Kennedy Jenks

275 Battery Street, Suite 550
San Francisco, California 94107
415-243-2150

Pond 6, North Pond, and Pond 8 Sediment Sampling Report

Former Georgia-Pacific Wood Products Facility Fort Bragg, California

8 April 2020

Prepared for

Georgia-Pacific LLC
133 Peachtree Street NE
Atlanta, GA 30303

KJ Project No. 1665018*19

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Acronyms and Abbreviations

2,3,7,8-TCDD TEQ	2,3,7,8-Tetrachlorodibenzo-P-Dioxin Toxic Equivalent
Arcadis	Arcadis U.S., Inc.
BBL	Blasland, Bouck & Lee, Inc.
Blaine Tech	Blaine^{TM} Tech Services
bss	below sediment surface
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
DTW	depth to water
e.g.	for example
Georgia-Pacific	Georgia-Pacific LLC
GPS	Global Positioning System
HHRA	Human Health Risk Assessment
IDW	investigation-derived waste
i.e.	that is
mg/kg	milligram(s) per kilogram
MS	matrix spike
MSD	matrix spike duplicate
OU	Operable Unit
pg/g	picogram(s) per gram
PPE	personal protective equipment
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
site	Former Georgia-Pacific Wood Products Facility Located at 90 West Redwood Avenue, Fort Bragg, Mendocino County, California
SOP	Standard Operating Procedure
TEF	Toxic Equivalent Factor
TEQ	Toxic Equivalency Factor
TestAmerica	TestAmerica Laboratories
USEPA	United States Environmental Protection Agency
WHO	World Health Organization

Section 1: Introduction

On behalf of Georgia-Pacific LLC (Georgia-Pacific), Kennedy Jenks prepared this report documenting sediment sampling activities at the former Georgia-Pacific Wood Products Facility located at 90 West Redwood Avenue, Fort Bragg, Mendocino County, California (site, Figure 1). Sediment sampling activities were performed on 3 and 4 September 2019 and were intended to address data gaps in Pond 6, North Pond, and Pond 8. This report was revised based on comments provided by DTSC in a letter dated 13 February 2020 (DTSC 2020a). An extension was requested in a letter dated 20 February 2020 (GP 2020) and approved by DTSC in an email dated 24 February 2020 (DTSC 2020b).

1.1 Site Background

The site is located west of California Highway 1 along the Pacific Ocean coastline and is bounded by the City of Fort Bragg to the east and north, Noyo Bay to the south, and the Pacific Ocean to the west. According to historical records, Union Lumber Company began sawmill operations at the site in 1885. Georgia-Pacific acquired the site in 1973 and ceased sawmill operations on 8 August 2002; much of the equipment and structures associated with the lumber production have since been removed. During sawmill operations, logs were received onsite, unloaded, stored in the log storage areas, debarked, and milled. Milled lumber was then shipped green, kiln dried, or air-dried. Finished lumber was transported by rail or flatbed trailers. Bark and wood refuse were transported by truck, conveyer, or pneumatic system to an onsite power plant where they were burned to generate steam and electricity for site operations.

Georgia-Pacific no longer owns Operable Unit (OU) A, as well as a portion of OU-C, OU-D, and OU-E. The portion of the site currently owned by Georgia-Pacific (OU-B and the remaining portions of OU-C, OU-D, and OU-E) is approximately 307 acres in size. Additional information about the site in presented in the Current Conditions Report [Blasland, Bouck & Lee, Inc. (BBL) 2006].

1.2 Regulatory Status

Multiple sampling events have been performed to assess constituent concentrations in Ponds 1-9 and the North Pond. Past sediment sampling activities are described in Section 2.2.1.6 of the *Final Feasibility Study, Operable Unit E* (Feasibility Study; Kennedy Jenks 2019a) submitted to California Department of Toxic Substances Control (DTSC) on 12 September 2019 (approved by DTSC on 24 October 2019). A summary of the sediment samples collected and analyzed for arsenic and dioxins from Pond 6, North Pond, and Pond 8 during previous evaluations is presented in Table 1. Sample locations are shown on Figure 2 and Figure 3.

The Feasibility Study evaluates remedial alternatives for aquatic sediment in the ponds on the site, including the North Pond, Pond 6, and Pond 8. During its review of the Feasibility Study, DTSC requested collection of additional pond sediment data in a letter dated 24 August 2018 (DTSC 2018). Subsequently, DTSC responded to a letter sent by Georgia-Pacific (GP 2018) in a letter dated 21 February 2019 that refined the scope of the requested sampling (DTSC

2019a). The scope of this effort was refined further in a meeting with DTSC on 14 May 2019 and in a DTSC letter dated 12 June 2019 (DTSC 2019b). In response to DTSC's request, Georgia-Pacific developed the *Pond 6, North Pond, and Pond 8 Sediment Sampling Work Plan* (Work Plan; Kennedy Jenks 2019b). DTSC approved the Work Plan in a letter dated 19 July 2019 (DTSC 2019c).

The Work Plan presents the operational history of Pond 6, North Pond, and Pond 8, as well as the results of past sediment sampling activities. It also describes sampling procedures intended to resolve data gaps in these three ponds.

Section 2: Scope of Work

Sediment sampling activities were performed on 3 and 4 September 2019 by Kennedy Jenks with support by Blaine™ Tech Services (Blaine Tech), a subconsultant to Kennedy Jenks. Sampling activities were performed in general accordance with the Work Plan.

2.1 Sample Collection and Analysis

2.1.1 Site Preparation

Sample locations were located using an EOS Arrow 100 handheld global positioning system (GPS) device. Photographs were taken and logged in the field to document findings and site conditions.

Sample locations were accessible on foot. Samples were collected from the locations proposed in the Work Plan with the exception of sample location North Pond-02. The proposed location was found to lie outside the extent of the North Pond, so this sample location was relocated approximately 8 feet north of the proposed location. The actual sample location was recorded with the handheld GPS device and is shown on Figures 2 and 3.

When attempts to advance the sampler to the depth proposed in the work plan met refusal, the location was moved within the vicinity of the original location to access deeper areas of sediment or avoid obstructions. In these cases, samples were collected from locations within approximately 2 feet of the proposed location.

2.1.2 Sediment Sample Collection

Sediment samples were collected from a total of ten (10) locations in Pond 6, North Pond, and Pond 8.

Field sampling methods conformed to guidelines set forth in the site-specific Health and Safety Plan, the Quality Assurance Project Plan (QAPP; ARCADIS BBL 2007a), and the ARCADIS BBL Standard Operating Procedures (SOPs) for Sediment Sampling.

Samples were collected using a Russian Peat Corer, a hand tool which provides a sediment core 1.5 feet in length from the target depth. A description of the Russian Peat Corer is provided in the Work Plan.

When a sample could not be collected at the proposed depths due to refusal, a sample was collected at the deepest depth accessible. Reasonable efforts were made to advance the sampling tools to the proposed depths. Samples were only proposed in pond sediment; samples were not collected from native soil beneath pond sediment. The sample depths are displayed as cross sections on Figures 4 through 9.

Pond sediment thickness and depth of overlying water was measured at each sample location. Photographs were taken of cores, and descriptions of the sediment recovered were recorded.

Samples were composited in single-use stainless steel bowls and placed in lab-provided jars. Samples were immediately placed in a cooler with ice prior to shipping and analysis at the laboratory, as described in Section 3.2.2.

2.1.3 Equipment Cleaning

To reduce the likelihood of carryover from one sample to another, reusable equipment that came into contact with sediment or water was cleaned according to the QAPP (ARCADIS BBL 2007a) and the SOP for Field Sampling Equipment Decontamination contained therein. Disposable equipment intended for one-time use was not cleaned, but was packaged for appropriate disposal. As described in the QAPP, cleaning occurred prior to and after each use of a piece of equipment. All sampling devices used were either single-use and pre-cleaned or cleaned using the following procedures:

- Non-phosphate detergent and tap water wash using a brush when necessary
- Initial distilled water rinse (by dipping equipment)
- Final deionized/distilled water rinse by pouring over equipment.

2.1.4 Investigation Derived Waste

In the process of collecting environmental samples during the field sampling program, the following types of investigation-derived waste (IDW) were generated (ARCADIS BBL 2007a):

- Used personal protective equipment (PPE)
- Disposable sampling equipment
- Sediment residue (minor amounts)
- Cleaning fluids.

Listed below are the procedures that were followed for handling the IDW; additional detail is provided in the QAPP and in ARCADIS BBL SOP Investigation-Derived Waste Handling and Storage, included in the QAPP.

- Used PPE and disposable equipment were double-bagged and placed in a municipal refuse dumpster. These wastes are not considered hazardous and were disposed of at Willits Transfer Station in Willits, California.
- Cleaning water was placed in the onsite tank that holds groundwater purge water. The tank will be sampled and profiled during subsequent waste disposal events.

2.2 Laboratory Analysis

Groundwater samples were transported in ice-filled coolers under chain-of-custody protocol and hand-delivered to California Department of Public Health Environmental Laboratory Accreditation Program certified TestAmerica Laboratories (TestAmerica) in Pleasanton, California, for analysis of arsenic and dioxins/furans by the following analytical methods:

- Metals by United States Environmental Protection Agency (USEPA) Method 6020
- Dioxins/furans by USEPA Method 8290A
- Moisture.

2.3 Differences from Work Plan

Sample activities were performed in general accordance with the Work Plan. However, in some locations, samples were collected from shallower depth intervals than proposed in the work plan due to refusal at deeper depths. In addition, at location Pond8-23, the deepest sample proposed in the work plan was not collected due to refusal. As described in the work plan, sampling of native material below the sediment layer was not attempted. The proposed and actual depth intervals collected are summarized in Table 2.

2.4 DTSC Split Samples

Mr. Tom Lanphar (DTSC) observed sampling activities on 4 September 2019 and collected five split samples (including one blind duplicate sample) to analyze in DTSC's laboratory. Split samples collected by DTSC were immediately placed in a sample cooler with ice for temporary storage. Split samples were relinquished to Mr. Tom Lanphar on 5 September 2019 for transport to DTSC's laboratory. Table 3 shows the samples for which split samples were collected by DTSC.

