM)	1123	90% gamma percentile (KM)	1740
95% gamma percentile (KM)	2382	99% gamma percentile (KM)	3922

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.63, α)	7.705	Adjusted Chi Square Value (15.63, β)	6.871
95% Gamma Approximate KM-UCL (use when n>=50)	1384	95% Gamma Adjusted KM-UCL (use when n<50)	1551

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.935	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.285	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.375	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	669.7	Mean in Log Scale	6.065
SD in Original Scale	776.6	SD in Log Scale	0.949
95% t UCL (assumes normality of ROS data)	1072	95% Percentile Bootstrap UCL	1063
95% BCA Bootstrap UCL	1233	95% Bootstrap t UCL	1585
95% H-UCL (Log ROS)	1516		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	6.146	KM Geo Mean	467
KM SD (logged)	0.761	95% Critical H Value (KM-Log)	2.508
KM Standard Error of Mean (logged)	0.265	95% H-UCL (KM -Log)	1109
KM SD (logged)	0.761	95% Critical H Value (KM-Log)	2.508
KM Standard Error of Mean (logged)	0.265		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	950	Mean in Log Scale	6.584
SD in Original Scale	857.6	SD in Log Scale	0.71
95% t UCL (Assumes normality)	1395	95% H-Stat UCL	1566

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	1160

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFECA B

General Statistics

Total Number of Observations	12	Number of Distinct Observations	5
Number of Detects	2	Number of Non-Detects	10
Number of Distinct Detects	2	Number of Distinct Non-Detects	3
Minimum Detect	320	Minimum Non-Detect	1000
Maximum Detect	3100	Maximum Non-Detect	5700
Variance Detects	3864200	Percent Non-Detects	83.33%
Mean Detects	1710	SD Detects	1966
Median Detects	1710	CV Detects	1.15
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	6.904	SD of Logged Detects	1.606

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only
Not Enough Data to Perform GOF Test

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	598	KM Standard Error of Mean	373
KM SD	834	95% KM (BCA) UCL	N/A
95% KM (t) UCL	1268	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	1211	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	1717	95% KM Chebyshev UCL	2224
97.5% KM Chebyshev UCL	2927	99% KM Chebyshev UCL	4309

Gamma GOF Tests on Detected Observations Only
Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	1.061	k star (bias corrected MLE)	N/A
Theta hat (MLE)	1612	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	4.243	nu star (bias corrected)	N/A
Mean (detects)	1710		

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	598	SD (KM)	834
Variance (KM)	695556	SE of Mean (KM)	373
k hat (KM)	0.514	k star (KM)	0.441
nu hat (KM)	12.34	nu star (KM)	10.59
theta hat (KM)	1163	theta star (KM)	1356
80% gamma percentile (KM)	974.5	90% gamma percentile (KM)	1659
95% gamma percentile (KM)	2401	99% gamma percentile (KM)	4249

Gamma Kaplan-Meier (KM) Statistics

		Adjusted Level of Significance (β)	0.029
Approximate Chi Square Value (10.59, α)	4.312	Adjusted Chi Square Value (10.59, β)	3.721

95% Gamma Approximate KM-UCL (use when n>=50)	1468	95% Gamma Adjusted KM-UCL (use when n<50)	1702

Lognormal GOF Test on Detected Observations Only

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	631.3	Mean in Log Scale	5.955
SD in Original Scale	827.1	SD in Log Scale	0.982
95% t UCL (assumes normality of ROS data)	1060	95% Percentile Bootstrap UCL	1062
95% BCA Bootstrap UCL	1300	95% Bootstrap t UCL	2087
95% H-UCL (Log ROS)	1468		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	5.995	KM Geo Mean	401.6
KM SD (logged)	0.681	95% Critical H Value (KM-Log)	2.386
KM Standard Error of Mean (logged)	0.305	95% H-UCL (KM -Log)	826.8
KM SD (logged)	0.681	95% Critical H Value (KM-Log)	2.386
KM Standard Error of Mean (logged)	0.305		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1064	Mean in Log Scale	6.609
SD in Original Scale	1066	SD in Log Scale	0.814
95% t UCL (Assumes normality)	1617	95% H-Stat UCL	1950

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

975% KM (Chebyshev) UCL	2927

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFECA-G

General Statistics

Total Number of Observations	12	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	12
Number of Distinct Detects	0	Number of Distinct Non-Detects	3

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/13/2019 4:42:28 PM

User Selected Options

From File CFR SW.xls

Full Precision OFF

Cape Fear River Surface Water General Statistics

From File: CFR SW.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	9	0	7	2	22.22%	2	2	5.333	17.27	4.155	0.779
PFMOAA	9	0	6	3	33.33%	5	5	19.3	424.4	20.6	1.067
PFO2HxA	9	0	9	0	0.00%	N/A	N/A	7.356	55.99	7.482	1.017
PFO3OA	9	0	3	6	66.67%	2	2	2.622	1.924	1.387	0.529
PFO4DA	9	0	1	8	88.89%	2	2	2.033	0.00889	0.0943	0.0464
PFO5DA	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
PMPA	9	0	3	6	66.67%	10	10	11.56	8.025	2.833	0.245
PEPA	9	0	0	9	100.00%	20	20	N/A	N/A	N/A	N/A
PFESA-BP1	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
PFESA-BP2	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
Byproduct 4	9	0	8	1	11.11%	2	2	6.122	3.577	1.891	0.309
Byproduct 5	9	0	6	3	33.33%	2	2	5.544	28.61	5.349	0.965
Byproduct 6	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
NVHOS	9	0	9	0	0.00%	N/A	N/A	6.533	0.143	0.377	0.0578
EVE Acid	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
Hydro-EVE Acid	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
R-EVE	9	0	7	2	22.22%	2	2	2.867	0.351	0.593	0.207
PES	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
PFECA B	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A
PFECA-G	9	0	0	9	100.00%	2	2	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	7	0	2.1	15	6.286	4.3	21.14	4.598	1.779	1.417	0.731
PFMOAA	6	0	8.8	71	26.45	16.5	580	24.08	10.6	1.634	0.91
PFO2HxA	9	0	2.2	25	7.356	4.5	55.99	7.482	3.41	1.993	1.017
PFO3OA	3	0	2	6.4	3.867	3.2	5.173	2.274	1.779	1.206	0.588
PFO4DA	1	0	2.3	2.3	2.3	2.3	N/A	N/A	0	N/A	N/A
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	3	0	12	19	14.67	13	14.33	3.786	1.483	1.597	0.258
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	8	0	4.8	8.9	6.638	6.7	1.868	1.367	1.557	0.265	0.206
Byproduct 5	6	0	2.5	19	7.317	4.85	40.2	6.34	3.039	1.583	0.867
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	9	0	6	7.2	6.533	6.6	0.143	0.377	0.297	0.151	0.0578
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	7	0	2.7	3.8	3.114	2.9	0.205	0.453	0.297	0.656	0.145
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	9	0	2	2.06	2.1	3.7	5.5	7.3	11	13	14.6
PFMOAA	9	0	5	5	5	9.9	21	27	43	57	68.2
PFO2HxA	9	0	2.2	2.26	2.3	4.5	8.1	10.06	15.4	20.2	24.04
PFO3OA	9	0	2	2	2	2	2	2.48	3.84	5.12	6.144
PFO4DA	9	0	2	2	2	2	2	2	2.06	2.18	2.276
PFO5DA	9	0	2	2	2	2	2	2	2	2	2
PMPA	9	0	10	10	10	10	12	12.4	14.2	16.6	18.52
PEPA	9	0	20	20	20	20	20	20	20	20	20
PFESA-BP1	9	0	2	2	2	2	2	2	2	2	2
PFESA-BP2	9	0	2	2	2	2	2	2	2	2	2
Byproduct 4	9	0	4.24	5.16	5.4	6.5	7.5	7.54	7.86	8.38	8.796
Byproduct 5	9	0	2	2	2	3.1	6.6	7.8	11.48	15.24	18.25
Byproduct 6	9	0	2	2	2	2	2	2	2	2	2
NVHOS	9	0	6.08	6.16	6.2	6.6	6.7	6.74	6.88	7.04	7.168
EVE Acid	9	0	2	2	2	2	2	2	2	2	2
Hydro-EVE Acid	9	0	2	2	2	2	2	2	2	2	2
R-EVE	9	0	2	2.42	2.7	2.8	3.3	3.42	3.64	3.72	3.784
PES	9	0	2	2	2	2	2	2	2	2	2
PFECA B	9	0	2	2	2	2	2	2	2	2	2
PFECA-G	9	0	2	2	2	2	2	2	2	2	2

UCL Statistics for Data Sets with Non-Detects

Cape Fear River Surface Water UCLs

User Selected Options	
Date/Time of Computation	ProUCL 5.111/13/2019 4:44:13 PM
From File	CFR SW.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hfpo Dimer Acid

General Statistics

Total Number of Observations	9	Number of Distinct Observations	8
Number of Detects	7	Number of Non-Detects	2
Number of Distinct Detects	7	Number of Distinct Non-Detects	1
Minimum Detect	2.1	Minimum Non-Detect	2
Maximum Detect	15	Maximum Non-Detect	2
Variance Detects	21.14	Percent Non-Detects	22.22%
Mean Detects	6.286	SD Detects	4.598
Median Detects	4.3	CV Detects	0.731
Skewness Detects	1.417	Kurtosis Detects	1.278
Mean of Logged Detects	1.635	SD of Logged Detects	0.672

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.835	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.282	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.333	KM Standard Error of Mean	1.496
KM SD	4.155	95% KM (BCA) UCL	7.733
95% KM (t) UCL	8.115	95% KM (Percentile Bootstrap) UCL	7.767
95% KM (z) UCL	7.794	95% KM Bootstrap t UCL	12.65
90% KM Chebyshev UCL	9.822	95% KM Chebyshev UCL	11.85
97.5% KM Chebyshev UCL	14.68	99% KM Chebyshev UCL	20.22

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.369	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.713	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.215	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.314	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.62	k star (bias corrected MLE)	1.592
Theta hat (MLE)	2.399	Theta star (bias corrected MLE)	3.948
nu hat (MLE)	36.67	nu star (bias corrected)	22.29
Mean (detects)	6.286		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	4.891
Maximum	15	Median	3.7
SD	4.849	CV	0.991
k hat (MLE)	0.478	k star (bias corrected MLE)	0.393
Theta hat (MLE)	10.24	Theta star (bias corrected MLE)	12.46
nu hat (MLE)	8.601	nu star (bias corrected)	7.067
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (7.07, α)	2.207	Adjusted Chi Square Value (7.07, β)	1.68
95% Gamma Approximate UCL (use when n>=50)	15.66	95% Gamma Adjusted UCL (use when n<50)	20.57

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	5.333	SD (KM)	4.155
Variance (KM)	17.27	SE of Mean (KM)	1.496
k hat (KM)	1.647	k star (KM)	1.172
nu hat (KM)	29.65	nu star (KM)	21.1
theta hat (KM)	3.238	theta star (KM)	4.549
80% gamma percentile (KM)	8.464	90% gamma percentile (KM)	11.81
95% gamma percentile (KM)	15.11	99% gamma percentile (KM)	22.7

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (21.10, α)	11.67	Adjusted Chi Square Value (21.10, β)	10.22
95% Gamma Approximate KM-UCL (use when n>=50)	9.646	95% Gamma Adjusted KM-UCL (use when n<50)	11.01

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.955	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.175	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	5.104	Mean in Log Scale	1.259
SD in Original Scale	4.622	SD in Log Scale	0.952
95% t UCL (assumes normality of ROS data)	7.969	95% Percentile Bootstrap UCL	7.667
95% BCA Bootstrap UCL	8.036	95% Bootstrap t UCL	11.33
95% H-UCL (Log ROS)	15.93		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.426	KM Geo Mean	4.162
KM SD (logged)	0.674	95% Critical H Value (KM-Log)	2.575
KM Standard Error of Mean (logged)	0.243	95% H-UCL (KM -Log)	9.646
KM SD (logged)	0.674	95% Critical H Value (KM-Log)	2.575
KM Standard Error of Mean (logged)	0.243		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	5.111	Mean in Log Scale	1.272
SD in Original Scale	4.614	SD in Log Scale	0.926
95% t UCL (Assumes normality)	7.971	95% H-Stat UCL	15.02

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	8.115

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFMOAA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	7
Number of Detects	6	Number of Non-Detects	3
Number of Distinct Detects	6	Number of Distinct Non-Detects	1
Minimum Detect	8.8	Minimum Non-Detect	5
Maximum Detect	71	Maximum Non-Detect	5
Variance Detects	580	Percent Non-Detects	33.33%
Mean Detects	26.45	SD Detects	24.08
Median Detects	16.5	CV Detects	0.91
Skewness Detects	1.634	Kurtosis Detects	2.415
Mean of Logged Detects	2.974	SD of Logged Detects	0.822

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.798	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.256	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	19.3	KM Standard Error of Mean	7.523
KM SD	20.6	95% KM (BCA) UCL	31.31
95% KM (t) UCL	33.29	95% KM (Percentile Bootstrap) UCL	31.42
95% KM (z) UCL	31.67	95% KM Bootstrap t UCL	60.81
90% KM Chebyshev UCL	41.87	95% KM Chebyshev UCL	52.09
97.5% KM Chebyshev UCL	66.28	99% KM Chebyshev UCL	94.15

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.413	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.706	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.251	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.336	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.808	k star (bias corrected MLE)	1.015
Theta hat (MLE)	14.63	Theta star (bias corrected MLE)	26.06
nu hat (MLE)	21.69	nu star (bias corrected)	12.18
Mean (detects)	26.45		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	17.64
Maximum	71	Median	9.9
SD	23.18	CV	1.314
k hat (MLE)	0.287	k star (bias corrected MLE)	0.265
Theta hat (MLE)	61.5	Theta star (bias corrected MLE)	66.49
nu hat (MLE)	5.162	nu star (bias corrected)	4.774
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (4.77, α)	1.049	Adjusted Chi Square Value (4.77, β)	0.732
95% Gamma Approximate UCL (use when n>=50)	80.24	95% Gamma Adjusted UCL (use when n<50)	115

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	19.3	SD (KM)	20.6
Variance (KM)	424.4	SE of Mean (KM)	7.523
k hat (KM)	0.878	k star (KM)	0.659
nu hat (KM)	15.8	nu star (KM)	11.86
theta hat (KM)	21.99	theta star (KM)	29.28
80% gamma percentile (KM)	31.78	90% gamma percentile (KM)	49.13
95% gamma percentile (KM)	67.13	99% gamma percentile (KM)	110.3

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (11.86, α)	5.138	Adjusted Chi Square Value (11.86, β)	4.243
95% Gamma Approximate KM-UCL (use when n>=50)	44.57	95% Gamma Adjusted KM-UCL (use when n<50)	53.97

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.91	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.224	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	18.41	Mean in Log Scale	2.234
SD in Original Scale	22.55	SD in Log Scale	1.313
95% t UCL (assumes normality of ROS data)	32.38	95% Percentile Bootstrap UCL	30.91
95% BCA Bootstrap UCL	36.57	95% Bootstrap t UCL	53.56
95% H-UCL (Log ROS)	139.8		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.519	KM Geo Mean	12.42
KM SD (logged)	0.888	95% Critical H Value (KM-Log)	2.996
KM Standard Error of Mean (logged)	0.324	95% H-UCL (KM -Log)	47.21
KM SD (logged)	0.888	95% Critical H Value (KM-Log)	2.996
KM Standard Error of Mean (logged)	0.324		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	18.47	Mean in Log Scale	2.288
SD in Original Scale	22.49	SD in Log Scale	1.217
95% t UCL (Assumes normality)	32.41	95% H-Stat UCL	103.3

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	33.29

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO2HxA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	2.2	Mean	7.356
Maximum	25	Median	4.5
SD	7.482	Std. Error of Mean	2.494
Coefficient of Variation	1.017	Skewness	1.993

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.736	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.829	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.295	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.274	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	11.99	95% Adjusted-CLT UCL (Chen-1995)	13.23
		95% Modified-t UCL (Johnson-1978)	12.27

Gamma GOF Test

A-D Test Statistic	0.554	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.734	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.245	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.284	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.555	k star (bias corrected MLE)	1.11
Theta hat (MLE)	4.731	Theta star (bias corrected MLE)	6.624
nu hat (MLE)	27.98	nu star (bias corrected)	19.99
MLE Mean (bias corrected)	7.356	MLE Sd (bias corrected)	6.98
		Approximate Chi Square Value (0.05)	10.84
Adjusted Level of Significance	0.0231	Adjusted Chi Square Value	9.454

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	13.56	95% Adjusted Gamma UCL (use when n<50)	15.55

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.902	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.829	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.191	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.274	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0.788	Mean of logged Data	1.641
Maximum of Logged Data	3.219	SD of logged Data	0.847

Assuming Lognormal Distribution

95% H-UCL	17.65	90% Chebyshev (MVUE) UCL	13.16
95% Chebyshev (MVUE) UCL	15.94	97.5% Chebyshev (MVUE) UCL	19.8
99% Chebyshev (MVUE) UCL	27.38		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	11.46	95% Jackknife UCL	11.99
95% Standard Bootstrap UCL	11.24	95% Bootstrap-t UCL	20.66
95% Hall's Bootstrap UCL	28.95	95% Percentile Bootstrap UCL	11.54
95% BCA Bootstrap UCL	13.07		
90% Chebyshev(Mean, Sd) UCL	14.84	95% Chebyshev(Mean, Sd) UCL	18.23
97.5% Chebyshev(Mean, Sd) UCL	22.93	99% Chebyshev(Mean, Sd) UCL	32.17

Suggested UCL to Use

95% Adjusted Gamma UCL	15.55

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO3OA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	3
Number of Detects	3	Number of Non-Detects	6
Number of Distinct Detects	3	Number of Distinct Non-Detects	1
Minimum Detect	2	Minimum Non-Detect	2
Maximum Detect	6.4	Maximum Non-Detect	2
Variance Detects	5.173	Percent Non-Detects	66.67%
Mean Detects	3.867	SD Detects	2.274
Median Detects	3.2	CV Detects	0.588
Skewness Detects	1.206	Kurtosis Detects	N/A
Mean of Logged Detects	1.238	SD of Logged Detects	0.585

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.936	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.282	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.622	KM Standard Error of Mean	0.566
KM SD	1.387	95% KM (BCA) UCL	N/A
95% KM (t) UCL	3.675	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	3.554	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	4.321	95% KM Chebyshev UCL	5.091
97.5% KM Chebyshev UCL	6.159	99% KM Chebyshev UCL	8.257

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	4.513	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.857	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	27.08	nu star (bias corrected)	N/A
Mean (detects)	3.867		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.296
Maximum	6.4	Median	0.01
SD	2.239	CV	1.728
k hat (MLE)	0.244	k star (bias corrected MLE)	0.237
Theta hat (MLE)	5.3	Theta star (bias corrected MLE)	5.466
nu hat (MLE)	4.4	nu star (bias corrected)	4.266
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (4.27, α)	0.83	Adjusted Chi Square Value (4.27, β)	0.563
95% Gamma Approximate UCL (use when n>=50)	6.662	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.622	SD (KM)	1.387
Variance (KM)	1.924	SE of Mean (KM)	0.566
k hat (KM)	3.574	k star (KM)	2.457
nu hat (KM)	64.33	nu star (KM)	44.22
theta hat (KM)	0.734	theta star (KM)	1.067
80% gamma percentile (KM)	3.831	90% gamma percentile (KM)	4.863
95% gamma percentile (KM)	5.837	99% gamma percentile (KM)	7.97

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (44.22, α)	29.97	Adjusted Chi Square Value (44.22, β)	27.52
95% Gamma Approximate KM-UCL (use when n>=50)	3.869	95% Gamma Adjusted KM-UCL (use when n<50)	4.214

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.988	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	

Lilliefors Test Statistic	0.217	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.552	Mean in Log Scale	-0.403
SD in Original Scale	2.089	SD in Log Scale	1.451
95% t UCL (assumes normality of ROS data)	2.847	95% Percentile Bootstrap UCL	2.762
95% BCA Bootstrap UCL	3.093	95% Bootstrap t UCL	4.858
95% H-UCL (Log ROS)	17.51		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	0.875	KM Geo Mean	2.398
KM SD (logged)	0.377	95% Critical H Value (KM-Log)	2.104
KM Standard Error of Mean (logged)	0.154	95% H-UCL (KM -Log)	3.407
KM SD (logged)	0.377	95% Critical H Value (KM-Log)	2.104
KM Standard Error of Mean (logged)	0.154		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1.956	Mean in Log Scale	0.413
SD in Original Scale	1.83	SD in Log Scale	0.684
95% t UCL (Assumes normality)	3.09	95% H-Stat UCL	3.575

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	3.675

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PFO4DA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	2
Number of Detects	1	Number of Non-Detects	8
Number of Distinct Detects	1	Number of Distinct Non-Detects	1

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO4DA was not processed!

PFO5DA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFO5DA was not processed!

PMPA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	4
Number of Detects	3	Number of Non-Detects	6
Number of Distinct Detects	3	Number of Distinct Non-Detects	1
Minimum Detect	12	Minimum Non-Detect	10
Maximum Detect	19	Maximum Non-Detect	10
Variance Detects	14.33	Percent Non-Detects	66.67%
Mean Detects	14.67	SD Detects	3.786
Median Detects	13	CV Detects	0.258
Skewness Detects	1.597	Kurtosis Detects	N/A
Mean of Logged Detects	2.665	SD of Logged Detects	0.245

Warning: Data set has only 3 Detected Values.

This is not enough to compute meaningful or reliable statistics and estimates.

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.

For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).

Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.855	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.337	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.425	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	11.56	KM Standard Error of Mean	1.156
KM SD	2.833	95% KM (BCA) UCL	N/A
95% KM (t) UCL	13.71	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	13.46	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	15.02	95% KM Chebyshev UCL	16.6
97.5% KM Chebyshev UCL	18.78	99% KM Chebyshev UCL	23.06

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	24.19	k star (bias corrected MLE)	N/A
Theta hat (MLE)	0.606	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	145.1	nu star (bias corrected)	N/A
Mean (detects)	14.67		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	6.395
Maximum	19	Median	4.456
SD	6.846	CV	1.071
k hat (MLE)	0.38	k star (bias corrected MLE)	0.327
Theta hat (MLE)	16.84	Theta star (bias corrected MLE)	19.54
nu hat (MLE)	6.835	nu star (bias corrected)	5.89
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (5.89, α)	1.584	Adjusted Chi Square Value (5.89, β)	1.161
95% Gamma Approximate UCL (use when n>=50)	23.78	95% Gamma Adjusted UCL (use when n<50)	N/A

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	11.56	SD (KM)	2.833
Variance (KM)	8.025	SE of Mean (KM)	1.156
k hat (KM)	16.64	k star (KM)	11.17
nu hat (KM)	299.5	nu star (KM)	201
theta hat (KM)	0.694	theta star (KM)	1.035
80% gamma percentile (KM)	14.32	90% gamma percentile (KM)	16.15
95% gamma percentile (KM)	17.77	99% gamma percentile (KM)	21.08

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (201.01, α)	169.2	Adjusted Chi Square Value (201.01, β)	163
95% Gamma Approximate KM-UCL (use when n>=50)	13.73	95% Gamma Adjusted KM-UCL (use when n<50)	14.25

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.876	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.325	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.425	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	8.612	Mean in Log Scale	2
SD in Original Scale	5.148	SD in Log Scale	0.589
95% t UCL (assumes normality of ROS data)	11.8	95% Percentile Bootstrap UCL	11.38
95% BCA Bootstrap UCL	12.03	95% Bootstrap t UCL	12.94
95% H-UCL (Log ROS)	14.51		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	2.423	KM Geo Mean	11.28
KM SD (logged)	0.206	95% Critical H Value (KM-Log)	1.914
KM Standard Error of Mean (logged)	0.0842	95% H-UCL (KM -Log)	13.25
KM SD (logged)	0.206	95% Critical H Value (KM-Log)	1.914
KM Standard Error of Mean (logged)	0.0842		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	8.222	Mean in Log Scale	1.961
SD in Original Scale	5.191	SD in Log Scale	0.542
95% t UCL (Assumes normality)	11.44	95% H-Stat UCL	12.79

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	13.71

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PEPA

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PEPA was not processed!

PFESA-BP1

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP1 was not processed!

PFESA-BP2

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFESA-BP2 was not processed!

Byproduct 4

General Statistics

Total Number of Observations	9	Number of Distinct Observations	9
Number of Detects	8	Number of Non-Detects	1
Number of Distinct Detects	8	Number of Distinct Non-Detects	1
Minimum Detect	4.8	Minimum Non-Detect	2
Maximum Detect	8.9	Maximum Non-Detect	2

Variance Detects	1.868	Percent Non-Detects	11.11%
Mean Detects	6.638	SD Detects	1.367
Median Detects	6.7	CV Detects	0.206
Skewness Detects	0.265	Kurtosis Detects	-0.673
Mean of Logged Detects	1.874	SD of Logged Detects	0.208

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.963	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.172	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.283	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	6.122	KM Standard Error of Mean	0.674
KM SD	1.891	95% KM (BCA) UCL	7.078
95% KM (t) UCL	7.376	95% KM (Percentile Bootstrap) UCL	7.156
95% KM (z) UCL	7.231	95% KM Bootstrap t UCL	7.181
90% KM Chebyshev UCL	8.144	95% KM Chebyshev UCL	9.06
97.5% KM Chebyshev UCL	10.33	99% KM Chebyshev UCL	12.83

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.234	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.716	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.186	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.294	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	26.89	k star (bias corrected MLE)	16.89
Theta hat (MLE)	0.247	Theta star (bias corrected MLE)	0.393
nu hat (MLE)	430.2	nu star (bias corrected)	270.2
Mean (detects)	6.638		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	3.58	Mean	6.298
Maximum	8.9	Median	6.5
SD	1.635	CV	0.26
k hat (MLE)	15.46	k star (bias corrected MLE)	10.38
Theta hat (MLE)	0.407	Theta star (bias corrected MLE)	0.607
nu hat (MLE)	278.3	nu star (bias corrected)	186.9
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (186.88, α)	156.3	Adjusted Chi Square Value (186.88, β)	150.3
95% Gamma Approximate UCL (use when n>=50)	7.532	95% Gamma Adjusted UCL (use when n<50)	7.828

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	6.122	SD (KM)	1.891

Variance (KM)	3.577	SE of Mean (KM)	0.674
k hat (KM)	10.48	k star (KM)	7.059
nu hat (KM)	188.6	nu star (KM)	127.1
theta hat (KM)	0.584	theta star (KM)	0.867
80% gamma percentile (KM)	7.93	90% gamma percentile (KM)	9.198
95% gamma percentile (KM)	10.34	99% gamma percentile (KM)	12.71

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (127.07, α)	102	Adjusted Chi Square Value (127.07, β)	97.3
95% Gamma Approximate KM-UCL (use when n>=50)	7.625	95% Gamma Adjusted KM-UCL (use when n<50)	7.995

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.965	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.818	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.168	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	6.332	Mean in Log Scale	1.817
SD in Original Scale	1.573	SD in Log Scale	0.259
95% t UCL (assumes normality of ROS data)	7.307	95% Percentile Bootstrap UCL	7.143
95% BCA Bootstrap UCL	7.189	95% Bootstrap t UCL	7.306
95% H-UCL (Log ROS)	7.619		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.743	KM Geo Mean	5.713
KM SD (logged)	0.414	95% Critical H Value (KM-Log)	2.149
KM Standard Error of Mean (logged)	0.147	95% H-UCL (KM -Log)	8.523
KM SD (logged)	0.414	95% Critical H Value (KM-Log)	2.149
KM Standard Error of Mean (logged)	0.147		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	6.011	Mean in Log Scale	1.666
SD in Original Scale	2.273	SD in Log Scale	0.654
95% t UCL (Assumes normality)	7.42	95% H-Stat UCL	11.79

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	7.376

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 5

General Statistics

Total Number of Observations	9	Number of Distinct Observations	6
Number of Detects	6	Number of Non-Detects	3
Number of Distinct Detects	5	Number of Distinct Non-Detects	1
Minimum Detect	2.5	Minimum Non-Detect	2

Maximum Detect	19	Maximum Non-Detect	2
Variance Detects	40.2	Percent Non-Detects	33.33%
Mean Detects	7.317	SD Detects	6.34
Median Detects	4.85	CV Detects	0.867
Skewness Detects	1.583	Kurtosis Detects	2.341
Mean of Logged Detects	1.712	SD of Logged Detects	0.795

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.808	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.247	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.325	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.544	KM Standard Error of Mean	1.953
KM SD	5.349	95% KM (BCA) UCL	8.811
95% KM (t) UCL	9.177	95% KM (Percentile Bootstrap) UCL	8.811
95% KM (z) UCL	8.757	95% KM Bootstrap t UCL	15.44
90% KM Chebyshev UCL	11.4	95% KM Chebyshev UCL	14.06
97.5% KM Chebyshev UCL	17.74	99% KM Chebyshev UCL	24.98

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.432	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.705	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.287	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.336	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.948	k star (bias corrected MLE)	1.085
Theta hat (MLE)	3.756	Theta star (bias corrected MLE)	6.742
nu hat (MLE)	23.38	nu star (bias corrected)	13.02
Mean (detects)	7.317		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	4.881
Maximum	19	Median	3.1
SD	6.202	CV	1.271
k hat (MLE)	0.341	k star (bias corrected MLE)	0.302
Theta hat (MLE)	14.31	Theta star (bias corrected MLE)	16.19
nu hat (MLE)	6.141	nu star (bias corrected)	5.428
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (5.43, α)	1.355	Adjusted Chi Square Value (5.43, β)	0.975
95% Gamma Approximate UCL (use when n>=50)	19.56	95% Gamma Adjusted UCL (use when n<50)	27.18

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	5.544	SD (KM)	5.349
Variance (KM)	28.61	SE of Mean (KM)	1.953
k hat (KM)	1.074	k star (KM)	0.79
nu hat (KM)	19.34	nu star (KM)	14.23
theta hat (KM)	5.161	theta star (KM)	7.016
80% gamma percentile (KM)	9.067	90% gamma percentile (KM)	13.52
95% gamma percentile (KM)	18.06	99% gamma percentile (KM)	28.8

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (14.23, α)	6.726	Adjusted Chi Square Value (14.23, β)	5.675
95% Gamma Approximate KM-UCL (use when n>=50)	11.73	95% Gamma Adjusted KM-UCL (use when n<50)	13.9

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.902	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.267	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	5.116	Mean in Log Scale	1.002
SD in Original Scale	6.004	SD in Log Scale	1.262
95% t UCL (assumes normality of ROS data)	8.838	95% Percentile Bootstrap UCL	8.551
95% BCA Bootstrap UCL	9.284	95% Bootstrap t UCL	13.81
95% H-UCL (Log ROS)	33.67		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.372	KM Geo Mean	3.945
KM SD (logged)	0.763	95% Critical H Value (KM-Log)	2.738
KM Standard Error of Mean (logged)	0.279	95% H-UCL (KM -Log)	11.04
KM SD (logged)	0.763	95% Critical H Value (KM-Log)	2.738
KM Standard Error of Mean (logged)	0.279		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	5.211	Mean in Log Scale	1.141
SD in Original Scale	5.924	SD in Log Scale	1.062
95% t UCL (Assumes normality)	8.883	95% H-Stat UCL	19.56

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	9.177

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Byproduct 6

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Byproduct 6 was not processed!

NVHOS

General Statistics

Total Number of Observations	9	Number of Distinct Observations	7
		Number of Missing Observations	0
Minimum	6	Mean	6.533
Maximum	7.2	Median	6.6
SD	0.377	Std. Error of Mean	0.126
Coefficient of Variation	0.0578	Skewness	0.151

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.935	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.829	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.237	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.274	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	6.767	95% Adjusted-CLT UCL (Chen-1995)	6.747
		95% Modified-t UCL (Johnson-1978)	6.768

Gamma GOF Test

A-D Test Statistic	0.398	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.72	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.248	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.279	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	337.6	k star (bias corrected MLE)	225.1
Theta hat (MLE)	0.0194	Theta star (bias corrected MLE)	0.029
nu hat (MLE)	6076	nu star (bias corrected)	4052
MLE Mean (bias corrected)	6.533	MLE Sd (bias corrected)	0.435
		Approximate Chi Square Value (0.05)	3905
Adjusted Level of Significance	0.0231	Adjusted Chi Square Value	3874

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	6.779	95% Adjusted Gamma UCL (use when n<50)	6.833

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.935	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.829	Data appear Lognormal at 5% Significance Level

Lilliefors Test Statistic	0.247	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.274	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.792	Mean of logged Data	1.875
Maximum of Logged Data	1.974	SD of logged Data	0.0577

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	6.911
95% Chebyshev (MVUE) UCL	7.082	97.5% Chebyshev (MVUE) UCL	7.319
99% Chebyshev (MVUE) UCL	7.785		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	6.74	95% Jackknife UCL	6.767
95% Standard Bootstrap UCL	6.726	95% Bootstrap-t UCL	6.753
95% Hall's Bootstrap UCL	6.766	95% Percentile Bootstrap UCL	6.722
95% BCA Bootstrap UCL	6.733		
90% Chebyshev(Mean, Sd) UCL	6.911	95% Chebyshev(Mean, Sd) UCL	7.082
97.5% Chebyshev(Mean, Sd) UCL	7.319	99% Chebyshev(Mean, Sd) UCL	7.785

Suggested UCL to Use

95% Student's-t UCL	6.767

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

EVE Acid

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable EVE Acid was not processed!