Due to the nature of duplicate samples in soil or sediment, which are heterogeneous media, some differences can be observed between duplicate and parent samples, and therefore, between parent and split samples and duplicates. DTSC split sample results differed from commercial laboratory results in some cases but were generally the same order of magnitude.

2.5 Quality Assurance/Quality Control

2.5.1 Standard Analyses

Blind field duplicates, matrix spikes (MSs)/matrix spike duplicates (MSDs), and trip blanks were collected and submitted for analysis as specified in the QAPP (Arcadis BBL 2007a), along with an equipment blank that was collected by passing deionized water over and through the coring section of the Russian peat corer and then collecting the discharge. The duplicate and MS/MSD collection frequencies were in compliance with requirements of the QAPP. Table 3 presents the analyses conducted on the quality assurance (QA)/quality control (QC) samples.

Method blanks were analyzed by the laboratory as required by the QAPP. Results of laboratory method blanks were reviewed during the data validation process to evaluate if QA/QC requirements were met.

2.5.2 Data Validation

Laboratory data were reviewed by Kennedy Jenks in accordance with USEPA guidance (USEPA 2017a and 2017b) and the QAPP (Arcadis BBL 2007a). The validation report and the analytical laboratory report for the primary samples collected by Kennedy Jenks are included in Appendix B. The analytical results are considered acceptable for reporting purposes.

The analytical laboratory reports for the split samples collected by DTSC are included in Appendix B. The analytical results are considered acceptable for reporting purposes.

Section 3: Measures to Avoid Impacts on Federally Listed Species and Cultural Resources

The following precautionary measures were taken to avoid or minimize impacts to federally listed species and cultural resources.

General Measures:

- Personnel, equipment, and tools that had come in contact with target sediment were cleaned of loose mud or sediment prior to leaving sampling areas.

Biological Resources:

- The typical nesting bird season is defined as occurring from 15 March to 31 July for most bird species. Therefore, work was completed outside of the typical nesting bird season. Nesting birds were not observed during sediment sampling activities and no impacts to adult birds were observed.

Cultural Resources:

- Objects other than sediment and wood chips were not observed in the cores recovered in the sediment sampling equipment. Therefore, cultural resources were likely not impacted during sampling activities.

Section 4: Results and Discussion

Arsenic and dioxin results for sediment samples collected during the September 2019 sampling event are summarized in Table 3 and discussed below. The results are also displayed on Figures 2 through 9. The analytical laboratory report is included as Appendix B. For samples analyzed for dioxins/furans, the dioxin Toxic Equivalency Factor (TEQ) was calculated using the Toxic Equivalent Factors (TEFs) published by the World Health Organization (WHO) in 2005 and adopted by the Federal Environmental Protection Agency (EPA), California EPA, and DTSC.

DTSC requested calculation of 95 Upper Confidence Levels (95 UCL) of dioxin TEQ and arsenic for the west portion of Pond 8, the east portion of Pond 8, and a combined Pond 6, Pond 7, and North Pond dataset (DTSC 2020a). The exposure point concentration (EPC) for Pond 8 was also re-calculated[1]. The EPCs were calculated based on datasets that included all available data (i.e., all depth intervals) but excluded data representative of sediment that has been removed[2]. The calculated EPCs are presented in Table 4 and discussed in the following sections.

4.1 Pond 6

Analytical results for the three samples collected in Pond 6 are presented in Table 3 and shown on Figures 2 and 3. Dioxin TEQ values for samples collected in 2019 from Pond 6 ranged from 0.24 to 13 picograms per gram (pg/g). These values are below the remedial goal for residential soil of 50 pg/g reported in Human Health Risk Assessment (HHRA) Note Number 2 dated April 2017 (DTSC 2017). These concentrations are consistent with previous dioxin TEQ values reported for sediment samples collected from Pond 6, which ranged from 0.023 to 175 pg/g.

Arsenic concentrations reported for samples collected in 2019 from Pond 6 ranged from 28 to 120 milligrams per kilogram (mg/kg). The arsenic concentrations reported in two of the three Pond 6 samples [the sample collected from 0.0 to 0.5 feet below sediment surface (bss) and the sample collected from 1.5 to 2.5 feet bss] were higher than those reported for previous sediment samples collected in Pond 6. The maximum arsenic concentration reported in a sediment sample collected from Pond 6 previously was 30.2 mg/kg, in the sample from location Pond6-02 collected from 0.5 to 1.5 feet bss.

EPCs for the combined Pond 6, Pond 7, and North Pond dataset are presented in Table 4. The arsenic EPC is 25 mg/kg and is within the range of concentrations used to calculate the background value (0.6 mg/kg to 31 mg/kg; Arcadis BBL 2007b). The dioxin TEQ EPC is 109 pg/g.

[1] The Pond 8 EPC was previously presented in the Baseline Human Health and Ecological Risk Assessment - Operable Unit E (BHHERA; Arcadis 2015).

[2] Approximately all sediment in Pond 7 was excavated in 2017 (Kennedy Jenks 2018), and therefore only Pond 7 confirmation sampling results from 2017 were included in the dataset.

Based on these data, the alternative recommended in the approved OU-E Feasibility Study (Institutional Controls: containment, land use controls, sediment management, and long-term operations and maintenance) remains appropriately protective for sediment in Pond 6.

4.2 North Pond

Analytical results for the four samples collected in North Pond are presented in Table 3 and shown on Figures 2 and 3. Dioxin TEQ values for samples collected in 2019 from North Pond ranged from 0.17 to 2.3 pg/g. These values are below the remedial goal for residential soil of 50 pg/g and are consistent with previous dioxin TEQ values reported for sediment samples collected from the North Pond, which ranged from 0.045 to 89.5 pg/g.

Arsenic concentrations reported for samples collected in 2019 from North Pond ranged from 3.5 to 14 mg/kg. These values are within the range of arsenic concentrations used to identify the background concentration for the site. As presented in the Background Metals Report, background concentrations of arsenic in California soil range from 0.6 mg/kg to 31 mg/kg (Arcadis BBL 2007b).

EPCs for the combined Pond 6, Pond 7, and North Pond dataset are presented in Table 4. The arsenic EPC is 25 mg/kg and is within the range of concentrations used to calculate the background value (0.6 mg/kg to 31 mg/kg; Arcadis BBL 2007b). The dioxin TEQ EPC is 109 pg/g.

Based on this data, the alternative recommended in the approved OU-E Feasibility Study (Institutional Controls: containment, land use controls, sediment management, and long-term operations and maintenance) remains appropriately protective for sediment in the North Pond.

4.3 Pond 8

Analytical results for the 11 primary samples and one blind duplicate sample collected in Pond 8 are presented in Table 3 and shown on Figures 2 and 3. Figures 4 through 9 provide cross sections showing both the distribution of sediment thickness across Pond 8 and the depths and analytical results of sediment samples collected from Pond 8.

Dioxin TEQ values for samples collected in 2019 from Pond 8 ranged from 0.12 to 28 pg/g. These values are below the remedial goal for residential soil of 50 pg/g and are consistent with previous dioxin TEQ values reported for sediment samples collected from Pond 8, which ranged from 0.000285 to 247 pg/g.

Arsenic concentrations reported for samples collected in 2019 from Pond 8 ranged from 3.5 to 18 mg/kg. These values are consistent with previous arsenic concentrations reported in sediment samples collected from Pond 8, which ranged from 0.58 to 27.6 mg/kg.

DTSC collected five split samples (including one blind duplicate sample) in Pond 8 to analyze in DTSC's laboratory. DTSC split sample results were generally within a range typical of differences in results in soil and sediment media samples that may be heterogeneous. DTSC sample results are provided with the commercial lab results in Table 3.

EPCs for Pond 8 west, Pond 8 east, and Pond 8 are presented in Table 4. Arsenic EPCs for Pond 8 west (12 mg/kg), Pond 8 east (9.1 mg/kg), and Pond 8 (9.7 mg/kg) are approximately equal to the draft remedial goal (10 mg/kg)[3]. The dioxin TEQ EPC is lower in the west portion of Pond 8, near the ocean (58 pg/g), and higher in the east portion of Pond 8, near the storm drain outfalls into the pond (142 pg/g). The dioxin TEQ EPC for the whole pond (107 pg/g) is slightly less than was previously calculated in the BHHERA owing to the addition of new and deeper data representative of all Pond 8 sediment (Arcadis 2015).

Based on these data, the alternative recommended in the approved OU-E Feasibility Study (Institutional Controls: containment, land use controls, sediment management, and long-term operations and maintenance) remains appropriately protective for sediment in Pond 8.

4.4 Potential Impact to Offshore Environment

Water from Pond 8 discharges over the Mill Pond Dam spillway to the beach adjacent to Soldier Bay, while the beach berm separates Pond 6, Pond 7, and the North Pond from the beach adjacent to Soldier Bay. Sediment is generally contained and protected from wave erosion by these features and a significant release to the ocean is unlikely. A significant release would only occur if the Mill Pond Dam or beach berm critically fails. To address this scenario, regular inspection and maintenance of both the Mill Pond Dam and the beach berm as well as modifications to the Mill Pond Dam are part of the recommended alternatives presented in the approved OU-E Feasibility Study (Kennedy Jenks 2019a).

DTSC requested that the risk posed by pond sediment to the offshore environment be considered (DTSC 2020a). Therefore, we have completed a qualitative evaluation of risk to the offshore environment in the unlikely event that a significant release of sediment from Pond 8, Pond 6, Pond 7, and/or the North Pond occurs. Risk due to arsenic and dioxin TEQ concentrations as well as physical risk to ecological receptors due to release of a large volume of sediment were both considered.