Hydro-EVE Acid

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Hydro-EVE Acid was not processed!

R-EVE

General Statistics

Total Number of Observations	9	Number of Distinct Observations	7
Number of Detects	7	Number of Non-Detects	2
Number of Distinct Detects	6	Number of Distinct Non-Detects	1
Minimum Detect	2.7	Minimum Non-Detect	2
Maximum Detect	3.8	Maximum Non-Detect	2
Variance Detects	0.205	Percent Non-Detects	22.22%
Mean Detects	3.114	SD Detects	0.453
Median Detects	2.9	CV Detects	0.145
Skewness Detects	0.656	Kurtosis Detects	-1.519
Mean of Logged Detects	1.127	SD of Logged Detects	0.142

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.861	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.254	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.867	KM Standard Error of Mean	0.213
KM SD	0.593	95% KM (BCA) UCL	3.167
95% KM (t) UCL	3.263	95% KM (Percentile Bootstrap) UCL	3.189
95% KM (z) UCL	3.218	95% KM Bootstrap t UCL	3.233
90% KM Chebyshev UCL	3.507	95% KM Chebyshev UCL	3.797
97.5% KM Chebyshev UCL	4.199	99% KM Chebyshev UCL	4.989

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.509	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.708	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.259	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.311	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	57.26	k star (bias corrected MLE)	32.81
Theta hat (MLE)	0.0544	Theta star (bias corrected MLE)	0.0949
nu hat (MLE)	801.6	nu star (bias corrected)	459.4
Mean (detects)	3.114		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	1.943	Mean	2.881

Maximum	3.8	Median	2.8
SD	0.609	CV	0.211
k hat (MLE)	24.35	k star (bias corrected MLE)	16.31
Theta hat (MLE)	0.118	Theta star (bias corrected MLE)	0.177
nu hat (MLE)	438.3	nu star (bias corrected)	293.5
Adjusted Level of Significance (β)	0.0231		
Approximate Chi Square Value (293.52, α)	254.8	Adjusted Chi Square Value (293.52, β)	247.2
95% Gamma Approximate UCL (use when n>=50)	3.319	95% Gamma Adjusted UCL (use when n<50)	3.421

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.867	SD (KM)	0.593
Variance (KM)	0.351	SE of Mean (KM)	0.213
k hat (KM)	23.41	k star (KM)	15.68
nu hat (KM)	421.3	nu star (KM)	282.2
theta hat (KM)	0.122	theta star (KM)	0.183
80% gamma percentile (KM)	3.452	90% gamma percentile (KM)	3.825
95% gamma percentile (KM)	4.152	99% gamma percentile (KM)	4.814

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (282.19, α)	244.3	Adjusted Chi Square Value (282.19, β)	236.8
95% Gamma Approximate KM-UCL (use when n>=50)	3.311	95% Gamma Adjusted KM-UCL (use when n<50)	3.416

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.866	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.242	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.905	Mean in Log Scale	1.049
SD in Original Scale	0.572	SD in Log Scale	0.199
95% t UCL (assumes normality of ROS data)	3.26	95% Percentile Bootstrap UCL	3.208
95% BCA Bootstrap UCL	3.216	95% Bootstrap t UCL	3.33
95% H-UCL (Log ROS)	3.33		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	1.031	KM Geo Mean	2.803
KM SD (logged)	0.214	95% Critical H Value (KM-Log)	1.922
KM Standard Error of Mean (logged)	0.0772	95% H-UCL (KM -Log)	3.318
KM SD (logged)	0.214	95% Critical H Value (KM-Log)	1.922
KM Standard Error of Mean (logged)	0.0772		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	2.644	Mean in Log Scale	0.877
SD in Original Scale	1.011	SD in Log Scale	0.512
95% t UCL (Assumes normality)	3.271	95% H-Stat UCL	4.114

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	3.263

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

PES

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PES was not processed!

PFECA B

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA B was not processed!

PFECA-G

General Statistics

Total Number of Observations	9	Number of Distinct Observations	1
Number of Detects	0	Number of Non-Detects	9
Number of Distinct Detects	0	Number of Distinct Non-Detects	1

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!

The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable PFECA-G was not processed!

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/13/2019 12:41:09 PM

User Selected Options

From File ProUCL_Inputdata_Aquatic.xls

Full Precision OFF

From File: ProUCL_Inputdata_Aquatic.xls

Sediment General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	6	0	1	5	83.33%	0.25	0.25	0.252	1.3889E-5	0.00373	0.0148
PFMOAA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFO2HxA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFO3OA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFO4DA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFO5DA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PMPA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PEPA	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFESA-BP1	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFESA-BP2	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
Byproduct 4	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
Byproduct 5	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
Byproduct 6	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
NVHOS	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
EVE Acid	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
R-EVE	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PES	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFECA B	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	6	100.00%	1	1	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	1	0	0.26	0.26	0.26	0.26	N/A	N/A	0	N/A	N/A
PFMOAA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	6	0	0.25	0.25	0.25	0.25	0.25	0.25	0.255	0.258	0.26
PFMOAA	6	0	1	1	1	1	1	1	1	1	1
PFO2HxA	6	0	1	1	1	1	1	1	1	1	1
PFO3OA	6	0	1	1	1	1	1	1	1	1	1
PFO4DA	6	0	1	1	1	1	1	1	1	1	1
PFO5DA	6	0	1	1	1	1	1	1	1	1	1
PMPA	6	0	1	1	1	1	1	1	1	1	1
PEPA	6	0	1	1	1	1	1	1	1	1	1
PFESA-BP1	6	0	1	1	1	1	1	1	1	1	1
PFESA-BP2	6	0	1	1	1	1	1	1	1	1	1
Byproduct 4	6	0	1	1	1	1	1	1	1	1	1
Byproduct 5	6	0	1	1	1	1	1	1	1	1	1
Byproduct 6	6	0	1	1	1	1	1	1	1	1	1
NVHOS	6	0	1	1	1	1	1	1	1	1	1
EVE Acid	6	0	1	1	1	1	1	1	1	1	1
Hydro-EVE Acid	6	0	1	1	1	1	1	1	1	1	1
R-EVE	6	0	1	1	1	1	1	1	1	1	1
PES	6	0	1	1	1	1	1	1	1	1	1
PFECA B	6	0	1	1	1	1	1	1	1	1	1
PFECA-G	6	0	1	1	1	1	1	1	1	1	1

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/13/2019 12:44:15 PM

User Selected Options

From File ProUCL_Inputdata_Aquatic_a.xls

Full Precision OFF

From File: ProUCL_Inputdata_Aquatic_a.xls

Aquatic Vegetation General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	6	0	4	2	33.33%	1.3	1.3	7.817	82.74	9.096	1.164
PFMOAA	6	0	2	4	66.67%	1	1	84	18578	136.3	1.623
PFO2HxA	6	0	2	4	66.67%	1	1	11.83	241.5	15.54	1.313
PFO3OA	6	0	1	5	83.33%	1	2.4	1.025	0.00188	0.0433	0.0422
PFO4DA	6	0	2	4	66.67%	1	2.4	1.14	0.0784	0.28	0.246
PFO5DA	6	0	2	4	66.67%	1	2.4	1.18	0.0496	0.223	0.189
PMPA	6	0	2	4	66.67%	1	1	21.67	857.2	29.28	1.351
PEPA	6	0	1	5	83.33%	1	2.4	2.833	16.81	4.099	1.447
PFESA-BP1	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
PFESA-BP2	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
Byproduct 4	6	0	3	3	50.00%	1	1	1.567	0.669	0.818	0.522
Byproduct 5	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
Byproduct 6	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
NVHOS	6	0	1	5	83.33%	1	2.4	6.5	151.3	12.3	1.892
EVE Acid	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
R-EVE	6	0	2	4	66.67%	1	1	1.417	0.448	0.669	0.472
PES	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
PFECA B	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	6	100.00%	1	2.4	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	4	0	2.1	26	11.08	8.1	123	11.09	8.08	1.036	1.001
PFMOAA	2	0	130	370	250	250	28800	169.7	177.9	N/A	0.679
PFO2HxA	2	0	29	38	33.5	33.5	40.5	6.364	6.672	N/A	0.19
PFO3OA	1	0	1.1	1.1	1.1	1.1	N/A	N/A	0	N/A	N/A
PFO4DA	2	0	1	1.7	1.35	1.35	0.245	0.495	0.519	N/A	0.367
PFO5DA	2	0	1.4	1.5	1.45	1.45	0.005	0.0707	0.0741	N/A	0.0488
PMPA	2	0	60	66	63	63	18	4.243	4.448	N/A	0.0673
PEPA	1	0	12	12	12	12	N/A	N/A	0	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	3	0	1.4	3.3	2.133	1.7	1.043	1.021	0.445	1.565	0.479
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	1	0	34	34	34	34	N/A	N/A	0	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	2	0	1.7	2.8	2.25	2.25	0.605	0.778	0.815	N/A	0.346
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	6	0	1.3	1.3	1.5	2.65	10.55	13	19.5	22.75	25.35
PFMOAA	6	0	1	1	1	1	97.75	130	250	310	358
PFO2HxA	6	0	1	1	1	1	22	29	33.5	35.75	37.55
PFO3OA	6	0	1	1	1	1.05	1.25	1.3	1.85	2.125	2.345
PFO4DA	6	0	1	1	1	1.15	1.6	1.7	2.05	2.225	2.365
PFO5DA	6	0	1	1	1.075	1.35	1.475	1.5	1.95	2.175	2.355
PMPA	6	0	1	1	1	1	45.25	60	63	64.5	65.7
PEPA	6	0	1	1	1	1	2.05	2.4	7.2	9.6	11.52
PFESA-BP1	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
PFESA-BP2	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
Byproduct 4	6	0	1	1	1	1.2	1.625	1.7	2.5	2.9	3.22
Byproduct 5	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
Byproduct 6	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
NVHOS	6	0	1	1	1	1	2.05	2.4	18.2	26.1	32.42
EVE Acid	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
Hydro-EVE Acid	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
R-EVE	6	0	1	1	1	1	1.525	1.7	2.25	2.525	2.745
PES	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
PFECA B	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345
PFECA-G	6	0	1	1	1	1	1.225	1.3	1.85	2.125	2.345

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/13/2019 12:45:45 PM

User Selected Options

From File ProUCL_Inputdata_Aquatic_b.xls

Full Precision OFF

From File: ProUCL_Inputdata_Aquatic_b.xls

Largemouth Bass Fillet General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFMOAA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFO2HxA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFO3OA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFO4DA	4	0	2	2	50.00%	1000	1000	852.5	1017919	1009	1.183
PFO5DA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PMPA	4	0	2	2	50.00%	1000	1000	320	2500	50	0.156
PEPA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFESA-BP1	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFESA-BP2	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Byproduct 4	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Byproduct 5	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Byproduct 6	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
NVHOS	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
EVE Acid	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Hydro-EVE Acid	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
R-EVE	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PES	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFECA B	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFECA-G	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFMOAA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	2	0	270	2600	1435	1435	2714450	1648	1727	N/A	1.148
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	2	0	270	370	320	320	5000	70.71	74.13	N/A	0.221
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFMOAA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFO2HxA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFO3OA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFO4DA	4	0	489	708	817.5	1000	1400	1640	2120	2360	2552
PFO5DA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PMPA	4	0	300	330	345	685	1000	1000	1000	1000	1000
PEPA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFESA-BP1	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFESA-BP2	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Byproduct 4	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Byproduct 5	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Byproduct 6	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
NVHOS	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
EVE Acid	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Hydro-EVE Acid	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
R-EVE	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PES	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFECA B	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFECA-G	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.112/2/2019 1:22:19 PM

User Selected Options

From File Fish_ProUCL Input_ReRun.xls

Full Precision OFF

From File: Fish_ProUCL Input_ReRun.xls

Largemouth Bass Whole Body General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	2	0	0	2	100.00%	1000	1300	N/A	N/A	N/A	N/A
PFMOAA	2	0	1	1	50.00%	1000	1000	3050	4202500	2050	0.672
PFO2HxA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO3OA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO4DA	2	0	2	0	0.00%	N/A	N/A	1700	80000	282.8	0.166
PFO5DA	2	0	1	1	50.00%	1000	1000	1050	2500	50	0.0476
PMPA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PEPA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP1	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP2	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 4	2	0	1	1	50.00%	1000	1000	3700	7290000	2700	0.73
Byproduct 5	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 6	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
NVHOS	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
EVE Acid	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
R-EVE	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PES	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA B	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA-G	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFMOAA	1	0	5100	5100	5100	5100	N/A	N/A	0	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	2	0	1500	1900	1700	1700	80000	282.8	296.5	N/A	0.166
PFO5DA	1	0	1100	1100	1100	1100	N/A	N/A	0	N/A	N/A
PMPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	1	0	6400	6400	6400	6400	N/A	N/A	0	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	2	0	1030	1060	1075	1150	1225	1240	1270	1285	1297
PFMOAA	2	0	1410	1820	2025	3050	4075	4280	4690	4895	5059
PFO2HxA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO3OA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO4DA	2	0	1540	1580	1600	1700	1800	1820	1860	1880	1896
PFO5DA	2	0	1010	1020	1025	1050	1075	1080	1090	1095	1099
PMPA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PEPA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP1	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP2	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 4	2	0	1540	2080	2350	3700	5050	5320	5860	6130	6346
Byproduct 5	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 6	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
NVHOS	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
EVE Acid	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Hydro-EVE Acid	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
R-EVE	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PES	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA B	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA-G	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.112/2/2019 1:23:18 PM

User Selected Options

From File Fish_ProUCL Input_ReRun_a.xls

Full Precision OFF

From File: Fish_ProUCL Input_ReRun_a.xls

Dusky and Comely Shiner General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFMOAA	2	0	1	1	50.00%	1000	1000	2100	1210000	1100	0.524
PFO2HxA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO3OA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO4DA	2	0	2	0	0.00%	N/A	N/A	5550	1125000	1061	0.191
PFO5DA	2	0	2	0	0.00%	N/A	N/A	2400	980000	989.9	0.412
PMPA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PEPA	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP1	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP2	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 4	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 5	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 6	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
NVHOS	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
EVE Acid	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
R-EVE	2	0	1	1	50.00%	1000	1000	2600	2560000	1600	0.615
PES	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA B	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA-G	2	0	0	2	100.00%	1000	1000	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFMOAA	1	0	3200	3200	3200	3200	N/A	N/A	0	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	2	0	4800	6300	5550	5550	1125000	1061	1112	N/A	0.191
PFO5DA	2	0	1700	3100	2400	2400	980000	989.9	1038	N/A	0.412
PMPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	1	0	4200	4200	4200	4200	N/A	N/A	0	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFMOAA	2	0	1220	1440	1550	2100	2650	2760	2980	3090	3178
PFO2HxA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO3OA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO4DA	2	0	4950	5100	5175	5550	5925	6000	6150	6225	6285
PFO5DA	2	0	1840	1980	2050	2400	2750	2820	2960	3030	3086
PMPA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PEPA	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP1	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP2	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 4	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 5	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 6	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
NVHOS	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
EVE Acid	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Hydro-EVE Acid	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
R-EVE	2	0	1320	1640	1800	2600	3400	3560	3880	4040	4168
PES	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA B	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA-G	2	0	1000	1000	1000	1000	1000	1000	1000	1000	1000

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/13/2019 12:52:05 PM

User Selected Options

From File ProUCL_Inputdata_Aquatic_d.xls

Full Precision OFF

From File: ProUCL_Inputdata_Aquatic_d.xls

Sunfish Whole Body General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	4	0	0	4	100.00%	2200	10000	N/A	N/A	N/A	N/A
PFMOAA	4	0	4	0	0.00%	N/A	N/A	4125	589167	767.6	0.186
PFO2HxA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFO3OA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFO4DA	4	0	4	0	0.00%	N/A	N/A	18420	4.288E+8	20707	1.124
PFO5DA	4	0	4	0	0.00%	N/A	N/A	882.5	307425	554.5	0.628
PMPA	4	0	3	1	25.00%	1000	1000	670	504600	710.4	1.06
PEPA	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFESA-BP1	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFESA-BP2	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Byproduct 4	4	0	3	1	25.00%	1000	1000	526.7	21089	145.2	0.276
Byproduct 5	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Byproduct 6	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
NVHOS	4	0	1	3	75.00%	1000	1000	710	0	0	N/A
EVE Acid	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
Hydro-EVE Acid	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
R-EVE	4	0	3	1	25.00%	1000	1000	1136	835523	914.1	0.804
PES	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFECA B	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A
PFECA-G	4	0	0	4	100.00%	1000	1100	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFMOAA	4	0	3000	4700	4125	4400	589167	767.6	296.5	-1.733	0.186
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	4	0	580	41000	18420	16050	4.288E+8	20707	22550	0.197	1.124
PFO5DA	4	0	470	1700	882.5	680	307425	554.5	177.9	1.793	0.628
PMPA	3	0	240	1900	806.7	280	896933	947.1	59.3	1.729	1.174
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	3	0	400	730	526.7	450	31633	177.9	74.13	1.579	0.338
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	1	0	710	710	710	710	N/A	N/A	0	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	3	0	450	2700	1310	780	1476300	1215	489.3	1.589	0.928
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	4	0	2830	3460	3775	4750	6400	7120	8560	9280	9856
PFMOAA	4	0	3390	3780	3975	4400	4550	4580	4640	4670	4694
PFO2HxA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFO3OA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFO4DA	4	0	736	892	970	16050	33500	35000	38000	39500	40700
PFO5DA	4	0	524	578	605	680	957.5	1106	1403	1552	1670
PMPA	4	0	252	264	270	640	1225	1360	1630	1765	1873
PEPA	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFESA-BP1	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFESA-BP2	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Byproduct 4	4	0	415	430	437.5	590	797.5	838	919	959.5	991.9
Byproduct 5	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Byproduct 6	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
NVHOS	4	0	797	884	927.5	1000	1000	1000	1000	1000	1000
EVE Acid	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
Hydro-EVE Acid	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
R-EVE	4	0	549	648	697.5	890	1425	1680	2190	2445	2649
PES	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFECA B	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097
PFECA-G	4	0	1000	1000	1000	1000	1025	1040	1070	1085	1097

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.111/13/2019 12:46:34 PM

User Selected Options

From File ProUCL_Inputdata_Aquatic_c.xls

Full Precision OFF

From File: ProUCL_Inputdata_Aquatic_c.xls

Catfish Fillet General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFMOAA	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFO2HxA	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFO3OA	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFO4DA	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFO5DA	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PMPA	6	0	2	4	66.67%	1000	1000	275	25	5	0.0182
PEPA	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFESA-BP1	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFESA-BP2	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
Byproduct 4	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
Byproduct 5	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
Byproduct 6	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
NVHOS	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
EVE Acid	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
Hydro-EVE Acid	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
R-EVE	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PES	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFECA B	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A
PFECA-G	6	0	0	6	100.00%	1000	1200	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFMOAA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	2	0	270	280	275	275	50	7.071	7.413	N/A	0.0257
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFMOAA	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFO2HxA	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFO3OA	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFO4DA	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFO5DA	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PMPA	6	0	275	280	460	1000	1000	1000	1000	1000	1000
PEPA	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFESA-BP1	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFESA-BP2	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
Byproduct 4	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
Byproduct 5	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
Byproduct 6	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
NVHOS	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
EVE Acid	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
Hydro-EVE Acid	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
R-EVE	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PES	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFECA B	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190
PFECA-G	6	0	1000	1000	1000	1000	1000	1000	1100	1150	1190

General Statistics on Uncensored Data

Date/Time of Computation ProUCL 5.112/2/2019 1:23:54 PM

User Selected Options

From File Fish_ProUCL Input_ReRun_b.xls

Full Precision OFF

From File: Fish_ProUCL Input_ReRun_b.xls

American Eel General Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Hfpo Dimer Acid	1	0	1	0	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
PFMOAA	0	1	0	0	NaN%	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO3OA	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO4DA	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFO5DA	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PMPA	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PEPA	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP1	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFESA-BP2	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 4	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 5	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
Byproduct 6	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
NVHOS	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
EVE Acid	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
Hydro-EVE Acid	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
R-EVE	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PES	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA B	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A
PFECA-G	1	0	0	1	100.00%	1000	1000	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Hfpo Dimer Acid	1	0	1000	1000	1000	1000	N/A	N/A	0	N/A	N/A
PFMOAA	0	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO3OA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO4DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO5DA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PMPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PEPA	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP1	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFESA-BP2	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 4	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 5	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Byproduct 6	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NVHOS	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hydro-EVE Acid	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R-EVE	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PES	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA B	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFECA-G	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Hfpo Dimer Acid	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFMOAA	0	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PFO2HxA	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO3OA	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO4DA	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFO5DA	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PMPA	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PEPA	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP1	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFESA-BP2	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 4	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 5	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Byproduct 6	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
NVHOS	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
EVE Acid	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
Hydro-EVE Acid	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
R-EVE	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PES	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA B	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000
PFECA-G	1	0	1000	1000	1000	1000	1000	1000	1000	1000	1000

Geosyntec consultants

Geosyntec Consultants of NC, P.C.
NC License No.: C-3500 and C-295

APPENDIX E
Laboratory Report and Data Validation Summaries

Data review narratives are included in this attachment. Due to file size limits, analytical laboratory reports will be provided separately with the hard copy of the report.

ADQM DATA REVIEW
NARRATIVE

Site **Chemours FAY – Fayetteville**

Project **2019 SLEA Sampling (updated)**

Project Reviewer **Michael Aucoin, AECOM as a Chemours contractor**

Sampling Dates **July 24, 25, 30, and 31, 2019**
August 1, 2, 13 - 16, 19 – 23, and 27, 2019
September 10 -13, and 23 – 27, 2019
October 21, 2019

Analytical Protocol

Laboratory	Analytical Method	Parameter(s)
TestAmerica - Sacramento	537 Modified	PFAS[1]
TestAmerica - Sacramento	Cl. Spec. Table 3 Compound SOP	Table 3+ compounds
TestAmerica – Sacramento/Denver/Seattle	9060A	Total Organic Carbon
TestAmerica - Sacramento	D2216-90	Percent Moisture

[1] Perfluoroalkylsubstances, a list of 33 or 37 compounds including HFPO-DA.

Sample Receipt

The following items are noted for this data set:

- All samples were received in satisfactory condition and within EPA temperature guidelines on:
    - August 1, 3, 6, 16, 21, 23, 24, and 28, 2019.
    - September 13, 17, 25, 27, and 30, 2019
    - October 23, 2019

Data Review

The electronic data submitted for this project was reviewed via the Data Verification Module (DVM) process.

Overall the data is acceptable for use without qualification, except as noted below:

- Non-detect results for Byproduct 4, Byproduct 5, PFECA-G, PFMOAA, PFO4DA, and R-EVE in one or more soil or tissue samples were qualified R and are considered to be unusable due to very poor matrix spike (MS) relative percent recoveries (RPR).
- The result for PFBS in one tissue sample has been qualified B, and may be biased high, or may be a false positive, because an associated lab method blank contained a comparable concentration.

- Several analytical results have been qualified J as estimated, and non-detect results qualified UJ indicating an estimated reporting limit, due to poor or very poor recovery of surrogate, laboratory blank spike, or matrix spike compounds; sample preparation and/or analysis which exceeded the laboratory hold times; and poor field duplicate or lab replicate precision. See the Data Verification Module (DVM) Narrative Report for which samples were qualified, the specific reasons for qualification, and potential bias in reported results.

Attachments

The DVM Narrative report is attached. The lab reports due to a large page count are stored on an AECOM network shared drive and are available to be posted on external shared drives, or on a flash drive.

Data Verification Module (DVM)

The DVM is an internal review process used by the ADQM group to assist with the determination of data usability. The electronic data deliverables received from the laboratory are loaded into the Locus EIM™ database and processed through a series of data quality checks, which are a combination of software (Locus EIM™ database Data Verification Module (DVM)) and manual reviewer evaluations. The data is evaluated against the following data usability checks:

- Field and laboratory blank contamination
- US EPA hold time criteria
- Missing Quality Control (QC) samples
- Matrix spike(MS)/matrix spike duplicate (MSD) recoveries and the relative percent differences (RPDs) between these spikes
- Laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries and the RPD between these spikes
- Surrogate spike recoveries for organic analyses
- RPD between field duplicate sample pairs
- RPD between laboratory replicates for inorganic analyses
- Difference / percent difference between total and dissolved sample pairs.

There are two qualifier fields in EIM:

Lab Qualifier is the qualifier assigned by the lab and may not reflect the usability of the data. This qualifier may have many different meanings and can vary between labs and over time within the same lab. Please refer to the laboratory report for a description of the lab qualifiers. As they are lab descriptors they are not to be used when evaluating the data.

Validation Qualifier is the 3rd party formal validation qualifier if this was performed. Otherwise this field contains the qualifier resulting from the ADQM DVM review process. This qualifier assesses the usability of the data and may not equal the lab qualifier. The DVM applies the following data evaluation qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

The **Validation Status Code** field is set to "DVM" if the ADQM DVM process has been performed. If the DVM has not been run, the field will be blank.

If the DVM has been run (**Validation Status Code** equals "DVM"), use the **Validation Qualifier.**