4.4.1 Risk Due to Arsenic and Dioxin TEQ Concentrations

The Data Report for Offshore Sediment Sampling (Offshore Data Report) presented results of offshore sediment sampling completed in 2007 and concluded that there is no evidence that significant effects have been or are occurring to the offshore environment in the vicinity of the site (Arcadis 2008). As discussed in the Offshore Data Report, the surface water receiving system (i.e., Soldier Bay and ultimately the Pacific Ocean) is a large high-energy system with tremendous capacity for particulates to attenuate and therefore a high potential for assimilative capacity. Further, given the high-energy nature of the offshore environment, there is likely significant flushing that occurs in the offshore environment.

An existing resource that provides a reference value for the system's capacity to attenuate discharges in the vicinity of the site and has been approved by the North Coast Regional Water Quality Control Board is the National Pollutant Discharge Elimination System (NPDES) permit[4] for the Fort Bragg Municipal Improvement District No. 1 Wastewater Treatment Facility

[3] Draft goals were presented in the OU-E Feasibility Study (Kennedy Jenks 2019a).
[4] Order No. R1-2015-0024, NPDES No. CA0023078, WDID No. 1B84083OMEN.

(WWTF). The WWTF is located adjacent to Soldier Bay immediately south of Pond 8 and discharges treated wastewater to the Pacific Ocean under an approved dilution ratio of 50:1.

The WWTF dilution ratio represents an appropriate factor for evaluating EPC values and estimating potential offshore concentrations if sediment were released into the offshore environment, thereby conservatively estimating the risk posed by pond sediments to the ocean. As shown in Table 4, the EPCs divided by 50 are all well below the draft remedial goals. For dioxin TEQ, the values are within or below the range of California rural soil background concentrations of 1 – 6 pg/g (DTSC 2017, Table 3). The calculated EPCs are representative of the complete pond sediment datasets (as opposed to a limited depth), and it is unlikely that all sediment would be released to the ocean even in an extreme weather event; therefore, this provides a conservative estimate of the risk to the offshore environment. Based on this assessment, the offshore environment is unlikely to be impacted by the concentrations of arsenic and dioxin in the pond sediment. Therefore, risk posed by sediment contained within Pond 6, Pond 7, Pond 8, and the North Pond to the offshore environment is low.

4.4.2 Risk Due to Volume of Sediment

The physical risk of a release of sediment from the ponds was evaluated in the context of natural sediment transport in the Pacific Ocean adjacent to the site. Beneficial reuse of 46,000 cubic yards of sediment dredged from the nearby Noyo Harbor and placed in a nearshore site was evaluated by the United States Army Corps of Engineers (USACE; USACE 2013). Site 1 in this study is just north of Soldier Bay. The study concluded that coastal processes in this area are dominated by waves, particularly in the nearshore, and that this quantity of sediment placed into the system was insignificant compared to sediment introduced by the existing, natural erosion processes due to wave action. Given the understanding of the nature of the receiving system, and given that a significant release would likely only occur if the Mill Pond Dam or beach berm critically fails, a similar quantity of sediment from the site would not immediately settle in the nearshore in this worst-case scenario, but would instead be distributed due to wave action in the high-energy receiving system. Risk to the offshore environment from the volume of sediment contained in Pond 6, Pond 7, Pond 8, and the North Pond is estimated to be low.

4.5 Conclusions

The data collected as part of the 2019 sediment sampling effort was evaluated along with previously-collected sediment data to confirm the existing understanding of site conditions, and appropriateness of the alternatives recommended in the approved OU-E Feasibility Study. The data was also used to calculate new EPCs and complete a qualitative evaluation of risk posed by the sediment to the offshore environment. A review of existing resources concludes the following:

- The ecological risk assessment presented in the BHHERA indicated that unacceptable ecological risk is not likely for populations of plants, benthic organisms, birds, mammals and amphibians exposed to site sediment. As presented in the OU-E Feasibility Study, the primary drivers for action in Pond 6, Pond 7, Pond 8, and the North Pond are arsenic and dioxin TEQ contributions to human health risk.

- The alternatives recommended in the approved OU-E Feasibility Study for the North Pond and Pond 6 AOC, the Pond 7 AOC, and the Pond 8 AOC are institutional controls (containment, land use controls, sediment management, and long-term operations and maintenance). These controls will contain the sediment in-place and restrict exposure to pond sediment. The controls also include regular inspection and maintenance for the Mill Pond Dam and beach berm to maintain the features containing the sediment in-place. In this scenario, a significant release to the offshore environment is unlikely.

- Data collected during this effort are generally consistent with or lower than past results.

    - Arsenic was detected at a higher concentration than previously detected at Pond 6 (Section 4.1); however, the calculated arsenic EPCs (Table 4) are either approximately equal to the remedial goal or within the range of background values. Further, sediment samples were collected in April 2013 to characterize the speciation of arsenic in sediment at the OU-E Ponds (Arcadis 2015). Based on the site-specific speciation data for arsenic in sediment, it was concluded that the default 60 percent relative bioavailability for arsenic is a conservative estimate of bioavailability to base exposure and risk calculations and appears to overestimate potential arsenic risks by 30 to 50 percent higher than they would be if a site-specific relative bioavailability value was used.

    - The re-calculated dioxin TEQ EPC for Pond 8 is slightly less than previously calculated, and the dioxin TEQ EPC for the combined Pond 6, Pond 7, and North Pond dataset is similar to the dioxin TEQ EPC calculated for Pond 8.

    - Dioxin concentrations are lower in the western portion of Pond 8 (near the ocean) than in the eastern portion of Pond 8 (near the stormwater outfalls), and the dioxin TEQ EPC for sediment closest to the offshore environment (i.e., in the western portion of the pond) nearly meets the draft remedial goal for unrestricted use.

- The receiving system (i.e., Soldier Bay and the Pacific Ocean) is a large high-energy system with tremendous capacity for particulates to attenuate. A qualitative evaluation of existing reports and project data indicate that the quantity of sediment contained within Pond 6, Pond 7, Pond 8, and the North Pond is small relative to sediment generated by existing erosion forces. Additionally, the estimated concentrations that may be observed in the offshore environment based on the adjacent WWTF dilution factor are less than the draft remedial goals and background conditions (Table 4). Therefore, site sediments present low risk to the offshore environment.

In summary, data collected during the 2019 sediment sampling effort continue to support the conclusion that the alternatives recommended in the approved OU-E Feasibility Study are appropriately protective.

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Tables

Table 1: Arsenic and Dioxin Sediment Data

Pond	Sample Location	Sample Date	Sample Depth Units Screening Value	Arsenic mg/kg 10	2,3,7,8-TCDD TEQ (Human/Mammal) pg/g 53
North Pond					
North Pond	DP-4.7	4/17/2006	0-0.5 ft	1.5	6.28
North Pond	DP-4.7	4/17/2006	8-8.5 ft	1.4	--
North Pond	DP-4.7	4/17/2006	14-14.5 ft	3.8	0.045
North Pond	DP-4.7	4/17/2006	19-19.5 ft	3.5	**89.5**
North Pond	North Pond-01	3/19/2008	0-0.5 ft	**32.7**	8.52
Pond 6					
Pond 6	DP-4.10	4/18/2006	0-0.5 ft	**12**	**175**
Pond 6	DP-4.10	4/18/2006	5-5.5 ft	1.8	0.023
Pond 6	DP-4.10	4/18/2006	10-10.5 ft	3.7	--
Pond 6	DP-4.10	4/18/2006	14.5-15 ft	3.9	--
Pond 6	DP-4.8	4/26/2006	0-0.5 ft	0.61	--
Pond 6	DP-4.8	4/26/2006	13-13.5 ft	0.33	--
Pond 6	DP-4.8	4/26/2006	18-18.5 ft	0.46	--
Pond 6	DP-4.8	4/26/2006	23-23.5 ft	0.53 [0.31]	--
Pond 6	DP-4.8	4/26/2006	28-28.5 ft	8.8	--
Pond 6	DP-4.8	4/26/2006	33-33.5 ft	9.8	--
Pond 6	DP-4.9	4/25/2006	0.5-1 ft	2.2	2.1
Pond 6	DP-4.9	4/25/2006	6-6.5 ft	5.3	0.28
Pond 6	DP-4.9	4/25/2006	11-11.5 ft	2.5 [1.9]	--
Pond 6	DP-4.9	4/25/2006	16-16.5 ft	1.1	--
Pond 6	DP-4.9	4/25/2006	21-21.5 ft	1.5	--
Pond 6	DP-4.9	4/25/2006	26-26.5 ft	3	--
Pond 6	DP-4.9	4/25/2006	31-31.5 ft	3.6	--
Pond 6	Pond6-01	3/18/2008	0-0.5 ft	**12.3**	3.7
Pond 6	Pond6-01	3/11/2008	0.5-1.5 ft	**29.2 /J**	15.5
Pond 6	Pond6-02	3/18/2008	0-0.5 ft	**14**	**56.4**
Pond 6	Pond6-02	3/12/2008	0.5-1.5 ft	**30.2**	**103**
Pond 6	Pond6-02	3/12/2008	1.5-2.5 ft	--	**141**
Pond 6	Pond6-02	3/12/2008	2.5-3.5 ft	--	**168**
Pond 6	Pond6-02	3/12/2008	4.5-5.5 ft	**27.8**	**165**
Pond 8 West					
Pond 8	DP-4.14	4/24/2006	0-0.5 ft	1.7	20.5
Pond 8	DP-4.14	4/24/2006	4-4.5 ft	1.5	--
Pond 8	DP-4.14	4/24/2006	7.5-8 ft	4.4	--
Pond 8	DP-4.15	4/20/2006	0-0.5 ft	4.2	--
Pond 8	DP-4.15	4/20/2006	2-2.5 ft	2.8	35.6
Pond 8	DP-4.15	4/20/2006	7-7.5 ft	0.58	0.000285
Pond 8	DP-4.15	4/20/2006	11.5-12 ft	1.1	--
Pond 8	Pond8-01	3/17/2008	0-0.5 ft	**14.4**	33.5
Pond 8	Pond8-01	3/18/2008	0.5-1.5 ft	**12.5**	**77.2**
Pond 8	Pond8-01	3/18/2008	1.5-2.5 ft	6.81	**65.8**
Pond 8	Pond8-02	3/17/2008	0-0.5 ft	8.6	22.5
Pond 8	Pond8-02	3/18/2008	0.5-1.5 ft	5.6	46.4
Pond 8	Pond8-03	3/17/2008	0-0.5 ft	**16.3**	49.3
Pond 8	Pond8-03	3/18/2008	0.5-1.5 ft	9.5	**78.7**
Pond 8	Pond8-04	3/17/2008	0-0.5 ft	**27.6**	52.5
Pond 8	Pond8-04	3/12/2008	0.5-1.5 ft	**14.3**	44.4
Pond 8(2013)	Pond8-04	4/8/2013	0-0.5 ft	**13.6**	--
Pond 8	Pond8-04	3/12/2008	1.5-2.5 ft	9.05	**131**
Pond 8	Pond8-04	3/12/2008	3.5-4.5 ft	--	12.7
Pond 8	Pond8-04	3/12/2008	4.5-5.5 ft	1.82	0.035
Pond 8	Pond8-09	6/18/2009	0-0.5 ft	**17**	**105**
Pond 8	Pond8-10	6/18/2009	0-0.5 ft	**16.3**	**58**
Pond 8	Pond8-11	6/18/2009	0-0.5 ft	**13.6**	**91.7**
Pond 8	Pond8-12	6/18/2009	0-0.5 ft	**19.3**	**70.8**
Pond 8	T5-02	3/13/2012	6-8 ft	--	**55.3**
Pond 8	T5-04	3/13/2012	6-8 ft	8.8	**67.1**

Table 1: Arsenic and Dioxin Sediment Data

Pond	Sample Location	Sample Date	Sample Depth Units Screening Value	Arsenic mg/kg 10	2,3,7,8-TCDD TEQ (Human/Mammal) pg/g 53
Pond 8 East					
Pond 8(4/8/2013)	Pond8-05	4/8/2013	0-0.5 ft	**13.3 [10.6]**	--
Pond 8(4/11/2013)	Pond8-05	4/11/2013	0-0.5 ft	**12.6**	--
Pond 8	Pond8-05	3/17/2008	0.5-1.5 ft	**10.8**	**123**
Pond 8	Pond8-05	3/17/2008	1.5-2.5 ft	6.11	**60**
Pond 8	Pond8-05	3/17/2008	2.5-3.5 ft	5.52	**87**
Pond 8	Pond8-06	3/17/2008	0-0.5 ft	8.3	**177**
Pond 8	Pond8-06	3/18/2008	0.5-1.5 ft	6.9	**132**
Pond 8	Pond8-07	3/17/2008	0-0.5 ft	8.7	**127**
Pond 8	Pond8-07	3/17/2008	0.5-1.5 ft	9.4	**96.2**
Pond 8	Pond8-07	3/17/2008	1.5-2.5 ft	--	**83.5**
Pond 8	Pond8-07	3/17/2008	2.5-3.5 ft	5.19	**175**
Pond 8	Pond8-07	3/17/2008	3.5-4.5 ft	--	**104**
Pond 8	Pond8-07	3/17/2008	4.5-5.5 ft	6.44	**203**
Pond 8	Pond8-08	3/17/2008	0-0.5 ft	7.2	**152**
Pond 8	Pond8-08	3/17/2008	0.5-1.5 ft	5.5	**109**
Pond 8	Pond8-08	3/17/2008	1.5-2.5 ft	9.2	**176**
Pond 8	Pond8-14	6/17/2009	0-0.5 ft	**14.8**	**85.7**
Pond 8	Pond8-15	6/17/2009	0-0.5 ft	4.88	4
Pond 8	Pond8-16	6/17/2009	0-0.5 ft	**12.8**	**155**
Pond 8	Pond8-17	6/17/2009	0-0.5 ft	**11.1**	**231**
Pond 8	Pond8-18	6/17/2009	0-0.5 ft	**10.2**	**215**
Pond 8	DP-5.61	4/19/2006	0-0.5 ft	3.4	**134**
Pond 8	DP-5.61	4/19/2006	5-5.5 ft	2.3	--
Pond 8	DP-5.61	4/19/2006	10-10.5 ft	1.1	0.003
Pond 8	DP-5.61	4/19/2006	15-15.5 ft	1.4	--
Pond 8	DP-5.61	4/19/2006	20-20.5 ft	1.5	--
Pond 8	DP-5.61	4/19/2006	25-25.5 ft	6.4	--
Pond 8	DP-5.62	4/24/2006	0-0.5 ft	3.9	**68.6**
Pond 8	DP-5.62	4/24/2006	5-5.5 ft	3.5	**56.5**
Pond 8	DP-5.62	4/24/2006	10-10.5 ft	2.2 [2.3]	1.03
Pond 8	DP-5.62	4/24/2006	15-15.5 ft	7.1	--
Pond 8	DP-5.62	4/24/2006	20-20.5 ft	**26**	--
Pond 8	DP-5.60	4/20/2006	3-3.5 ft	**11 [12]**	0.88
Pond 8	DP-5.60	4/20/2006	8-8.5 ft	**16**	0.66
Pond 8	DP-5.60	4/20/2006	12-12.5 ft	**13**	--
Pond 8	DP-5.60	4/20/2006	16.5-17 ft	**20**	--
Pond 8	SD-5.1	4/5/2006	1.5-2 ft	3.6	--
Pond 8	SD-5.2	4/5/2006	1.5-2 ft	4.3	--
Pond 8	K-13	3/14/2012	6-8 ft	6.1	--
Pond 8	EE-11	3/14/2012	9-11 ft	9.6	**247**
Pond 8	A18	3/13/2012	6-8 ft	--	35.7
Pond 8	AA-06	3/14/2012	9-11 ft	--	**111.3**
Pond 8	M20	3/14/2012	6-8 ft	--	**57.5**

Notes:

= Sample depth of greater than 6 feet

bold = Concentration is greater than screening criteria

mg/kg = milligrams per kilogram

pg/g = picogram(s) per gram

ft = feet

Table 2: Sample Locations

Pond	Sample Location ID	Proposed Depth Intervals (ft, bss)	Collected Depth Intervals (ft, bss)	Notes	Analytical Analysis
Pond 6	Pond6-03	0 – 0.5	0 – 0.5		Arsenic, Dioxin
		1.5 – 2.5	1.5 – 2.5		
		5 – 5.5	5 – 5.5		
North Pond	NorthPond-02	5 – 5.5	5 – 5.5		
		9 – 9.5	9 – 9.5		
		14 – 16	14 – 16		
		18 – 20	18 – 20		
Pond 8	Pond8-19	4 – 6	***3 – 4***	Collected at 3-4 ft bss due to refusal at 4 ft bss.	
	Pond8-20	8 – 10	***5.5 – 7***	Collected at 5.5-7 ft bss due to refusal at 7 ft bss.	
	Pond8-21	8 – 10	8 – 10	Sample from 8-10 ft bss collected as proposed; proposed sample from 16-18 ft bss collected from 11.5-13 ft bss due to refusal.	
		16 – 18	***11.5 – 13***		
	Pond8-22	8 – 10	8 – 10	Sample from 8-10 ft bss collected as proposed; proposed sample from 16-18 ft bss collected from 17.25-18.75 ft bss.	
		16 – 18	***17.25 – 18.75***		
	Pond8-23	8 – 10	8 – 10	Sample from 8-10 ft bss collected as proposed; sample from 13-15 ft bss collected from 14-15 ft bss. Proposed sample at 18-20 ft bss not collected due to refusal at 15 ft bss.	
		13 – 15	***14 – 15***		
		18 – 20	***Not Collected***		
	Pond8-24	4 – 6	4 – 6		
	Pond8-25	8 – 10	8 – 10		
	Pond8-26	8 – 10	8 – 10		