DVM Narrative Report

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-3-veg	07/31/2019	320-52871-2	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-5-VEG-082319	08/23/2019	320-53637-2	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFO4DA	1.3	UG/KG	PQL		1.3	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFO4DA	1.3	UG/KG	PQL		1.3	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFMOAA	1.3	UG/KG	PQL		1.3	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFMOAA	1.3	UG/KG	PQL		1.3	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFECA-G	1.3	UG/KG	PQL		1.3	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFECA-G	1.3	UG/KG	PQL		1.3	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFO4DA	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFO4DA	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFMOAA	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFMOAA	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFECA-G	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFECA-G	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFECA-G	1.0	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFECA-G	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFMOAA	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFMOAA	1.2	UG/KG	PQL		1.2	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFMOAA	1.0	UG/KG	PQL		1.1	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFMOAA	1.1	UG/KG	PQL		1.1	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	Byproduct 4	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	Byproduct 5	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-01-20191021	10/21/2019	320-55583-18	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-01-20191021	10/21/2019	320-55583-18	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-SOIL-092419	09/24/2019	320-54699-6	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-SOIL-092419	09/24/2019	320-54699-6	R-EVE	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFMOAA	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFECA-G	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFECA-G	1.0	UG/KG	PQL		1.0	R	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Contamination detected in Method Blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated method blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-veg	07/25/2019	320-52868-7	Perfluorobutane Sulfonic Acid	1.5	UG/KG	PQL		1.0	B	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Only one surrogate has relative percent recovery (RPR) values outside control limits and the parameter is a PFC (Nondetects).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-5-INV-082319	08/23/2019	320-53637-3	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Channel catfish	09/27/2019	320-54836-15	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Channel catfish	09/27/2019	320-54836-15	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-Redbreast	09/27/2019	320-54836-12	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-Redbreast	09/27/2019	320-54836-12	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	N-ethylperfluoro-1-octanesulfonamide	4.8	UG/KG	PQL		4.8	UJ	537 Modified		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-INV-01-02-03 COMP	10/21/2019	320-55583-21	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-INV-01-02-03 COMP	10/21/2019	320-55583-21	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Only one surrogate has relative percent recovery (RPR) values outside control limits and the parameter is a PFC (Nondetects).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SLEA-SED4-20191021	10/21/2019	320-55583-10	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
SLEA-SED4-20191021	10/21/2019	320-55583-10	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-01-20191021	10/21/2019	320-55583-18	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SEEP-C-WORMSOIL-092619	09/26/2019	320-54770-6	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	Perfluorooctadecanoic acid	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	Perfluorohexadecanoic acid (PFHxDA)	1.7	UG/KG	PQL		1.7	UJ	537 Modified		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Surrogates had relative percent recovery (RPR) values less than the lower control limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-9-INV-082119	08/21/2019	320-53607-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-9-INV-082119	08/21/2019	320-53607-3	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-11-inv	07/31/2019	320-52871-17	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	Byproduct 4	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	Byproduct 4	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	Byproduct 5	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-10-INV-082119	08/21/2019	320-53607-6	Byproduct 5	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	10:2 Fluorotelomer sulfonate	4.2	UG/KG	PQL		4.2	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	10:2 Fluorotelomer sulfonate	1.5	UG/KG	PQL		1.5	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	10:2 Fluorotelomer sulfonate	7.3	UG/KG	PQL		7.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	10:2 Fluorotelomer sulfonate	1.5	UG/KG	PQL		1.5	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	10:2 Fluorotelomer sulfonate	3.0	UG/KG	PQL		3.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	Hfpo Dimer Acid	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	Hfpo Dimer Acid	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFECA B	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFECA B	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PEPA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PEPA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFESA-BP1	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFESA-BP1	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFO2HxA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFO2HxA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-10-INV-082119	08/21/2019	320-53607-6	PFO3OA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFO3OA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFO4DA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFO4DA	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFESA-BP2	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFESA-BP2	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFECA-G	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PFECA-G	1.7	UG/KG	PQL		1.7	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-20191021	10/21/2019	320-55583-12	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-20191021	10/21/2019	320-55583-12	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-EQBLK-091119	09/11/2019	320-54392-3	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
SLEA-EQBLK-091119	09/11/2019	320-54392-3	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
SLEA-SED2-20191021	10/21/2019	320-55583-8	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED2-20191021	10/21/2019	320-55583-8	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-20191021	10/21/2019	320-55583-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-20191021	10/21/2019	320-55583-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-20191021-DUP	10/21/2019	320-55583-13	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
SLEA-SED3-20191021-DUP	10/21/2019	320-55583-13	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-20191021	10/21/2019	320-55583-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-20191021	10/21/2019	320-55583-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-EQBLK-091319	09/13/2019	320-54392-4	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
SLEA-EQBLK-091319	09/13/2019	320-54392-4	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
SLEA-SED4-20191021	10/21/2019	320-55583-10	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-20191021	10/21/2019	320-55583-10	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-20191021	10/21/2019	320-55583-11	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-20191021	10/21/2019	320-55583-11	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep B-01-Spotted bass	09/24/2019	320-54836-2	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	10:2 Fluorotelomer sulfonate	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	10:2 Fluorotelomer sulfonate	5.9	UG/KG	PQL		5.9	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	10:2 Fluorotelomer sulfonate	6.1	UG/KG	PQL		6.1	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Pond-1-NE-072419	07/24/2019	280-126823-2	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
Pond-1-SE-072419-2	07/24/2019	280-126823-1	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
Pond-1-SE-072419	07/24/2019	280-126823-4	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
EU6-inv	07/25/2019	320-52868-12	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit but above 10%. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-inv	07/25/2019	320-52868-12	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-veg	07/25/2019	320-52868-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-7-VEG-081919	08/19/2019	320-53490-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	PFMOAA	5.0	UG/KG	PQL		8.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	PFMOAA	8.1	UG/KG	PQL		8.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-7-VEG-081919	08/19/2019	320-53490-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-5-VEG-082319	08/23/2019	320-53637-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-4-VEG-081919	08/19/2019	320-53490-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-3-veg	07/31/2019	320-52871-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-INV-081919	08/19/2019	320-53490-3	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-INV-081919	08/19/2019	320-53490-3	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-INV-081919	08/19/2019	320-53490-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-INV-081919	08/19/2019	320-53490-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-VEG-082019	08/20/2019	320-53490-13	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PMPA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-1-INV-091219	09/12/2019	320-54302-5	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
WC-WORM-092419	09/24/2019	320-54699-11	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
WC-WORM-092419	09/24/2019	320-54699-11	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED2-VEG-20191021	10/21/2019	320-55583-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED2-VEG-20191021	10/21/2019	320-55583-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED2-VEG-20191021	10/21/2019	320-55583-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED2-VEG-20191021	10/21/2019	320-55583-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-20191021	10/21/2019	320-55583-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-20191021	10/21/2019	320-55583-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFECA B	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFECA B	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFO3OA	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFO3OA	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFO4DA	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFO4DA	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	EVE Acid	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	EVE Acid	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFECA-G	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PFECA-G	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-01-20191021	10/21/2019	320-55583-18	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-01-20191021	10/21/2019	320-55583-18	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	EVE Acid	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	EVE Acid	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Byproduct 6	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Byproduct 6	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PES	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PES	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PMPA	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PMPA	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFECA B	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFECA B	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFESA-BP1	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFESA-BP1	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PES	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PES	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PMPA	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PMPA	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFECA B	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFECA B	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Byproduct 6	1.0	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Byproduct 6	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFESA-BP1	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFESA-BP1	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-SOIL-092619	09/26/2019	320-54770-7	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-SOIL-092619	09/26/2019	320-54770-7	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
SEEP-C-SOIL-092619	09/26/2019	320-54770-7	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-SOIL-092619	09/26/2019	320-54770-7	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-SOIL-092619	09/26/2019	320-54770-7	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-SOIL-092619	09/26/2019	320-54770-7	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFECA B	1.0	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFECA B	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	EVE Acid	1.0	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-SOIL-092519	09/25/2019	320-54770-9	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-SOIL-092519	09/25/2019	320-54770-9	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-SOIL-092519	09/25/2019	320-54770-9	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-SOIL-092519	09/25/2019	320-54770-9	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PES	1.0	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PES	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	EVE Acid	2.2	UG/KG	PQL		3.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	EVE Acid	3.2	UG/KG	PQL		3.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFESA-BP1	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFESA-BP1	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFO2HxA	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFO2HxA	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Byproduct 6	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Byproduct 6	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Hydro-EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Hydro-EVE Acid	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PMPA	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFO2HxA	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFO2HxA	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFO3OA	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFO3OA	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFECA-G	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFECA-G	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	EVE Acid	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	EVE Acid	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Byproduct 6	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Byproduct 6	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	NVHOS	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	NVHOS	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PES	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PES	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFESA-BP2	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFESA-BP2	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Hydro-EVE Acid	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Hydro-EVE Acid	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFECA B	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFECA B	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	NVHOS	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	NVHOS	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PES	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PES	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFECA B	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFECA B	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFESA-BP1	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFESA-BP1	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFO2HxA	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFO2HxA	1.3	UG/KG	PQL		1.3	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-veg	07/25/2019	320-52868-7	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO2HxA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO2HxA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO3OA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO3OA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO4DA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO4DA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO5DA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFO5DA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFMOAA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFMOAA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	EVE Acid	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	EVE Acid	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFESA-BP2	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-inv	07/25/2019	320-52868-8	PFESA-BP2	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Hydro-EVE Acid	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Hydro-EVE Acid	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFECA-G	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFECA-G	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	R-EVE	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	R-EVE	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Byproduct 4	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Byproduct 4	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Byproduct 5	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Byproduct 5	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Byproduct 6	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Byproduct 6	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-soil-0-0.5	07/25/2019	320-52868-1	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	NVHOS	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	NVHOS	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PES	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PES	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PMPA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-inv	07/25/2019	320-52868-8	PMPA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Hfpo Dimer Acid	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Hfpo Dimer Acid	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFECA B	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFECA B	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PEPA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PEPA	12	UG/KG	PQL		12	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	PFOS	0.50	UG/KG	PQL		0.50	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	N-methyl perfluorooctane sulfonamidoacetic	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			acid									
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-5-SOIL-4-4.5-081519	08/15/2019	320-53349-8	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorohexadecanoic acid (PFHxDA)	6.1	UG/KG	PQL		6.1	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorooctane Sulfonamide	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-3-veg	07/31/2019	320-52871-2	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFOA	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	N-ethylperfluoro-1-octanesulfonamide	2.7	UG/KG	PQL		2.7	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	N-methyl perfluorooctane	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			sulfonamidoacetic acid									
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	10:2 Fluorotelomer sulfonate	0.50	UG/KG	PQL		0.50	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	10:2 Fluorotelomer sulfonate	3.6	UG/KG	PQL		3.6	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFOS	2.8	UG/KG	PQL		2.8	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	2-(N-methyl perfluoro-1-octanesulfonamido)-	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			ethanol									
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	6:2 Fluorotelomer sulfonate	21	UG/KG	PQL		21	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	35	UG/KG	PQL		35	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PES	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-veg	07/31/2019	320-52871-16	Byproduct 5	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Byproduct 5	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Byproduct 6	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Byproduct 6	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	3.7	UG/KG	PQL		3.7	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFOA(trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorobutanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoropentanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorohexanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoroheptanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorononanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorodecanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoroundecanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorododecanoic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorobutane Sulfonic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorohexane Sulfonic Acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorooctane Sulfonamide (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Hfpo Dimer Acid (trial)	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	N-ethyl perfluorooctane sulfonamidoacetic acid (TRIAL)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	N-methyl perfluorooctane sulfonamidoacetic acid (TRIAL)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorotetradecanoic acid (TRIAL)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorotridecanoic Acid (TRIAL)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	10:2 FTS (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	8:2 FTS (trial)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	4:2 FTS (trial)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	6:2 FTS (trial)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	ADONA (trial)	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	NaDONA (trial)	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFDS (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFDoS (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFHpS (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFHxDA (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorononanesulfonic acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorooctadecanoic acid (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFPeS (trial)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFECA B	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFECA B	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PEPA	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PEPA	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	6:2 Fluorotelomer sulfonate	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFESA-BP1	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFESA-BP1	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-veg	07/31/2019	320-52871-16	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Hfpo Dimer Acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFOS	3.7	UG/KG	PQL		3.7	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluoropentanoic Acid	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	6:2 Fluorotelomer sulfonate	28	UG/KG	PQL		28	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	N-ethyl perfluorooctane	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			sulfonamidoacetic acid									
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	30	UG/KG	PQL		30	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-veg	07/31/2019	320-52871-16	PFO2HxA	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFO3OA	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFO3OA	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFO4DA	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFO4DA	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFO5DA	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFO5DA	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	N-ethylperfluoro-1-octanesulfonamide	23	UG/KG	PQL		23	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFMOAA	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFMOAA	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	EVE Acid	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	EVE Acid	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFESA-BP2	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFESA-BP2	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-veg	07/31/2019	320-52871-16	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	45	UG/KG	PQL		45	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Hydro-EVE Acid	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Hydro-EVE Acid	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFECA-G	5.7	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PFECA-G	5.9	UG/KG	PQL		5.9	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorododecanoic Acid	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFOA	1.6	UG/KG	PQL		1.6	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorobutanoic Acid	5.2	UG/KG	PQL		5.2	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	47	UG/KG	PQL		47	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	N-ethylperfluoro-1-octanesulfonamide	3.6	UG/KG	PQL		3.6	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-inv	07/31/2019	320-52871-17	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorooctane Sulfonamide	1.5	UG/KG	PQL		1.5	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	9Cl-PF3ONS	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	11Cl-PF3OUdS	4.1	UG/KG	PQL		4.1	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorododecane sulfonic acid (PFDoS)	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	10:2 Fluorotelomer sulfonate	0.50	UG/KG	PQL		0.50	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
										SOP		
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	3.7	UG/KG	PQL		3.7	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Hfpo Dimer Acid	1.8	UG/KG	PQL		1.8	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	N-methyl perfluorooctane sulfonamidoacetic acid	62	UG/KG	PQL		62	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluoropentanoic Acid	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	6:2 Fluorotelomer sulfonate	24	UG/KG	PQL		24	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1-LMB	08/01/2019	320-52951-13	N-ethyl perfluorooctane sulfonamidoacetic acid	59	UG/KG	PQL		59	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	40	UG/KG	PQL		40	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-LMB	09/27/2019	320-54836-19	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorobutanoic Acid	1.6	UG/KG	PQL		1.6	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Channel catfish	09/27/2019	320-54836-15	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Channel catfish	09/27/2019	320-54836-15	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Channel catfish	09/27/2019	320-54836-15	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Channel catfish	09/27/2019	320-54836-15	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-LMB	09/27/2019	320-54836-16	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR Bladen-02-LMB	09/27/2019	320-54836-17	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-Redbreast	09/27/2019	320-54836-12	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-Redbreast	09/27/2019	320-54836-12	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-Redbreast	09/27/2019	320-54836-12	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-Redbreast	09/27/2019	320-54836-12	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-LMB	09/27/2019	320-54836-19	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-LMB	09/27/2019	320-54836-19	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-LMB	09/27/2019	320-54836-19	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorooctane Sulfonamide	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	9Cl-PF3ONS	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	59	UG/KG	PQL		59	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	N-methyl perfluorooctane sulfonamidoacetic acid	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	N-ethyl perfluorooctane sulfonamidoacetic acid	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-2 FH	08/01/2019	320-52951-14	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	N-methyl perfluorooctane sulfonamidoacetic acid	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	N-ethyl perfluorooctane sulfonamidoacetic acid	13	UG/KG	PQL		13	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-3 BC	08/01/2019	320-52951-15	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	13	UG/KG	PQL		13	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Hfpo Dimer Acid	3.1	UG/KG	PQL		3.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	PFOS	5.6	UG/KG	PQL		5.6	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	N-methyl perfluorooctane sulfonamidoacetic acid	11	UG/KG	PQL		11	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluoropentanoic Acid	2.2	UG/KG	PQL		2.2	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	6:2 Fluorotelomer sulfonate	42	UG/KG	PQL		42	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorohexanoic Acid	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	PFOA	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	PFOA	2.4	UG/KG	PQL		2.4	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorodecane Sulfonic Acid	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	70	UG/KG	PQL		70	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorohexadecanoic acid (PFHxDA)	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorooctane Sulfonamide	2.3	UG/KG	PQL		2.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	9Cl-PF3ONS	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	100	UG/KG	PQL		100	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorododecane sulfonic acid (PFDoS)	1.7	UG/KG	PQL		1.7	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-1 BC	07/31/2019	320-52951-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-1 BC	07/31/2019	320-52951-5	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	NVHOS	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	NVHOS	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PES	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PES	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Hfpo Dimer Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Hfpo Dimer Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFECA B	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFECA B	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PEPA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PEPA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFESA-BP1	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFESA-BP1	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO2HxA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO2HxA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO3OA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-2 BC	07/31/2019	320-52951-6	PFO3OA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO4DA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO4DA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO5DA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFO5DA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFMOAA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFMOAA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Hydro-EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Hydro-EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFECA-G	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFECA-G	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	R-EVE	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	R-EVE	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Byproduct 4	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Byproduct 4	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-2 BC	07/31/2019	320-52951-6	Byproduct 5	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Byproduct 5	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Byproduct 6	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Byproduct 6	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	6:2 Fluorotelomer sulfonate	17	UG/KG	PQL		17	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFESA-BP2	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFESA-BP2	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
CFR-06-3 BC	07/31/2019	320-52951-9	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-3 BC	07/31/2019	320-52951-9	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-1 BC	07/31/2019	320-52951-7	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	29	UG/KG	PQL		29	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-1 BC	07/31/2019	320-52951-7	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-1 BC	07/31/2019	320-52951-7	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-1 LMB	07/30/2019	320-52951-4	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	NVHOS	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	NVHOS	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PES	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PES	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Hfpo Dimer Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Hfpo Dimer Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFECA B	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFECA B	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Hydro-EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Hydro-EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	PFECA-G	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFECA-G	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	R-EVE	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	R-EVE	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Byproduct 4	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Byproduct 4	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Byproduct 5	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Byproduct 5	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Byproduct 6	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Byproduct 6	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Hfpo Dimer Acid	1.8	UG/KG	PQL		1.8	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PEPA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PEPA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFESA-BP1	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFESA-BP1	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO5DA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO5DA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	PFMOAA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFMOAA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	EVE Acid	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluoropentanoic Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	PFO2HxA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO2HxA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO3OA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO3OA	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFESA-BP2	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFESA-BP2	1	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFOA	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	9Cl-PF3ONS	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-1 LMB	07/30/2019	320-52951-1	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-1 LMB	07/30/2019	320-52951-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-2 LMB	07/30/2019	320-52951-2	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-2 LMB	07/30/2019	320-52951-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB	07/30/2019	320-52951-3	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB	07/30/2019	320-52951-3	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB	07/30/2019	320-52951-3	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	PFOS	0.50	UG/KG	PQL		0.50	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.4	UG/KG	PQL		2.4	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	3.6	UG/KG	PQL		3.6	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
SLEA-EQBLK-091119	09/11/2019	320-54392-3	Hfpo Dimer Acid	0.0040	UG/L	PQL		0.0040	UJ	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SLEA-EQBLK-1-081319	08/13/2019	320-53349-6	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
SLEA-EQBLK-2-081419	08/14/2019	320-53349-7	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
SLEA-EQBLK-3-081519	08/15/2019	320-53349-12	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
SLEA-FB-2-081519	08/15/2019	320-53349-11	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
SLEA-EQBLK-091319	09/13/2019	320-54392-4	Hfpo Dimer Acid	0.0040	UG/L	PQL		0.0040	UJ	537 Modified		3535_PFC
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	N-ethylperfluoro-1-octanesulfonamide	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	N-ethylperfluoro-1-octanesulfonamide	11	UG/KG	PQL		11	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	3.9	UG/KG	PQL		3.9	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	N-methyl perfluoro-1-octanesulfonamide	1.8	UG/KG	PQL		1.8	UJ	537 Modified		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	10:2 Fluorotelomer sulfonate	1.6	UG/KG	PQL		1.6	UJ	537 Modified		Shake_Bath_14D
SEEP-A-RIVERSOIL-091319	09/13/2019	320-54392-2	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
SEEP-A-RIVERSOIL-091319	09/13/2019	320-54392-2	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-1 FH	08/01/2019	320-52951-10	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	N-ethyl perfluorooctane sulfonamidoacetic acid	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluoroundecanoic Acid	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	N-methyl perfluorooctane sulfonamidoacetic acid	15	UG/KG	PQL		15	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	N-ethyl perfluorooctane sulfonamidoacetic acid	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorododecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-2 CC	08/01/2019	320-52951-11	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorododecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-3 BC	08/01/2019	320-52951-12	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Hfpo Dimer Acid	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-4 LMB	08/02/2019	320-52951-17	N-methyl perfluorooctane sulfonamidoacetic acid	88	UG/KG	PQL		88	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluoropentanoic Acid	1.7	UG/KG	PQL		1.7	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	6:2 Fluorotelomer sulfonate	34	UG/KG	PQL		34	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	N-ethyl perfluorooctane sulfonamidoacetic acid	84	UG/KG	PQL		84	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	PFOA	1.9	UG/KG	PQL		1.9	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	57	UG/KG	PQL		57	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorooctane Sulfonamide	1.9	UG/KG	PQL		1.9	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	9Cl-PF3ONS	1.6	UG/KG	PQL		1.6	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	84	UG/KG	PQL		84	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorododecane sulfonic acid (PFDoS)	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-4 LMB	08/02/2019	320-52951-17	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	6:2 Fluorotelomer sulfonate	35	UG/KG	PQL		35	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorobutanoic Acid	6.5	UG/KG	PQL		6.5	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	86	UG/KG	PQL		86	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	1H,1H,2H,2H-perfluorodecanesulf	58	UG/KG	PQL		58	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			onate (8:2 FTS)									
MM-68-5 LMB	08/01/2019	320-52951-18	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorotetradecanoic Acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-5 LMB	08/01/2019	320-52951-18	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorohexadecanoic acid (PFHxDA)	1.6	UG/KG	PQL		1.6	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	10:2 Fluorotelomer sulfonate	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-veg	07/25/2019	320-52868-11	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	10:2 Fluorotelomer sulfonate	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	PFOS	0.50	UG/KG	PQL		0.50	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	N-ethyl perfluorooctane sulfonamidoacetic	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			acid									
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	1H,1H,2H,2H-perfluorohexanesulf	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			onate (4:2 FTS)									
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-inv	07/25/2019	320-52868-12	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	NVHOS	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PES	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PMPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Hfpo Dimer Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFECA B	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-soil-0-0.5	07/25/2019	320-52868-3	PEPA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO2HxA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO3OA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFO5DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFMOAA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFESA-BP2	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-soil-0-0.5	07/25/2019	320-52868-3	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFECA-G	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Hydro-EVE Acid	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Byproduct 6	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFESA-BP1	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason One or more surrogates had relative percent recovery (RPR) values less than the data rejection level. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-7-INV-081919	08/19/2019	320-53490-6	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU-7-INV-081919	08/19/2019	320-53490-6	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-LMB	09/27/2019	320-54836-16	Perfluorooctadecanoic acid	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR Bladen-01-LMB	09/27/2019	320-54836-16	Perfluorohexadecanoic acid (PFHxDA)	1.7	UG/KG	PQL		1.7	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason One or more surrogates had relative percent recovery (RPR) values less than the data rejection level. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
WC-WORM-092419	09/24/2019	320-54699-11	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-INV-01-02-03 COMP	10/21/2019	320-55583-21	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED1-VEG-20191021	10/21/2019	320-55583-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-03-20191021	10/21/2019	320-55583-20	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