Note:
ft, bss = feet below sediment surface

Table 3: 2019 Sediment Sampling Results

Location	Sample Depth	Arsenic	Dioxin TEQ (Detections Only)	2,3,7,8-TCDD	1,2,3,7,8-PCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TCDF	1,2,3,7,8-PCDF	2,3,4,7,8-PCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF
		mg/kg	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
NORTH POND-02	5.0-5.5 ft	**3.6**	**0.17**	< 2.2	< 11	< 11	**0.58 J**	**0.51 J**	**3.6 J**	**22**	< 2.2	< 11	< 11	< 11	< 11	< 11	< 11	**1.3 J**	< 11	**2.9 J**
NORTH POND-02	9.0-9.5 ft	**3.5**	**0.31**	< 3.7	< 19	**0.46 J**	**0.58 J**	**0.50 J**	**7.3 J**	**41**	**0.46 J**	< 19	< 19	< 19	< 19	< 19	< 19	**2.3 J**	**0.42 J**	**4.9 J**
NORTH POND-02	14.0-16.0 ft	**5.1**	**0.26**	< 3.5	< 17	**0.49 J**	< 17	**0.55 J**	**6.1 J**	**73**	**0.38 J**	< 17	< 17	< 17	< 17	< 17	< 17	**2.4 J**	**0.57 J**	**6.0 J**
NORTH POND-02	18.0-20.0 ft	**14**	**2.3**	**0.50 J**	**0.44 J**	< 12	**0.43 J**	**0.53 J**	< 12	**4.0 J**	**5.9**	**1.1 J**	**2.0 J**	< 12	< 12	< 12	< 12	**0.64 J**	< 12	0.89 U
POND 6-03	0.0-0.5 ft	**120**	**0.63**	< 6.7	< 34	< 34	**1.2 J**	**0.72 J**	**23 J**	**160**	< 6.7	< 34	< 34	< 34	**0.85 J**	< 34	< 34	**7.4 J**	< 34	**16 J**
POND 6-03	1.5-2.5 ft	**110**	**0.24**	< 4.4	< 22	< 22	**0.65 J**	< 22	**12 J**	**81**	< 4.4	< 22	< 22	< 22	< 22	< 22	< 22	**3.0 J**	< 22	**7.2 J**
POND 6-03	5.0-5.5 ft	**28**	**13**	**2.9 J**	**2.5 J**	**1.2 J**	**2.4 J**	**2.6 J**	**25**	**110**	**29**	**5.1 J**	**9.4 J**	**2.8 J**	**1.6 J**	< 17	**0.91 J**	**3.4 J**	**0.77 J**	**5.5 J**
POND 8-19	3.0-4.0 ft	**18**	**6.6**	**0.52 J**	**2.3 J**	**1.7 J**	**9.6 J**	**5.3 J**	**71**	**360**	**4.2**	**1.0 J**	**1.5 J**	**1.3 J**	**1.6 J**	< 20	< 20	**9.9 J**	**0.83 J**	**16 J**
POND 8-20	5.5-7.0 ft	**4.0**	**1.9**	< 2.1 J	**0.66 J**	**0.55 J**	**2.1 J**	**2.0 J**	**31 J**	**80 J**	< 2.1 J	**0.35 J**	**0.65 J**	< 10 J	**1.7 J**	< 10 J	< 10 J	**2.7 J**	< 10 J	**4.7 J**
POND 8-20 (DUP)	5.5-7.0 ft	**4.1**	**4.7**	**0.74 J**	**1.2 J**	**0.91 J**	**3.9 J**	**3.1 J**	**57 J**	**170 J**	**1.2 J**	**0.60 J**	**1.8 J**	< 11 J	**3.5 J**	< 11 J	**2.1 J**	**5.3 J**	**0.59 J**	**7.7 J**
POND 8-20 (DTSC Split)	5.5-7.0 ft	**2.57**	**10.2**	**2.77**	**4.58**	**2.63**	**4.27**	**2.96**	**72.6**	**237**	<2.33	**0.976**	<1.03	**3.25**	**0.760**	**4.26**	**0.442**	**10.4**	**0.898**	**28.1**
DUP)	5.5-7.0 ft	**-**	**5.4**	**1.01**	**1.95**	**0.985**	**4.36**	**4.00**	**58.3**	**186**	<0.417	**0.726**	<0.239	**0.645**	**1.50**	**4.18**	**1.93**	**4.88**	**0.806**	**9.25**
POND 8-21	8.0-10.0 ft	**4.9**	**6.6**	< 4.0	**1.8 J**	**1.7 J**	**5.4 J**	**4.4 J**	**62**	**270**	**2.6 J**	**1.2 J**	**2.9 J**	**3.1 J**	**9.0 J**	< 20	**3.7 J**	**14 J**	**1.4 J**	**27 J**
POND 8-21	11.5-13.0 ft	**3.6**	**5.9**	**0.79 J**	**1.7 J**	**1.4 J**	**4.9 J**	**3.7 J**	**59**	**240**	**2.0 J**	< 14	**2.1 J**	< 14	**5.3 J**	< 14	**2.4 J**	**13 J**	**1.0 J**	**29**
POND 8-21 (DTSC Split)	11.5-13.0 ft	**2.31**	**49.9**	**0.830**	**2.17**	**1.67**	**6.26**	**4.57**	**70.7**	**336**	**418**	**1.03**	**2.20**	**1.23**	**3.84**	**10.4**	**6.55**	**14.1**	**1.15**	**32.4**
POND 8-22	8.0-10.0 ft	**4.9**	**6.4**	< 3.3	**3.0 J**	**2.4 J**	**6.3 J**	**5.6 J**	**81**	**440**	< 3.3	< 17	**0.85 J**	**1.7 J**	**2.1 J**	< 17	**1.1 J**	**23**	**1.8 J**	**59**
POND 8-22 (DTSC Split)	8.0-10.0 ft	**2.48**	**7.8**	0.544	**3.14**	**2.18**	**7.29**	**6.13**	**110**	**822**	0.543	0.704	**1.08**	**1.31**	**1.54**	0.920	**1.64**	**24.3**	**1.45**	**82.1**
POND 8-22	17.3-18.8 ft	**3.5**	**0.12**	< 1.4	< 7.2	< 7.2	**0.43 J**	< 7.2	**4.9 J**	**30**	< 1.4	< 7.2	< 7.2	< 7.2	< 7.2	< 7.2	< 7.2	**1.8 J**	< 7.2	**5.9 J**
POND 8-23	8.0-10.0 ft	**7.0**	**28**	**2.1 J**	**8.6 J**	**6.8 J**	**24**	**18 J**	**300**	**1400**	**4.0 J**	**2.3 J**	**8.9 J**	**7.6 J**	**28 J**	< 21	**11 J**	**64**	**6.2 J**	**120**
POND 8-23 (DTSC Split)	8.0-10.0 ft	**5.37**	**27.6**	**2.27**	**9.36**	**5.65**	**21.1**	**15.6**	**265**	**1410**	<0.594	**2.93**	**6.99**	**5.53**	**11.8**	32.4	**9.56**	**46.1**	**4.08**	**108**
POND 8-23	14.0-15.0 ft	**5.5**	**14**	**1.4 J**	**4.6 J**	**3.6 J**	**14 J**	**13 J**	**220**	**730**	< 3.4	**1.2 J**	**3.5 J**	**3.1 J**	**8.4 J**	< 17	**3.8 J**	**30**	**2.9 J**	**68**
POND 8-24	4.5-6.0 ft	**3.9**	**4.3**	**0.65 J**	**1.5 J**	**0.98 J**	**4.6 J**	**3.7 J**	**63**	**190**	**0.39 J**	**0.33 J**	**0.60 J**	**0.59 J**	**1.4 J**	< 7.6	**0.50 J**	**4.1 J**	0.26 U	**6.8 J**
POND 8-25	8.0-10.0 ft	**4.1**	**9.8**	**1.1 J**	**4.1 J**	**2.7 J**	**11 J**	**9.5 J**	**150**	**400**	< 3.1	**0.46 J**	**0.64 J**	**1.0 J**	**2.1 J**	< 16	**0.75 J**	**6.7 J**	**0.67 J**	**15 J**
POND 8-26	8.5-10.0 ft	**11**	**2.6**	< 2.7	**0.98 J**	**0.85 J**	**3.1 J**	**2.8 J**	**38**	**120**	< 2.7	< 14	**0.68 J**	< 14	**1.9 J**	< 14	**1.1 J**	**3.2 J**	< 14	**6.3 J**

3.6 Detected concentrations at or above the method reporting limit are shown in bold.

Abbreviations and Symbols

" - -" denotes not measured, not available, or not applicable.
" < " denotes not detected at or above the indicated method reporting limit.
"J" indicates an estimated concentration based on either the being less than the laboratory reporting limit or data validation findings.
"U" denotes that the value has been qualified as undetected (at the detected concentration if above the method reporting limit) due to blank contamination.
TCDD TEQ based on the relative toxicity of each Dioxin and Furan to 2,3,7,8-TCDD and were calculated by multiplying the individual Dioxin and Furan concentrations by a toxicity equivalency factor (TEF) and summing the adjusted concentrations.
bgs = below ground surface.
ft = feet
mg/kg = milligrams per kilogram
pg/g = picograms per gram

Methods

Samples analyzed for metals using U.S. Environmental Protection Agency (EPA) Method 6020.
Samples analyzed for Dioxins and Furans using EPA Method SW8290A.

Table 4: Exposure Point Concentrations

Dataset	Constituent	Units	Count of Results	Count of Detections	Minimum Detection	Maximum Detection	Average	EPC [a]	Draft Remedial Goal [b]	EPC Divided By 50 [c]
Pond 8 West	Arsenic	mg/kg	27	27	0.58	27.6	9.416	12	10	0.2
Pond 8 East	Arsenic	mg/kg	41	41	1.1	26	7.554	9.1	10	0.2
Pond 8	Arsenic	mg/kg	68	68	0.58	27.6	8.273	9.7	10	0.2
Pond 8 West	2,3,7,8-TCDD TEQ (Human/Mammal)	pg/g	25	25	0.0003	131	45.54	58	53	1.2
Pond 8 East	2,3,7,8-TCDD TEQ (Human/Mammal)	pg/g	37	37	0.003	242	88.87	142	53	2.8
Pond 8	2,3,7,8-TCDD TEQ (Human/Mammal)	pg/g	62	62	0.0003	242	71.4	107	53	2.1
Pond 6, Pond 7, and North Pond	Arsenic	mg/kg	43	43	0.33	120	17.26	25	10	0.5
Pond 6, Pond 7, and North Pond	2,3,7,8-TCDD TEQ (Human/Mammal)	pg/g	34	34	0.023	350	58.19	109	53	2.2

Notes:

(a) Exposure Point Concentrations (EPCs) are 95 UCL values and calculated based on all available data (i.e., all depth intervals).

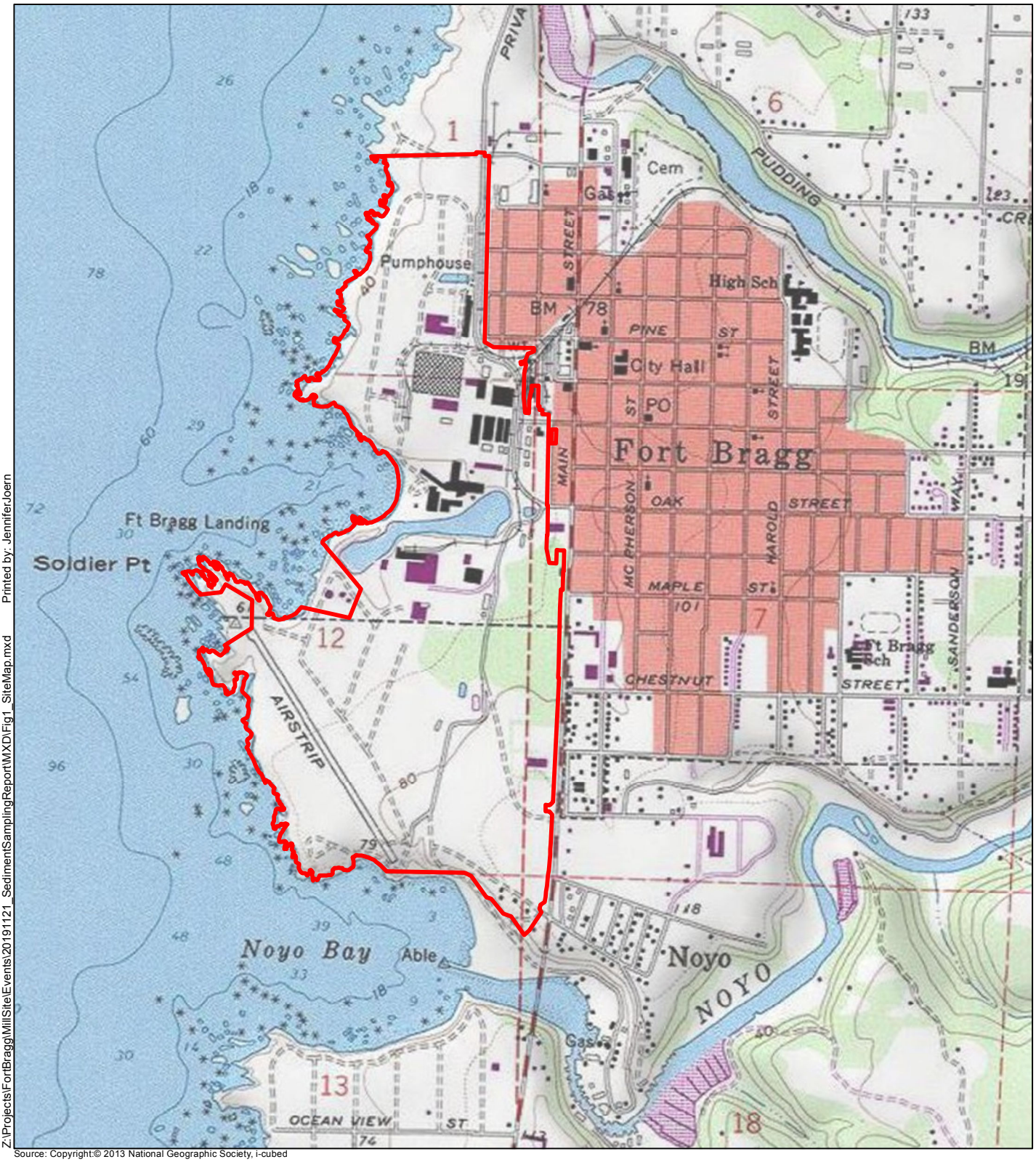
(b) Draft goals were presented in the OU-E Feasibility Study (dated 12 September 2019).

(c) The approved dilution ratio for the City of Fort Bragg WWTF is 50:1. This ratio represents an appropriate factor to evaluate EPC values and estimate potential concentrations if sediment were released into the offshore environment.

mg/kg = milligrams per kilogram

pg/g = picograms per gram

Figures



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Legend

Site Boundary

N

0 750 1,500

Scale: Feet

Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Site Location Map

1665018*19

Figure 1

NOTES:

1. ARSENIC CONCENTRATIONS ARE SCREENED AGAINST BACKGROUND CONCENTRATION OF 10 mg/kg FOR SEDIMENT.

2. THE ECOLOGICAL PSL FOR ARSENIC IN SEDIMENT (9.76 mg/kg) IS APPROXIMATELY EQUAL TO THE BACKGROUND VALUE FOR ARSENIC IN SOIL (10 mg/kg) WHICH WAS SELECTED AS THE PSL FOR HUMAN HEALTH.

3. DATA FOR EXCAVATED SAMPLES ARE NOT PRESENTED.

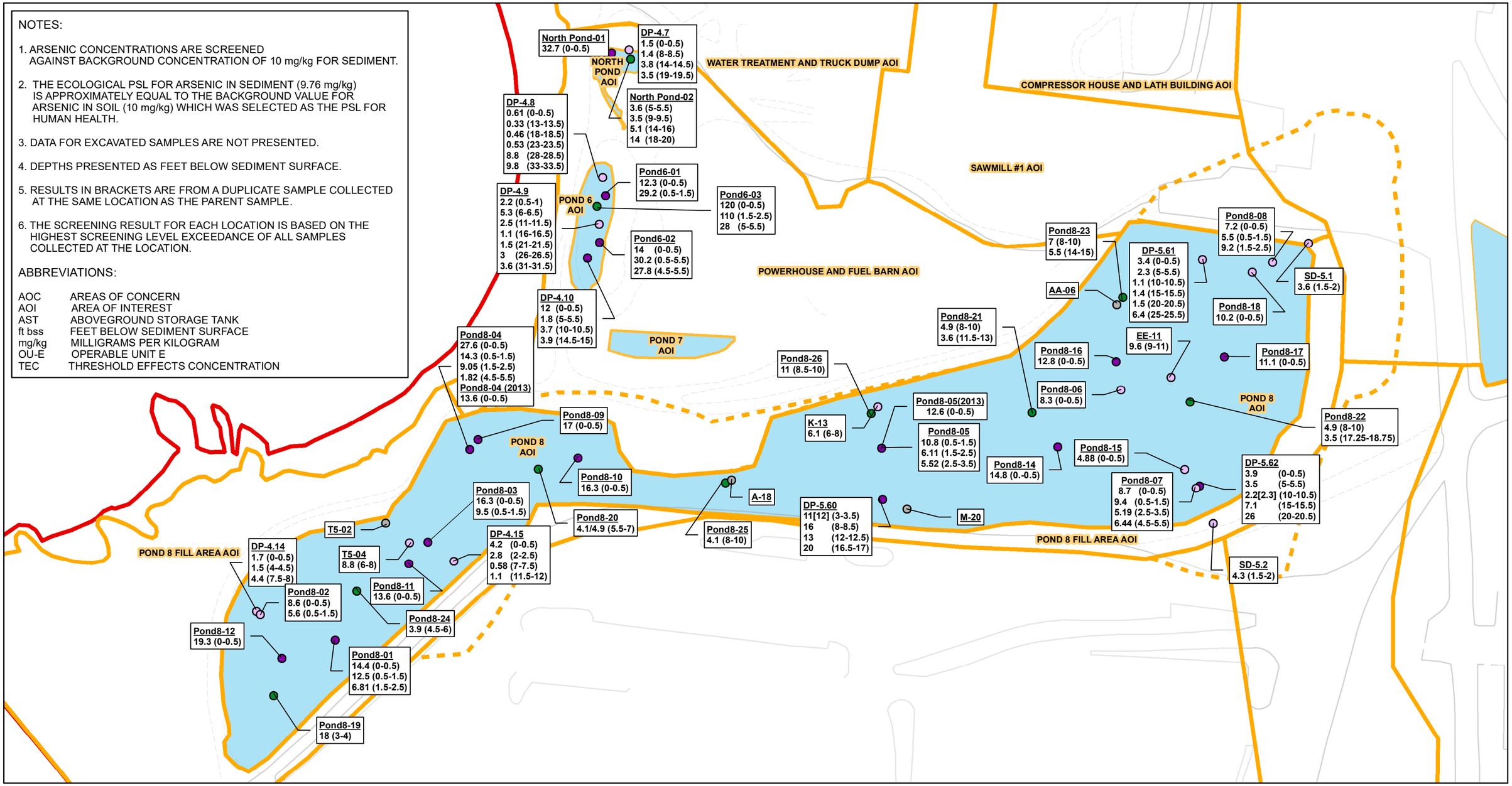
4. DEPTHS PRESENTED AS FEET BELOW SEDIMENT SURFACE.

5. RESULTS IN BRACKETS ARE FROM A DUPLICATE SAMPLE COLLECTED AT THE SAME LOCATION AS THE PARENT SAMPLE.

6. THE SCREENING RESULT FOR EACH LOCATION IS BASED ON THE HIGHEST SCREENING LEVEL EXCEEDANCE OF ALL SAMPLES COLLECTED AT THE LOCATION.

ABBREVIATIONS:

AOC	AREAS OF CONCERN
AOI	AREA OF INTEREST
AST	ABOVEGROUND STORAGE TANK
ft bss	FEET BELOW SEDIMENT SURFACE
mg/kg	MILLIGRAMS PER KILOGRAM
OU-E	OPERABLE UNIT E
TEC	THRESHOLD EFFECTS CONCENTRATION



Legend

- Not Analyzed
- Detected ≤ Background (10 mg/kg)
- Detected > Background (10 mg/kg)
- September 2019 Sample Locations
- Site Boundary
- OUE Boundary
- AOI Boundary
- Newly Identified Pond 8 Fill Area AOIs
- Pond
- Unpaved Roadway
- Paved Roadway

Pond8-14
14.8 (0-0.5)

- Sample ID
- Depth (ft bss)
- Arsenic Concentration in mg/kg

N

0 55 110
Scale: Feet

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Fort Bragg, California

Arsenic Concentrations in Sediment – Ponds 6, 8 and North Pond

1665018*19

Figure 2

NOTES:

1. 2,3,7,8-TCDD TEQ (HUMAN/MAMMAL) CONCENTRATIONS ARE SCREENED AGAINST DRAFT SITE SPECIFIC CLEANUP GOAL OF 53 pg/g FOR SEDIMENT.