SLEA-CFR-ACINV-02-20191021	10/21/2019	320-55583-19	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep B-01-Spotted bass	09/24/2019	320-54836-2	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep B-01-Spotted bass	09/24/2019	320-54836-2	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	Perfluorooctadecanoic acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	Perfluorohexadecanoic acid (PFHxDA)	2.1	UG/KG	PQL		2.1	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-veg	07/25/2019	320-52868-7	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	39	UG/KG	PQL		39	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorohexadecanoic acid (PFHxDA)	6.8	UG/KG	PQL		6.8	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorooctane Sulfonamide	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	10:2 Fluorotelomer sulfonate	4.0	UG/KG	PQL		4.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorooctadecanoic acid	4.4	UG/KG	PQL		4.4	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFOS	3.1	UG/KG	PQL		3.1	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluoropentanoic Acid	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	6:2 Fluorotelomer sulfonate	23	UG/KG	PQL		23	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFOA	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-veg	07/25/2019	320-52868-7	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	N-ethyl perfluorooctane sulfonamidoacetic acid	120	UG/KG	PQL		120	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorohexanoic Acid	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorododecanoic Acid	22	UG/KG	PQL		22	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFOA	28	UG/KG	PQL		28	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorodecanoic Acid	7.2	UG/KG	PQL		7.2	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorodecane Sulfonic Acid	13	UG/KG	PQL		13	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorohexane Sulfonic Acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorobutanoic Acid	9.1	UG/KG	PQL		9.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorobutane Sulfonic Acid	5.1	UG/KG	PQL		5.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoroheptanoic Acid	9.5	UG/KG	PQL		9.5	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoroheptane sulfonic acid (PFHpS)	11	UG/KG	PQL		11	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorononanoic Acid	12	UG/KG	PQL		12	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorotetradecanoic Acid	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	820	UG/KG	PQL		820	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorohexadecanoic acid (PFHxDA)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorononanesulfonic acid	6.5	UG/KG	PQL		6.5	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorotridecanoic Acid	17	UG/KG	PQL		17	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorooctane Sulfonamide	27	UG/KG	PQL		27	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	9Cl-PF3ONS	23	UG/KG	PQL		23	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-inv	07/25/2019	320-52868-8	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	120	UG/KG	PQL		120	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	11Cl-PF3OUdS	7.2	UG/KG	PQL		7.2	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorododecane sulfonic acid (PFDoS)	20	UG/KG	PQL		20	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	ADONA	6.1	UG/KG	PQL		6.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFOS (trial)	65	UG/KG	PQL		65	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFOA(trial)	28	UG/KG	PQL		28	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorobutanoic Acid (trial)	9.1	UG/KG	PQL		9.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoropentanoic Acid (trial)	25	UG/KG	PQL		25	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorohexanoic Acid (trial)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoroheptanoic Acid (trial)	9.5	UG/KG	PQL		9.5	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorononanoic Acid (trial)	12	UG/KG	PQL		12	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorodecanoic Acid (trial)	7.2	UG/KG	PQL		7.2	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoroundecanoic Acid (trial)	12	UG/KG	PQL		12	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorododecanoic Acid (trial)	22	UG/KG	PQL		22	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorobutane Sulfonic Acid (trial)	5.1	UG/KG	PQL		5.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorohexane Sulfonic Acid (trial)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorooctane Sulfonamide (trial)	27	UG/KG	PQL		27	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Hfpo Dimer Acid (trial)	36	UG/KG	PQL		36	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	N-ethyl perfluorooctane sulfonamidoacetic acid (TRIAL)	120	UG/KG	PQL		120	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	N-methyl perfluorooctane sulfonamidoacetic acid (TRIAL)	130	UG/KG	PQL		130	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorotetradecanoic acid (TRIAL)	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-inv	07/25/2019	320-52868-8	Perfluorotridecanoic Acid (TRIAL)	17	UG/KG	PQL		17	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	NaDONA	6.2	UG/KG	PQL		6.2	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	10:2 FTS (trial)	85	UG/KG	PQL		85	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	8:2 FTS (trial)	820	UG/KG	PQL		820	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	4:2 FTS (trial)	120	UG/KG	PQL		120	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	6:2 FTS (trial)	490	UG/KG	PQL		490	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	ADONA (trial)	6.1	UG/KG	PQL		6.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	NaDONA (trial)	6.2	UG/KG	PQL		6.2	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFDS (trial)	13	UG/KG	PQL		13	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFDoS (trial)	20	UG/KG	PQL		20	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFHpS (trial)	11	UG/KG	PQL		11	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFHxDA (trial)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorononanesulfonic acid (trial)	6.5	UG/KG	PQL		6.5	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorooctadecanoic acid (trial)	9.1	UG/KG	PQL		9.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFPeS (trial)	6.5	UG/KG	PQL		6.5	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	10:2 Fluorotelomer sulfonate	0.50	UG/KG	PQL		0.50	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	3.7	UG/KG	PQL		3.7	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	10:2 Fluorotelomer sulfonate	85	UG/KG	PQL		85	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Hfpo Dimer Acid	36	UG/KG	PQL		36	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluorooctadecanoic acid	9.1	UG/KG	PQL		9.1	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFOS	65	UG/KG	PQL		65	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoroundecanoic Acid	12	UG/KG	PQL		12	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	N-methyl perfluorooctane sulfonamidoacetic acid	130	UG/KG	PQL		130	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoropentanoic Acid	25	UG/KG	PQL		25	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	Perfluoropentane sulfonic acid (PFPeS)	6.5	UG/KG	PQL		6.5	UJ	537 Modified		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	6:2 Fluorotelomer sulfonate	490	UG/KG	PQL		490	UJ	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	10:2 Fluorotelomer sulfonate	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-1 BC	07/31/2019	320-52951-5	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	N-ethyl perfluorooctane sulfonamidoacetic acid	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	12	UG/KG	PQL		12	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	10:2 Fluorotelomer sulfonate	4.1	UG/KG	PQL		4.1	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Hfpo Dimer Acid	1.7	UG/KG	PQL		1.7	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFOS	3.2	UG/KG	PQL		3.2	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluoroundecanoic Acid	5.7	UG/KG	PQL		5.7	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	N-methyl perfluorooctane	62	UG/KG	PQL		62	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			sulfonamidoacetic acid									
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluoropentanoic Acid	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	6:2 Fluorotelomer sulfonate	24	UG/KG	PQL		24	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	N-ethyl perfluorooctane sulfonamidoacetic acid	59	UG/KG	PQL		59	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	40	UG/KG	PQL		40	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	9Cl-PF3ONS	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	59	UG/KG	PQL		59	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PFOA	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-06-3 BC	07/31/2019	320-52951-9	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	N-ethyl perfluorooctane sulfonamidoacetic acid	14	UG/KG	PQL		14	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorododecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	10:2 Fluorotelomer sulfonate	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	2-(N-ethyl perfluoro-1-	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			octanesulfonamido)-ethanol									
CFR-09-1 BC	07/31/2019	320-52951-7	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	N-ethyl perfluorooctane sulfonamidoacetic acid	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	12	UG/KG	PQL		12	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-1 BC	07/31/2019	320-52951-7	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	18	UG/KG	PQL		18	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	10:2 Fluorotelomer sulfonate	4.8	UG/KG	PQL		4.8	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Hfpo Dimer Acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorooctadecanoic acid	5.1	UG/KG	PQL		5.1	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	9Cl-PF3ONS	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	68	UG/KG	PQL		68	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorododecane sulfonic acid (PFDoS)	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluoropentanoic Acid	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	6:2 Fluorotelomer sulfonate	28	UG/KG	PQL		28	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	PFOA	1.6	UG/KG	PQL		1.6	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorohexadecanoic acid (PFHxDA)	8.1	UG/KG	PQL		8.1	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	46	UG/KG	PQL		46	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	N-ethyl perfluorooctane sulfonamidoacetic acid	17	UG/KG	PQL		17	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorododecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-1 LMB	07/30/2019	320-52951-1	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	11	UG/KG	PQL		11	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	17	UG/KG	PQL		17	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-1 LMB	07/30/2019	320-52951-1	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	10:2 Fluorotelomer sulfonate	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorododecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	11	UG/KG	PQL		11	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	10:2 Fluorotelomer sulfonate	4.5	UG/KG	PQL		4.5	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	10:2 Fluorotelomer sulfonate	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Hfpo Dimer Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	2-(N-ethyl perfluoro-1-	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			octanesulfonamido)-ethanol									
DERC-3 LMB	07/30/2019	320-52951-3	Hfpo Dimer Acid	19	UG/KG	PQL		19	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluoropentanoic Acid	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFOA	1.5	UG/KG	PQL		1.5	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorobutanoic Acid	4.9	UG/KG	PQL		4.9	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorooctane Sulfonamide	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	9Cl-PF3ONS	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB	07/30/2019	320-52951-3	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	10:2 Fluorotelomer sulfonate	8.2	UG/KG	PQL		8.2	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Hfpo Dimer Acid	1.7	UG/KG	PQL		1.7	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluoropentanoic Acid	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	44	UG/KG	PQL		44	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFOA	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorobutanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	79	UG/KG	PQL		79	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorooctane Sulfonamide	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	9Cl-PF3ONS	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorooctane Sulfonamide	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFOS	2.7	UG/KG	PQL		2.7	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFOA	1.2	UG/KG	PQL		1.2	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-veg	07/25/2019	320-52868-11	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	34	UG/KG	PQL		34	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	10:2 Fluorotelomer sulfonate	1.3	UG/KG	PQL		1.3	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Hfpo Dimer Acid	5.5	UG/KG	PQL		5.5	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorooctadecanoic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFOS	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluoroundecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	N-methyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluoropentanoic Acid	3.9	UG/KG	PQL		3.9	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	6:2 Fluorotelomer sulfonate	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-inv	07/25/2019	320-52868-12	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorododecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	N-methyl perfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	PFOA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorodecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorohexane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorobutanoic Acid	1.4	UG/KG	PQL		1.4	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorobutane Sulfonic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluoroheptanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluoroheptane sulfonic acid (PFHpS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorononanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorotetradecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	13	UG/KG	PQL		13	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	N-ethylperfluoro-1-octanesulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorononanesulfonic acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorotridecanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorooctane Sulfonamide	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	9Cl-PF3ONS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-inv	07/25/2019	320-52868-12	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-inv	07/25/2019	320-52868-12	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	10:2 Fluorotelomer sulfonate	0.51	UG/KG	PQL		0.51	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Hfpo Dimer Acid	0.25	UG/KG	PQL		0.25	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorooctadecanoic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluoroundecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	N-methyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluoropentanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluoropentane sulfonic acid (PFPeS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	6:2 Fluorotelomer sulfonate	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	N-ethyl perfluorooctane sulfonamidoacetic acid	2.0	UG/KG	PQL		2.0	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorohexanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorododecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	N-methyl perfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFOA	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorodecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorodecane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorohexane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorobutanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorobutane Sulfonic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluoroheptanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluoroheptane sulfonic acid (PFHpS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorononanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorotetradecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	1H,1H,2H,2H-perfluorodecanesulfonate (8:2 FTS)	2.5	UG/KG	PQL		2.5	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	N-ethylperfluoro-1-octanesulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorohexadecanoic acid (PFHxDA)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorononanesulfonic acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorotridecanoic Acid	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorooctane Sulfonamide	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	9Cl-PF3ONS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	1H,1H,2H,2H-perfluorohexanesulfonate (4:2 FTS)	3.8	UG/KG	PQL		3.8	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	11Cl-PF3OUdS	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	Perfluorododecane sulfonic acid (PFDoS)	0.20	UG/KG	PQL		0.20	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	ADONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	9Cl-PF3ONS	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	1H,1H,2H,2H-perfluorohexanesulf	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			onate (4:2 FTS)									
EU2-veg	07/25/2019	320-52868-7	11Cl-PF3OUdS	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorododecane sulfonic acid (PFDoS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	ADONA	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	NaDONA	1.1	UG/KG	PQL		1.1	UJ	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	NaDONA	0.21	UG/KG	PQL		0.21	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	10:2 Fluorotelomer sulfonate	3.5	UG/KG	PQL		3.5	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluoropentanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluoropentane sulfonic acid (PFPeS)	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	6:2 Fluorotelomer sulfonate	20	UG/KG	PQL		20	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	N-ethyl perfluorooctane sulfonamidoacetic acid	10	UG/KG	PQL		10	UJ	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorohexanoic Acid	1.0	UG/KG	PQL		1.0	UJ	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
WC-WORM-092419	09/24/2019	320-54699-11	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFO4DA	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORMSOIL-092419	09/24/2019	320-54699-8	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORMSOIL-092419	09/24/2019	320-54699-8	R-EVE	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORMSOIL-092419	09/24/2019	320-54699-8	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORMSOIL-092419	09/24/2019	320-54699-8	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORMSOIL-092419	09/24/2019	320-54699-8	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORMSOIL-092419	09/24/2019	320-54699-8	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-SOIL-092419	09/24/2019	320-54699-6	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-SOIL-092419	09/24/2019	320-54699-6	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-SOIL-092419	09/24/2019	320-54699-6	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-SOIL-092419	09/24/2019	320-54699-6	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFECA-G	1.0	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFECA-G	1.1	UG/KG	PQL		1.1	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFO4DA	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFO4DA	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The non-detect reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFECA-G	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFECA-G	1.2	UG/KG	PQL		1.2	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Byproduct 4	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Byproduct 5	1.0	UG/KG	PQL		1.0	UJ	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-INV-091219	09/12/2019	320-54302-5	Hfpo Dimer Acid	19.0	UG/KG	PQL		3.1	J	537 Modified		Shake_Bath_14D
CFR Bladen-04-LMB	09/27/2019	320-54836-19	Perfluorohexadecanoic acid (PFHxDA)	1.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	Perfluorooctadecanoic acid	1.8	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-04-LMB	09/27/2019	320-54836-19	Perfluorooctadecanoic acid	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	Perfluorohexadecanoic acid (PFHxDA)	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	Perfluorooctadecanoic acid	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	Perfluorohexadecanoic acid (PFHxDA)	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Perfluorohexadecanoic acid (PFHxDA)	2.2	UG/KG	PQL		1.3	J	537 Modified		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Byproduct 5	13	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Byproduct 5	13.0	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Pond-1-SE-072419	07/24/2019	280-126823-4	PFO5DA	0.010	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419	07/24/2019	280-126823-4	PFO5DA	0.01	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	PFO5DA	0.0099	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	PFO5DA	0.0095	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419-2	07/24/2019	280-126823-1	PFO5DA	0.010	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419-2	07/24/2019	280-126823-1	PFO5DA	0.0097	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NE-072419	07/24/2019	280-126823-2	PFO5DA	0.0097	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NE-072419	07/24/2019	280-126823-2	PFO5DA	0.0093	ug/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Perfluorohexadecanoic acid (PFHxDA)	3.3	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Byproduct 5	11	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Byproduct 5	11.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Perfluorohexadecanoic acid (PFHxDA)	5.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Byproduct 5	97.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Byproduct 5	84.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	Byproduct 5	2.5	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	Byproduct 5	2.3	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	Perfluorohexadecanoic acid (PFHxDA)	1.4	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Byproduct 5	2.5	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Byproduct 5	2.8	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Perfluorohexadecanoic acid (PFHxDA)	8.7	UG/KG	PQL		1.1	J	537 Modified		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Perfluorohexadecanoic acid (PFHxDA)	2.3	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-VEG-091219	09/12/2019	320-54302-4	R-EVE	7.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	R-EVE	7.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	Byproduct 4	6.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	Byproduct 4	7.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	R-EVE	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-INV-091219	09/12/2019	320-54302-5	R-EVE	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	R-EVE	8.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Byproduct 4	2.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Byproduct 4	2.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-07-CM-072519	07/25/2019	320-52969-6	R-EVE	0.0036	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CM-072519	07/25/2019	320-52969-6	R-EVE	0.0034	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CM-072519	07/25/2019	320-52969-6	Byproduct 4	0.0054	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CM-072519	07/25/2019	320-52969-6	Byproduct 4	0.0047	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CM-072519	07/25/2019	320-52969-6	Byproduct 5	0.0096	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CM-072519	07/25/2019	320-52969-6	Byproduct 5	0.01	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CT-072519	07/25/2019	320-52969-5	R-EVE	0.0027	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-07-CT-072519	07/25/2019	320-52969-5	R-EVE	0.0026	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CT-072519	07/25/2019	320-52969-5	Byproduct 4	0.0089	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CT-072519	07/25/2019	320-52969-5	Byproduct 5	0.0066	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-CT-072519	07/25/2019	320-52969-5	Byproduct 5	0.0066	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519	07/25/2019	320-52969-7	R-EVE	0.0029	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519	07/25/2019	320-52969-7	R-EVE	0.0026	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519	07/25/2019	320-52969-7	Byproduct 4	0.0075	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519	07/25/2019	320-52969-7	Byproduct 4	0.007	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519	07/25/2019	320-52969-7	Byproduct 5	0.0031	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519	07/25/2019	320-52969-7	Byproduct 5	0.003	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519-2	07/25/2019	320-52969-8	R-EVE	0.0028	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519-2	07/25/2019	320-52969-8	R-EVE	0.0031	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519-2	07/25/2019	320-52969-8	Byproduct 4	0.0069	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519-2	07/25/2019	320-52969-8	Byproduct 4	0.0068	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519-2	07/25/2019	320-52969-8	Byproduct 5	0.0031	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-E-072519-2	07/25/2019	320-52969-8	Byproduct 5	0.0031	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-W-072519	07/25/2019	320-52969-4	R-EVE	0.0033	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
CFR-07-W-072519	07/25/2019	320-52969-4	R-EVE	0.0033	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-W-072519	07/25/2019	320-52969-4	Byproduct 4	0.0065	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-W-072519	07/25/2019	320-52969-4	Byproduct 4	0.007	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-W-072519	07/25/2019	320-52969-4	Byproduct 5	0.019	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-CM-072519	07/25/2019	320-52969-2	R-EVE	0.0027	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-CM-072519	07/25/2019	320-52969-2	R-EVE	0.0033	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-CT-072519	07/25/2019	320-52969-1	R-EVE	0.0038	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-CT-072519	07/25/2019	320-52969-1	Byproduct 4	0.0055	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-E-072519	07/25/2019	320-52969-3	Byproduct 4	0.0076	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-E-072519	07/25/2019	320-52969-3	Byproduct 4	0.0084	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-W-072519	07/25/2019	320-52969-9	Byproduct 4	0.0048	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-W-072519	07/25/2019	320-52969-9	Byproduct 4	0.0047	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-W-072519	07/25/2019	320-52969-9	Byproduct 5	0.0025	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-W-072519	07/25/2019	320-52969-9	Byproduct 5	0.0025	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	R-EVE	1.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO4DA	3.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFO4DA	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	R-EVE	3.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	R-EVE	4.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	Byproduct 5	1.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	Byproduct 5	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	Byproduct 4	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	Byproduct 4	2.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	R-EVE	13	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	R-EVE	14.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	Byproduct 4	57	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	Byproduct 4	56.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	Byproduct 5	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	Byproduct 5	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	Byproduct 4	1.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	Byproduct 4	1.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	R-EVE	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	R-EVE	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-9-VEG-082119	08/21/2019	320-53607-2	NVHOS	34	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	R-EVE	16	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	R-EVE	19.0	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	Byproduct 4	13	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	Byproduct 4	15.0	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	Byproduct 4	3.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	Byproduct 4	3.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	NVHOS	50	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	NVHOS	50.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	R-EVE	10	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	R-EVE	11.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Byproduct 4	11	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Byproduct 4	12.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	R-EVE	8.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	R-EVE	8.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	R-EVE	26	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
INTAKE-WORM-092419	09/24/2019	320-54699-9	R-EVE	27.0	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Byproduct 4	95	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	Byproduct 4	3.6	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	Byproduct 4	3.6	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Pond-1-SE-072419	07/24/2019	280-126823-4	R-EVE	0.058	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419	07/24/2019	280-126823-4	R-EVE	0.059	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419	07/24/2019	280-126823-4	Byproduct 4	0.094	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419	07/24/2019	280-126823-4	Byproduct 4	0.097	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	R-EVE	0.055	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	R-EVE	0.057	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	Byproduct 4	0.096	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NW-072419	07/24/2019	280-126823-3	Byproduct 4	0.1	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419-2	07/24/2019	280-126823-1	R-EVE	0.057	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419-2	07/24/2019	280-126823-1	R-EVE	0.053	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419-2	07/24/2019	280-126823-1	Byproduct 4	0.099	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-SE-072419-2	07/24/2019	280-126823-1	Byproduct 4	0.092	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-EAST-091219	09/12/2019	320-54303-3	R-EVE	0.053	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
POND-B-EAST-091219	09/12/2019	320-54303-3	R-EVE	0.053	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-EAST-091219	09/12/2019	320-54303-3	Byproduct 4	0.14	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-EAST-091219	09/12/2019	320-54303-3	Byproduct 4	0.14	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-SOUTH-091219	09/12/2019	320-54303-4	R-EVE	0.053	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-SOUTH-091219	09/12/2019	320-54303-4	R-EVE	0.058	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-SOUTH-091219	09/12/2019	320-54303-4	Byproduct 4	0.15	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-SOUTH-091219	09/12/2019	320-54303-4	Byproduct 4	0.16	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-WEST-091219	09/12/2019	320-54303-2	R-EVE	0.052	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-WEST-091219	09/12/2019	320-54303-2	R-EVE	0.049	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-WEST-091219	09/12/2019	320-54303-2	Byproduct 4	0.13	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-WEST-091219	09/12/2019	320-54303-2	Byproduct 4	0.12	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NE-072419	07/24/2019	280-126823-2	R-EVE	0.052	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NE-072419	07/24/2019	280-126823-2	R-EVE	0.052	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NE-072419	07/24/2019	280-126823-2	Byproduct 4	0.090	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
Pond-1-NE-072419	07/24/2019	280-126823-2	Byproduct 4	0.09	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PFO4DA	2.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PFO4DA	3.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	R-EVE	15	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	R-EVE	28	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	R-EVE	29.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	Byproduct 4	1.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	Byproduct 4	1.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	R-EVE	1.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	R-EVE	2.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	Byproduct 4	1.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	Byproduct 4	1.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	R-EVE	14	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	R-EVE	14.0	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Byproduct 4	48	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Byproduct 4	51.0	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Byproduct 5	78	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Byproduct 5	82.0	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFMOAA	230.0	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFMOAA	210	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PFMOAA	21	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	R-EVE	47	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	R-EVE	42.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	R-EVE	27.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	R-EVE	25.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	Byproduct 4	57	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	Byproduct 4	60.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORMSOIL-092619	09/26/2019	320-54770-6	PFO2HxA	24	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORMSOIL-092619	09/26/2019	320-54770-6	PFO2HxA	23.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Byproduct 4	64.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Byproduct 4	71.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	Byproduct 4	1.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	Byproduct 4	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	R-EVE	1.7	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	R-EVE	1.4	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	Byproduct 4	1.4	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	Byproduct 4	1.3	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Byproduct 4	49	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Byproduct 4	46.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	Perfluorobutane Sulfonic Acid	1.2	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-8-Soil-4-4.5-081319	08/13/2019	320-53349-1	Percent Moisture	10.5	%	PQL		0.1	J	D2216-90		
EU-8-Soil-4-4.5-081319-D	08/13/2019	320-53349-2	Percent Moisture	27.6	%	PQL		0.1	J	D2216-90		
INTAKE-WORM-092419	09/24/2019	320-54699-9	PEPA	12.0	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PMPA	23.0	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PMPA	14	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PMPA	14.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	Hfpo Dimer Acid	24.0	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.9	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PEPA	4.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PEPA	4.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFOA	1.8	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFO2HxA	16	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFO2HxA	16.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFMOAA	2.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	PFMOAA	2.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PEPA	5.7	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PEPA	5.8	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PMPA	3.9	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PMPA	3.3	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Perfluorotridecanoic Acid	3.0	UG/KG	PQL		1.5	J	537 Modified		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	Byproduct 4	95.0	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Perfluorotridecanoic Acid	6.6	UG/KG	PQL		1.4	J	537 Modified		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PMPA	24	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PMPA	27.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	Hfpo Dimer Acid	35.0	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	4.4	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PEPA	7.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PEPA	8.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFOA	1.2	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	Perfluorobutanoic Acid	2.3	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFO2HxA	19	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFO2HxA	20.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFMOAA	4.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	PFMOAA	5.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Byproduct 4	120	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	Byproduct 4	130.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Only one surrogate has relative percent recovery (RPR) values outside control limits and the parameter is a PFC (Detects).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Hfpo Dimer Acid	0.43	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
CFR Bladen-01-LMB	09/27/2019	320-54836-16	Perfluorotetradecanoic Acid	12	UG/KG	PQL		2.1	J	537 Modified		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	Perfluorotetradecanoic Acid	13	UG/KG	PQL		2.6	J	537 Modified		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	Perfluorotetradecanoic Acid	9.5	UG/KG	PQL		1.1	J	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Perfluorooctane Sulfonamide	5.3	UG/KG	PQL		4.0	J	537 Modified		Shake_Bath_14D
Seep B-01-Spotted bass	09/24/2019	320-54836-2	Perfluorotetradecanoic Acid	3.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Perfluorotetradecanoic Acid	22.0	UG/KG	PQL		1.4	J	537 Modified		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	Perfluorobutanoic Acid	2.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	Perfluorotetradecanoic Acid	13.0	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-VEG-091219	09/12/2019	320-54302-4	PEPA	11.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	R-EVE	11.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-07-CT-072519	07/25/2019	320-52969-5	Byproduct 4	0.0077	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-07-W-072519	07/25/2019	320-52969-4	Byproduct 5	0.021	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-CT-072519	07/25/2019	320-52969-1	R-EVE	0.0027	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR-04-CT-072519	07/25/2019	320-52969-1	Byproduct 4	0.004	UG/L	PQL		0.0020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFMOAA	5.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFO4DA	110	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFO4DA	90	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PMPA	4.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	R-EVE	13.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Byproduct 4	55	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Byproduct 4	65.0	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PMPA	130.0	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	PMPA	150	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PMPA	12.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	NVHOS	9.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-9-VEG-082119	08/21/2019	320-53607-2	NVHOS	38.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PEPA	8.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PMPA	140	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PMPA	20.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFECA B	11.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO4DA	130	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO4DA	150	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	R-EVE	20.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PMPA	3.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PMPA	23	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PMPA	27.0	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	PFMOAA	23	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PMPA	6.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PMPA	4.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFO5DA	210.0	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PFO2HxA	12	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PFO2HxA	10.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PFO5DA	10	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PFO5DA	8.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	PFMOAA	18.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFO5DA	27	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFO5DA	34.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Byproduct 4	220	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Byproduct 4	180.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO2HxA	15.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO3OA	21.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO5DA	18.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	R-EVE	31	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	R-EVE	35.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	PFMOAA	7.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	PFMOAA	8.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	PFO2HxA	6.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	PFO2HxA	7.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFESA-BP2	14.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PEPA	12	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	PEPA	10	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	PFMOAA	370	UG/KG	PQL		2.4	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	PFMOAA	160	UG/KG	PQL		2.4	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	PFO2HxA	29	UG/KG	PQL		2.4	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED3-VEG-20191021	10/21/2019	320-55583-3	PFO2HxA	20	UG/KG	PQL		2.4	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded by a factor of 2. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Percent Moisture	0.1	%	PQL		0.1	J	D2216-90		
CFR Bladen-01-LMB	09/27/2019	320-54836-16	Percent Moisture	76.5	%	PQL		0.1	J	D2216-90		
EU-11-soil-0-0.5	07/31/2019	320-52871-15	Percent Moisture	1.7	%	PQL		0.1	J	D2216-90		
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Percent Moisture	3.4	%	PQL		0.1	J	D2216-90		
EU2-soil-0-0.5	07/25/2019	320-52868-1	Percent Moisture	4.0	%	PQL		0.1	J	D2216-90		
EU6-soil-0-0.5	07/25/2019	320-52868-3	Percent Moisture	5.1	%	PQL		0.1	J	D2216-90		
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	Percent Moisture	79.6	%	PQL		0.1	J	D2216-90		
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	Percent Moisture	74.9	%	PQL		0.1	J	D2216-90		
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	Percent Moisture	76.3	%	PQL		0.1	J	D2216-90		
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	Percent Moisture	76.3	%	PQL		0.1	J	D2216-90		