2. DATA FOR EXCAVATED SAMPLES ARE NOT PRESENTED.

3. DEPTHS PRESENTED AS FEET BELOW SEDIMENT SURFACE.

4. THE SCREENING RESULT FOR EACH LOCATION IS BASED ON THE HIGHEST SCREENING LEVEL EXCEEDANCE OF ALL SAMPLES COLLECTED AT THE LOCATION

ABBREVIATIONS:

AOI AREA OF INTEREST
AOC AREA OF CONCERN
AST ABOVEGROUND STORAGE TANK
CHHSLr CALIFORNIA HUMAN HEALTH SCREENING LEVEL (RESIDENTIAL)
ft bss FEET BELOW SEDIMENT SURFACE
OU-E OPERABLE UNIT E
pg/g PICOGRAMS PER GRAM
TCDD TETRACHLORODIBENZO- P- DIOXIN
TEQ TOXIC EQUIVALENT

Z:\Projects\FortBragg\MillSiteEvents\20191121_SedimentSamplingReport\MXD\Fig3_DioxinTEQSediment.mxd Printed by: JenniferJoern

NORTH POND AOI
North Pond-01 8.52 (0-0.5)
DP-4.7 6.28 (0-0.5) 0.05 (14-14.5) 89.5 (19-19.5)
North Pond-02 0.17 (5.0-5.5) 0.31 (9.0-9.5) 0.26 (14-16) 2.3 (18-20)

WATER TREATMENT AND TRUCK DUMP AOI
COMPRESSOR HOUSE AND LATH BUILDING AOI
SAWMILL #1 AOI
POWERHOUSE AND FUEL BARN AOI

POND 6 AOI
Pond6-01 3.7 (0-0.5) 15.5 (0.5-1.5)
DP-4.8
DP-4.9 2.1 (0.5-1) 0.28 (6-6.5)
Pond6-03 0.63 (0-0.5) 0.24 (1.5-2.5) 13 (5.0-5.5)
DP-4.10 175 (0-0.5) 0.023 (5-5.5)
Pond6-02 56.4 (0-0.5) 103 (0.5-1.5) 141 (1.5-2.5) 168 (2.5-3.5) 165 (4.5-5.5)

POND 7 AOI

Pond8-08 152 (0-0.5) 109 (0.5-1.5) 176 (1.5-2.5)
DP-5.61 134 (0-0.5) 0.003 (10-10.5)
AA-06 111.3 (9-11)
Pond8-18 215 (0-0.5)
SD-5.1
Pond8-23 28 (8-10) 14 (14-15)
Pond8-16 155 (0-0.5)
Pond8-17 231 (0-0.5)
K-13
Pond8-21 6.6 (8-10) 5.9 (11.5-13)
Pond8-06 177 (0-0.5) 132 (0.5-1.5)
EE-11 247 (9-11)
Pond8-22 6.4 (8-10) 0.12 (17.25-18.25)
Pond8-09 105 (0-0.5)
Pond8-04 52.5 (0-0.5) 44.4 (0.5-1.5) 131 (1.5-2.5) 12.7 (3.5-4.5) 0.035 (4.5-5.5)
Pond8-10 58.3 (0-0.5)
Pond8-26 2.6 (8.5-10)
Pond8-05 123 (0.5-1.5) 60.0 (1.5-2.5) 87.0 (2.5-3.5)
Pond8-14 85.7 (0-0.5)
POND 8 AOC
Pond8-15 4 (0-0.5)
Pond8-25 9.8 (8-10)
Pond8-07 127 (0-0.5) 96.2 (0.5-1.5) 83.5 (1.5-2.5) 175 (2.5-3.5) 104 (3.5-4.5) 203 (4.5-5.5)
DP-5.62 68.6 (0-0.5) 56.5 (5-5.5) 1.03 (10-10.5)
Pond8-03 49.3 (0-0.5) 78.7 (0.5-1.5)
Pond8-20 1.9 J/4.7 J (5.5-7)
A18 35.7 (6-8)
DP-5.60 0.88 (3-3.5) 0.66 (8-8.5)
M20 57.5 (6-8)
T5-02 55.3 (6-8)
DP-4.15 35.6 (2-2.5) 0.000285 (7-7.5)
Pond8-11 91.7 (0-0.5)
POND 8 FILL AREA AOI
SD-5.2
DP-4.14 20.5 (0-0.5)
T5-04 67.1 (6-8)
Pond8-24 4.3 (4.5-6)
Pond8-02 22.5 (0-0.5) 46.4 (0.5-1.5)
Pond8-01 33.5 (0-0.5) 77.2 (0.5-1.5) 65.8 (1.5-2.5)
Pond8-19 6.6 (3-4)
Pond8-12 70.8 (0-0.5)

Legend
- Not Analyzed
- Detected ≤ 53 pg/g
- Detected > 53 pg/g
- September 2019 Sample Location
- Site Boundary
- OUE Boundary
- AOI Boundary
- Newly Identified Pond 8 Fill Area AOIs
- Pond
- Unpaved Roadway
- Paved Roadway

Pond8-14 85.7 (0-0.5)
- Sample ID
- Depth (ft bss)
- 2,3,7,8-TCDD TEQ Concentration in pg/g

N

0 65 130
Scale: Feet

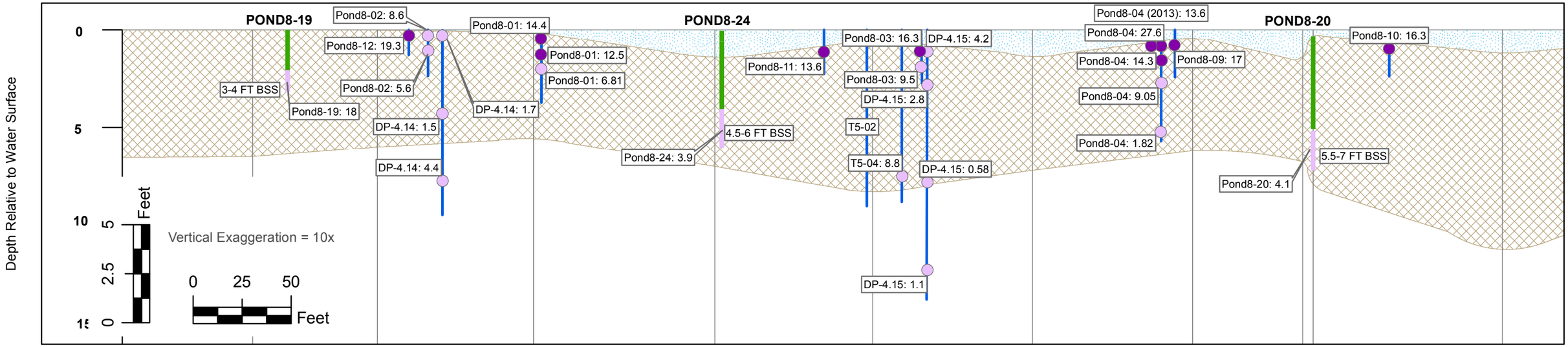
Kennedy/Jenks Consultants

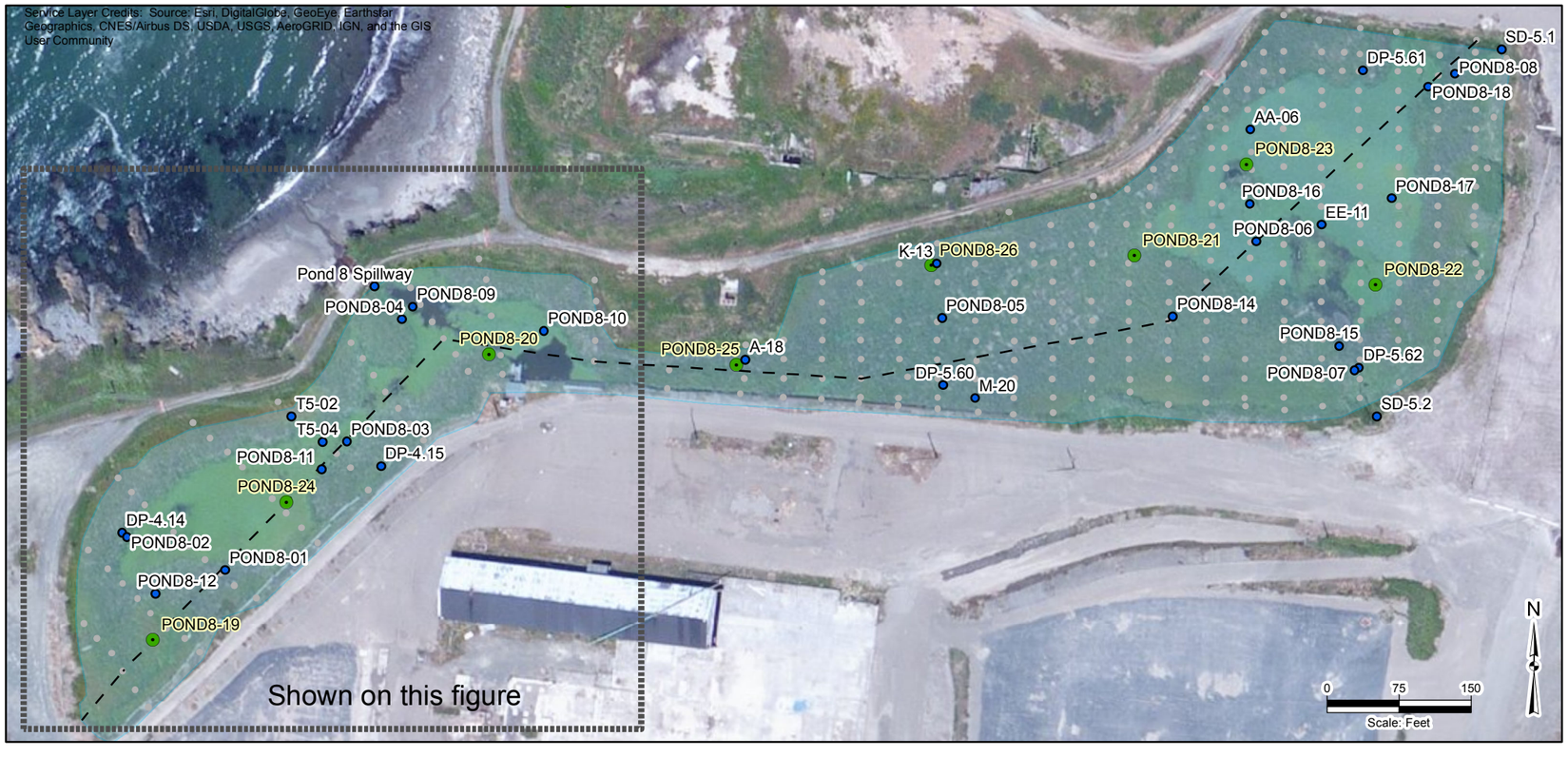
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Dioxin (2,3,7,8-TCDD) TEQ Concentrations in Sediment – Ponds 6, 8 and North Pond

1665018*19

Figure 3





Legend

- Sediment Thickness Probe Location (plan view)
- Boring with Analytical Results (plan view)
- September 2019 Boring Location (plan view)
- Sediment Thickness Probe Location (cross section)
- Boring with Analytical Results (cross section)
- September 2019 Boring Location
- Sample Interval Detected Above 10 mg/kg
- Sample Interval Detected Below 10 mg/kg
- Water
- Sediment

Arsenic Analytical Results

- Detected Below Background Concentration (10 mg/kg)
- Detected Above Background Concentration (10 mg/kg)
- T5:04: 8.8 — Boring ID and Arsenic concentration in mg/kg

Notes:
1. A total of eighteen (18) samples were collected from ten (10) new sample locations.
2. Locations shown on plan view and cross-section are approximate.
3. BSS = Below Sediment Surface
4. Pond sediment thickness was projected to the cross section and may not reflect sediment thickness at each sample location shown. Samples are only proposed in pond sediment.