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorotridecanoic Acid	6.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorobutane Sulfonic Acid	4.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorodecanoic Acid	11.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorodecane Sulfonic Acid	1.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorododecanoic Acid	11.0	UG/KG	PQL		1.1	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFOS	4700.0	UG/KG	PQL		63	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluoroundecanoic Acid	24.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorotridecanoic Acid	4.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorotetradecanoic Acid	2.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorobutane Sulfonic Acid	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorodecanoic Acid	4.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorodecane Sulfonic Acid	1.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluorododecanoic Acid	4.9	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFOS	93.0	UG/KG	PQL		3.5	J	537 Modified		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	Perfluoroundecanoic Acid	9.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-1 LMB	07/30/2019	320-52951-1	PFOS	14.0	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	PFOS	12.0	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
DERC-2 LMB	07/30/2019	320-52951-2	Perfluoroundecanoic Acid	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorooctane Sulfonamide	1.8	UG/KG	PQL		1.5	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorotridecanoic Acid	2.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorotetradecanoic Acid	2.8	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorobutane Sulfonic Acid	12.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluorododecanoic Acid	2.7	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC	07/31/2019	320-52951-8	PFOS	8.3	UG/KG	PQL		3.7	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	Perfluoroundecanoic Acid	1.8	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorodecane Sulfonic Acid	1.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorobutane Sulfonic Acid	22.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluorododecanoic Acid	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	Perfluoroundecanoic Acid	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluorododecanoic Acid	1.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 BC	07/31/2019	320-52951-7	Perfluoroundecanoic Acid	1.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-3 BC	07/31/2019	320-52951-9	Perfluorobutane Sulfonic Acid	6.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorooctane Sulfonamide	2.2	UG/KG	PQL		1.3	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorotetradecanoic Acid	6.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorobutane Sulfonic Acid	20.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorodecanoic Acid	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorotridecanoic Acid	4.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	Perfluorododecanoic Acid	6.4	UG/KG	PQL		1.1	J	537 Modified		Shake_Bath_14D
CFR-06-1 BC	07/31/2019	320-52951-5	Perfluorododecanoic Acid	1.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	Perfluorotetradecanoic Acid	4.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-11-inv	07/31/2019	320-52871-17	Perfluorohexanoic Acid	2.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorododecanoic Acid	2.3	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Perfluorobutanoic Acid	2.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Hfpo Dimer Acid	6.0	UG/KG	PQL		1.3	J	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorododecanoic Acid	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluoropentanoic Acid	3.0	UG/KG	PQL		1.1	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded by a factor of 2. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-3-veg	07/31/2019	320-52871-2	Hfpo Dimer Acid	6.6	UG/KG	PQL		1.5	J	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Perfluorobutanoic Acid	2.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	Perfluorobutane Sulfonic Acid	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.34	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU2-soil-0-0.5	07/25/2019	320-52868-1	PFOS	0.55	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorobutanoic Acid	13.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Perfluorododecanoic Acid	3.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Hfpo Dimer Acid	110.0	UG/KG	PQL		1.7	J	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorododecanoic Acid	4.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Hfpo Dimer Acid	5.7	UG/KG	PQL		1.5	J	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.2	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU6-soil-0-0.5	07/25/2019	320-52868-3	PFOS	0.73	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Perfluorobutanoic Acid	2.3	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-10-INV-082119	08/21/2019	320-53607-6	Percent Moisture	68.6	%	PQL		0.1	J	D2216-90		
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Percent Moisture	9.2	%	PQL		0.1	J	D2216-90		
EU-10-VEG-082119	08/21/2019	320-53607-5	Percent Moisture	62.2	%	PQL		0.1	J	D2216-90		
EU-12-SOIL-4-4.5-082219	08/22/2019	320-53607-11	Percent Moisture	10.2	%	PQL		0.1	J	D2216-90		
EU-2-SOIL-4-4.5-082219	08/22/2019	320-53607-10	Percent Moisture	11.2	%	PQL		0.1	J	D2216-90		
EU-3-SOIL-4-4.5-082219	08/22/2019	320-53607-9	Percent Moisture	5.5	%	PQL		0.1	J	D2216-90		
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	Percent Moisture	11.3	%	PQL		0.1	J	D2216-90		
EU-5-SOIL-0-.5-082319	08/23/2019	320-53637-1	Percent Moisture	12.7	%	PQL		0.1	J	D2216-90		
EU-7-Soil-4-4.5-081419	08/14/2019	320-53349-4	Percent Moisture	15.4	%	PQL		0.1	J	D2216-90		
EU10-SOIL-4-4.5-082719	08/27/2019	320-53747-2	Percent Moisture	5.2	%	PQL		0.1	J	D2216-90		
EU-9-INV-082119	08/21/2019	320-53607-3	Percent Moisture	64.4	%	PQL		0.1	J	D2216-90		
EU-9-VEG-082119	08/21/2019	320-53607-2	Percent Moisture	80.3	%	PQL		0.1	J	D2216-90		
EU9-SOIL-4-4.5-082719	08/27/2019	320-53747-1	Percent Moisture	2.2	%	PQL		0.1	J	D2216-90		
INTAK-WORM-SOIL-092419	09/24/2019	320-54699-2	Percent Moisture	48.7	%	PQL		0.1	J	D2216-90		
INTAKE-WORMSOIL-092419-D	09/24/2019	320-54699-3	Percent Moisture	59.2	%	PQL		0.1	J	D2216-90		
SEEP-A-RIVERSOIL-091319	09/13/2019	320-54392-2	Percent Moisture	34.5	%	PQL		0.1	J	D2216-90		
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Percent Moisture	92.0	%	PQL		0.1	J	D2216-90		
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Percent Moisture	38.3	%	PQL		0.1	J	D2216-90		
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	Percent Moisture	20.1	%	PQL		0.1	J	D2216-90		
WC-WORMSOIL-092419	09/24/2019	320-54699-8	Percent Moisture	25.2	%	PQL		0.1	J	D2216-90		

Site: Fayetteville **Sampling Program:** 2019 SLEA SAMPLING **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values less than the lower control limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-10-INV-082119	08/21/2019	320-53607-6	PMPA	4.2	UG/KG	PQL		1.7	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-INV-082119	08/21/2019	320-53607-6	PMPA	4.2	UG/KG	PQL		1.7	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	Hfpo Dimer Acid	3.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-INV-082119	08/21/2019	320-53607-3	Hfpo Dimer Acid	3.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-VEG-091219	09/12/2019	320-54302-4	PEPA	9.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFO2HxA	33	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFO2HxA	35.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFO3OA	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFO3OA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFO4DA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PFO4DA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	PFMOAA	2.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-03-Redbreast	09/27/2019	320-54836-13	PFMOAA	2.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	PFMOAA	8.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-03-LMB	09/27/2019	320-54836-18	PFMOAA	7.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	PFMOAA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-02-LMB	09/27/2019	320-54836-17	PFMOAA	1.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	PFMOAA	6.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-LMB	09/27/2019	320-54836-16	PFMOAA	21	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-01-LMB	09/27/2019	320-54836-16	PFMOAA	19	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PMPA	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	PFMOAA	2.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR Bladen-04-Redbreast	09/27/2019	320-54836-14	PFMOAA	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	R-EVE	11	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PES	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PES	3.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PMPA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-10-VEG-082119	08/21/2019	320-53607-5	PMPA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PMPA	63	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-1-VEG-091219	09/12/2019	320-54302-4	PMPA	66.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO2HxA	14	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PFO2HxA	15.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PEPA	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PEPA	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	PMPA	11	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	NVHOS	1.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	NVHOS	1.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-12-VEG-082019	08/20/2019	320-53490-13	PMPA	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PMPA	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFECA B	1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	PFECA B	1.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO2HxA	2.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-Soil-4-4.5-081319	08/13/2019	320-53349-3	PFO2HxA	2.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO2HxA	3.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PFO2HxA	3.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	NVHOS	8.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PES	3.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PES	3.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PMPA	5.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PMPA	5.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO4DA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO4DA	1.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO2HxA	2.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-5-VEG-082319	08/23/2019	320-53637-2	PFO2HxA	2.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PEPA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-5-VEG-082319	08/23/2019	320-53637-2	PEPA	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	NVHOS	17	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	NVHOS	16.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFO2HxA	4.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PFO2HxA	4.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PES	1.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PES	1.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PMPA	9.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PMPA	9.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PMPA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PMPA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PEPA	1.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-INV-081619	08/16/2019	320-53490-9	PEPA	1.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	PMPA	26	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	PMPA	27.0	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
EU-8-VEG-081619	08/16/2019	320-53490-8	PFO2HxA	9.4	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-8-VEG-081619	08/16/2019	320-53490-8	PFO2HxA	11.0	UG/KG	PQL		8.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	NVHOS	5.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	NVHOS	5.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFMOAA	4.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-9-VEG-082119	08/21/2019	320-53607-2	PFMOAA	5.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFESA-BP1	220.0	UG/KG	PQL		12	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-inv	07/25/2019	320-52868-8	PFESA-BP1	230	UG/KG	PQL		12	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PEPA	7.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PMPA	110.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO2HxA	21	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFO2HxA	20.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PMPA	23	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO2HxA	3.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFO2HxA	2.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PEPA	2.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU6-veg	07/25/2019	320-52868-11	PEPA	2.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFO3OA	1.5	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PFO3OA	1.4	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PEPA	12	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419	09/24/2019	320-54699-9	PMPA	23	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO5DA	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFO5DA	3.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFMOAA	18	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-02-Redbreast Sunfish	09/26/2019	320-54836-7	PFMOAA	16	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFMOAA	22.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PFMOAA	22	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep A-01-Redbreast Sunfish	09/24/2019	320-54836-1	PMPA	1.2	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
POND-B-EAST-091219	09/12/2019	320-54303-3	PMPA	0.35	UG/L	PQL		0.010	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
POND-B-EAST-091219	09/12/2019	320-54303-3	PMPA	0.35	UG/L	PQL		0.010	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PMPA	3.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFESA-BP2	1.2	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFESA-BP2	1.2	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

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Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFO3OA	1.3	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
INTAKE-WORM-092419-D	09/24/2019	320-54699-10	PFO3OA	1.4	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	PFMOAA	12.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep C-02-Redbreast Sunfish	09/26/2019	320-54836-9	PFMOAA	11	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
Seep B-02-Redbreast Sunfish	09/26/2019	320-54836-8	PFMOAA	20	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFO4DA	5.1	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFO4DA	5.9	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFO5DA	170	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFESA-BP1	2.8	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	PFESA-BP1	3.4	UG/KG	PQL		3.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PMPA	5.5	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PMPA	4.4	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFESA-BP2	21.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFESA-BP2	21.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Hydro-EVE Acid	4.6	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	Hydro-EVE Acid	4.5	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PEPA	7.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PEPA	6.9	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFESA-BP1	3.1	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFESA-BP1	2.5	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFO3OA	33	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFO3OA	34.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	NVHOS	2.3	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	NVHOS	2.1	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFO2HxA	4.8	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFO2HxA	4.3	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFO3OA	2.9	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PFO3OA	3.0	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMSOIL-092519	09/25/2019	320-54770-8	PFO2HxA	47	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PEPA	2.9	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-C-WORM-092619	09/26/2019	320-54770-12	PEPA	2.7	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO2HxA	12	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO3OA	18.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO5DA	16	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PEPA	3.8	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PEPA	3.4	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	NVHOS	4.6	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	NVHOS	5.1	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	PFO2HxA	15	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	PFO2HxA	15.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	PFO3OA	7.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	PFO3OA	8.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	PFO4DA	5.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORMSOIL-092619	09/26/2019	320-54770-3	PFO4DA	5.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFESA-BP2	11	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Hydro-EVE Acid	2.1	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	Hydro-EVE Acid	3.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	PFO3OA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	PFO3OA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	PFO4DA	1.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED5-VEG-20191021	10/21/2019	320-55583-5	PFO4DA	1.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED4-VEG-20191021	10/21/2019	320-55583-4	NVHOS	34	UG/KG	PQL		1.3	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PEPA	5.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PEPA	5.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFO4DA	1.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SLEA-SED6-VEG-20191021	10/21/2019	320-55583-6	PFO4DA	1.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFO3OA	2.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFO3OA	2.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFESA-BP2	1.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
WC-WORM-092419	09/24/2019	320-54699-11	PFESA-BP2	1.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the rejection level. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-12-VEG-082019	08/20/2019	320-53490-13	NVHOS	74	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-VEG-082019	08/20/2019	320-53490-13	NVHOS	81.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PMPA	6.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-4-VEG-081919	08/19/2019	320-53490-2	PMPA	6.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PMPA	13	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-7-VEG-081919	08/19/2019	320-53490-5	PMPA	13.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	PFECA B	8.6	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFO4DA	1.4	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-B-WORMS-092519	09/25/2019	320-54770-13	PFO4DA	1.5	UG/KG	PQL		1.2	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO4DA	1.7	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
SEEP-D-WORM-092619	09/26/2019	320-54770-11	PFO4DA	2.0	UG/KG	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Perfluorobutane Sulfonic Acid	0.2	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-1-Soil-4-4.5-081419	08/14/2019	320-53349-5	Perfluorobutane Sulfonic Acid (trial)	0.2	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFESA-BP2	1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFESA-BP2	1.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO4DA	3.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO4DA	3.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO5DA	2.8	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PFO5DA	3.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO4DA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PFO4DA	1.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PMPA	2.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB-Carcass	07/30/2019	320-52951-19	PMPA	2.7	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PMPA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
DERC-3 LMB	07/30/2019	320-52951-3	PMPA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorodecanoic Acid	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO4DA	11	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PFO4DA	11.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorotridecanoic Acid	1.8	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorooctane Sulfonamide	7.2	UG/KG	PQL		1.3	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluorododecanoic Acid	5.0	UG/KG	PQL		1.1	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	PFOS	61.0	UG/KG	PQL		3.3	J	537 Modified		Shake_Bath_14D
CFR-09-2 BC-Carcass	07/31/2019	320-52951-21	Perfluoroundecanoic Acid	4.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO4DA	5.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-1 LMB	07/30/2019	320-52951-4	PFO4DA	5.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PMPA	1.9	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-09-2 BC	07/31/2019	320-52951-8	PMPA	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorotridecanoic Acid	5.3	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorooctane Sulfonamide	4.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorotetradecanoic Acid	10.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorodecanoic Acid	2.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluorododecanoic Acid	9.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorodecanoic Acid	2.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	PFOS	1700.0	UG/KG	PQL		23	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC-Carcass	07/31/2019	320-52951-20	Perfluoroundecanoic Acid	6.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorotridecanoic Acid	3.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorooctane Sulfonamide	1.8	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorotetradecanoic Acid	5.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorobutanoic Acid	3.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorobutane Sulfonic Acid	1.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluorododecanoic Acid	9.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PMPA	1.4	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-06-2 BC	07/31/2019	320-52951-6	PMPA	1.3	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	PFOS	360.0	UG/KG	PQL		4.6	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC-Carcass	08/01/2019	320-52951-23	Perfluoroundecanoic Acid	6.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorotridecanoic Acid	2.4	UG/KG	PQL		1.4	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorotetradecanoic Acid	3.6	UG/KG	PQL		1.5	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorobutane Sulfonic Acid	2.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorodecanoic Acid	1.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorodecanoic Acid	14.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorodecane Sulfonic Acid	6.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluorododecanoic Acid	3.5	UG/KG	PQL		1.9	J	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorotridecanoic Acid	1.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-4 CC	08/01/2019	320-52951-16	Perfluoroundecanoic Acid	2.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorotetradecanoic Acid	1.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluorododecanoic Acid	1.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	PFOS	3.5	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
CFR-05-3 BC	08/01/2019	320-52951-15	Perfluoroundecanoic Acid	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorotetradecanoic Acid	2.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorodecanoic Acid	14.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorodecane Sulfonic Acid	2.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluorododecanoic Acid	9.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR-05-2 FH	08/01/2019	320-52951-14	PFOS	52.0	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
CFR-05-2 FH	08/01/2019	320-52951-14	Perfluoroundecanoic Acid	17.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorotetradecanoic Acid	17.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorododecanoic Acid	35.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	PFOS	410.0	UG/KG	PQL		11	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluoroundecanoic Acid	58.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorotridecanoic Acid	6.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorotetradecanoic Acid	6.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluorododecanoic Acid	11.0	UG/KG	PQL		11	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	PFOS	180.0	UG/KG	PQL		3.2	J	537 Modified		Shake_Bath_14D
CFR-05-1-LMB	08/01/2019	320-52951-13	Perfluoroundecanoic Acid	18.0	UG/KG	PQL		5.8	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorodecanoic Acid	39.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorodecane Sulfonic Acid	9.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorotridecanoic Acid	13.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR-05-1 LMB-Carcass	08/01/2019	320-52951-22	Perfluorooctane Sulfonamide	1.1	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	PFOS	1.5	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFOS (trial)	0.54	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	R-EVE	21	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	R-EVE	19.0	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-SOIL-4-4.5-081519	08/15/2019	320-53349-10	Perfluorobutane Sulfonic Acid	0.31	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-11-soil-0-0.5	07/31/2019	320-52871-15	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	3.1	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EU-1-DiscreteSoil-0-.5-081419	08/14/2019	320-53747-4	Hfpo Dimer Acid	0.53	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	NVHOS	1800.0	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	NVHOS	2000	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.29	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019-D	08/20/2019	320-53490-15	PFOS	0.6	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.3	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-12-SOIL-0-.5-082019	08/20/2019	320-53490-12	PFOS	1.3	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Hfpo Dimer Acid	9.3	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-11-veg	07/31/2019	320-52871-16	Hfpo Dimer Acid	11.0	UG/KG	PQL		5.9	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.69	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Hfpo Dimer Acid	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-veg	07/31/2019	320-52871-2	Hfpo Dimer Acid	1.2	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.2	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	PFOS	1.1	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-3-soil-0-0.5	07/31/2019	320-52871-1	Hfpo Dimer Acid	0.36	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorododecanoic Acid	0.23	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-	0.4	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			ethanol									
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	PFOS	0.94	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-4-SOIL-0-.5-081919	08/19/2019	320-53490-1	Perfluorodecanoic Acid	0.46	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-6-SOIL-4-4.5-081519	08/15/2019	320-53349-9	Perfluorobutane Sulfonic Acid	0.22	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.35	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-7-SOIL-0-.5-081919	08/19/2019	320-53490-4	PFOS	0.61	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.28	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
EU-8-SOIL-0-.5-081619	08/16/2019	320-53490-7	PFOS	0.92	UG/KG	PQL		0.50	J	537 Modified		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Hfpo Dimer Acid	19	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	Hfpo Dimer Acid	21.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFMOAA	190.0	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU2-veg	07/25/2019	320-52868-7	PFMOAA	210	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Hfpo Dimer Acid	1.5	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
EU6-veg	07/25/2019	320-52868-11	Hfpo Dimer Acid	1.1	UG/KG	PQL		1.0	J	Cl. Spec. Table 3 Compound SOP		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorodecanoic Acid	1.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorotetradecanoic Acid	16.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluorododecanoic Acid	2.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	PFOS	31.0	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
MM-68-5 LMB	08/01/2019	320-52951-18	Perfluoroundecanoic Acid	2.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorohexadecanoic acid (PFHxDA)	1.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorononanesulfonic acid	1.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorotridecanoic Acid	15.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluoroheptane sulfonic acid (PFHpS)	1.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorodecanoic Acid	69.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorodecane Sulfonic Acid	21.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorohexane Sulfonic Acid	1.2	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluorododecanoic Acid	58.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	PFOS	2200.0	UG/KG	PQL		47	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB-Carcass	08/02/2019	320-52951-24	Perfluoroundecanoic Acid	73.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorotridecanoic Acid	7.1	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorotetradecanoic Acid	6.1	UG/KG	PQL		1.2	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorobutane Sulfonic Acid	1.3	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorodecanoic Acid	20.0	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorodecane Sulfonic Acid	9.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluorododecanoic Acid	18.0	UG/KG	PQL		1.5	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	PFOS	270.0	UG/KG	PQL		4.5	J	537 Modified		Shake_Bath_14D
MM-68-4 LMB	08/02/2019	320-52951-17	Perfluoroundecanoic Acid	21.0	UG/KG	PQL		8.1	J	537 Modified		Shake_Bath_14D
MM-68-2 CC	08/01/2019	320-52951-11	PFOS	2.6	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorotridecanoic Acid	2.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorotetradecanoic Acid	2.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorodecanoic Acid	3.7	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorodecane Sulfonic Acid	1.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The preparation hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
MM-68-1 FH	08/01/2019	320-52951-10	PFOS	28.0	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluoroundecanoic Acid	5.8	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
MM-68-1 FH	08/01/2019	320-52951-10	Perfluorododecanoic Acid	5.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Hfpo Dimer Acid	77.0	UG/KG	PQL		6.2	J	537 Modified		Shake_Bath_14D
SEEP-A-RIVERSOIL-091319	09/13/2019	320-54392-2	Hfpo Dimer Acid	17.0	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
SEEP-A-RIVERSOIL-091319	09/13/2019	320-54392-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.4	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
SEEP-A-RIVERSOIL-091319	09/13/2019	320-54392-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.64	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	Hfpo Dimer Acid	13.0	UG/KG	PQL		1.3	J	537 Modified		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	2.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
SEEP-A-WORMSOIL-091319	09/13/2019	320-54394-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	1.4	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
SEEP-A-WORMS-091319	09/13/2019	320-54394-2	Perfluorohexadecanoic acid (PFHxDA)	15.0	UG/KG	PQL		2.5	J	537 Modified		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	Hfpo Dimer Acid	1.9	UG/KG	PQL		0.25	J	537 Modified		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	1.1	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
SEEP-D-RIVERSOIL-091119	09/11/2019	320-54392-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.64	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason One or more surrogates had relative percent recovery (RPR) values less than the data rejection level. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluorotetradecanoic Acid	3.9	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	Perfluorobutanoic Acid	5.5	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
CFR Bladen-01-Bluegill	09/26/2019	320-54836-6	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	3.6	UG/KG	PQL		1.0	J	537 Modified		Shake_Bath_14D
SLEA-SED2-20191021	10/21/2019	320-55583-8	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.28	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
SLEA-SED2-20191021	10/21/2019	320-55583-8	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.30	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D
SLEA-SED4-20191021	10/21/2019	320-55583-10	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.74	UG/KG	PQL		0.20	J	537 Modified		Shake_Bath_14D

Site: Fayetteville **Sampling Program:** 2019 SLEA Sampling **Validation Options:** LABSTATS

Validation Reason The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
EB-SLEA-092419	09/24/2019	320-54699-1	Carbon	0.48	MG/L	MDL	0.35	1.0	J	9060A		
EB-SLEA-092519	09/25/2019	320-54770-2	Carbon	0.65	MG/L	MDL	0.35	1.0	J	9060A		
SLEA-EQBLK-091119	09/11/2019	320-54392-3	Carbon	0.51	MG/L	MDL	0.35	1.0	J	9060A		
SLEA-EQBLK-091319	09/13/2019	320-54392-4	Carbon	0.41	MG/L	MDL	0.35	1.0	J	9060A		