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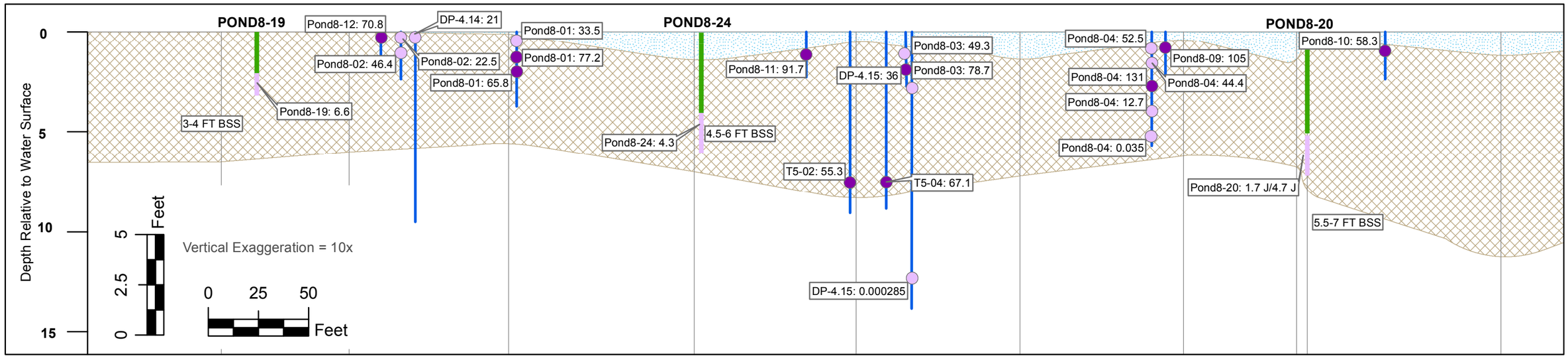
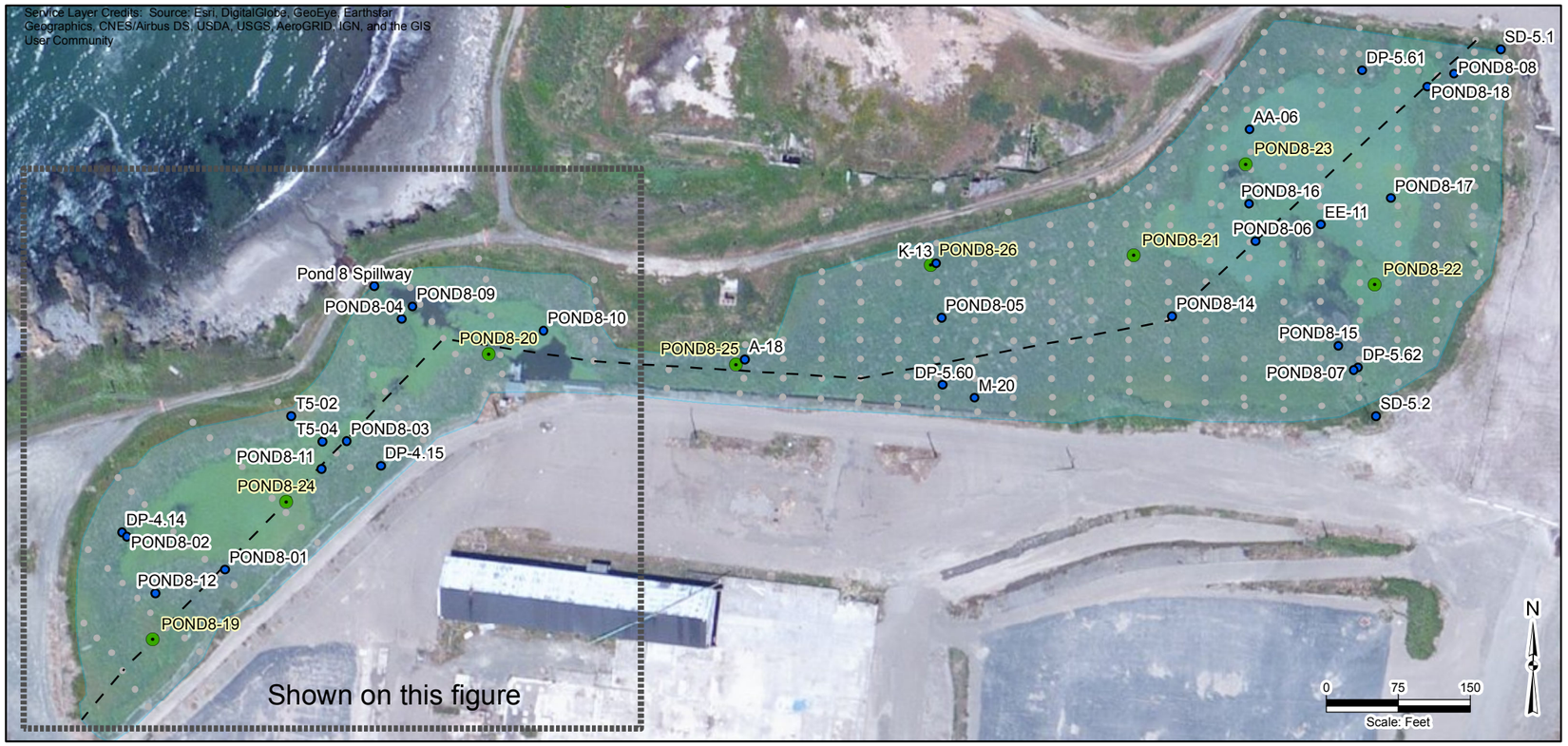
Fort Bragg, California

Pond 8 Sediment Probe Transect
Arsenic Results: Sheet 1

1665018*19
Figure 4





Legend

- Sediment Thickness Probe Location (plan view)
- Boring with Analytical Results (plan view)
- September 2019 Boring Location (plan view)
- Sediment Probe Location
- Boring with Analytical Results
- September 2019 Boring Location
- Sample Interval Detected Above 53pg/g
- Sample Interval Detected Below 53pg/g
- Water
- Sediment

Dioxin Analytical Results

- Detected Below Draft Site-Specific Cleanup Goal (53 pg/g)
- Detected Above Draft Site-Specific Cleanup Goal (53 pg/g)
- Boring ID and dioxin concentration in pg/g

Pond8-04: 52.5

Notes:
1. A total of eighteen (18) samples were collected from ten (10) new sample locations.
2. Locations shown on plan view and cross-section are approximate.
3. BSS = Below Sediment Surface
4. Pond sediment thickness was projected to the cross section and may not reflect sediment thickness at each sample location shown. Samples are only proposed in pond sediment.

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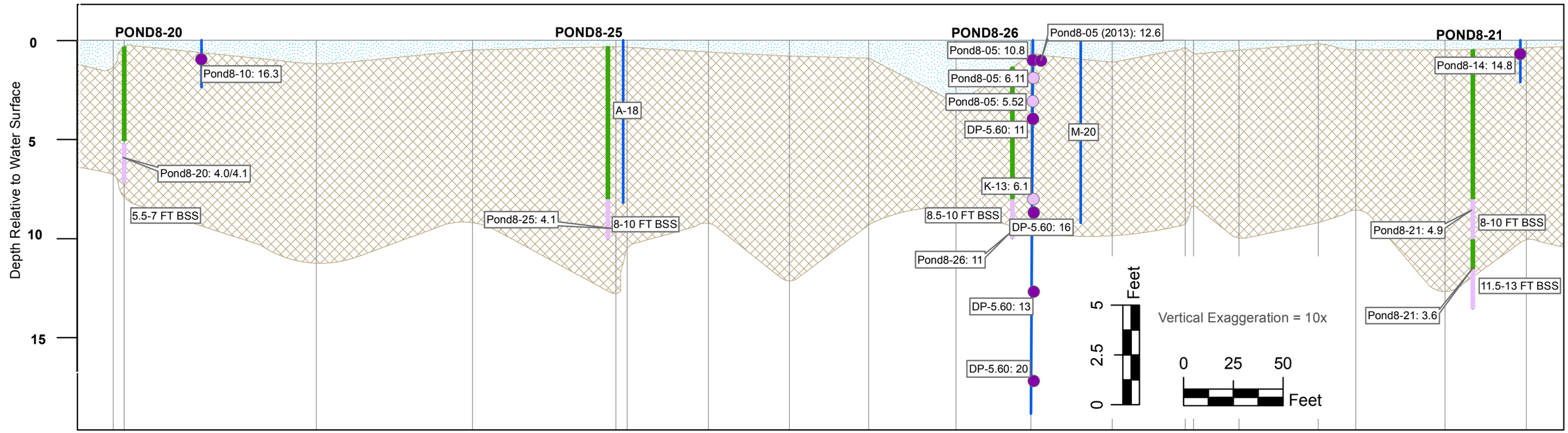
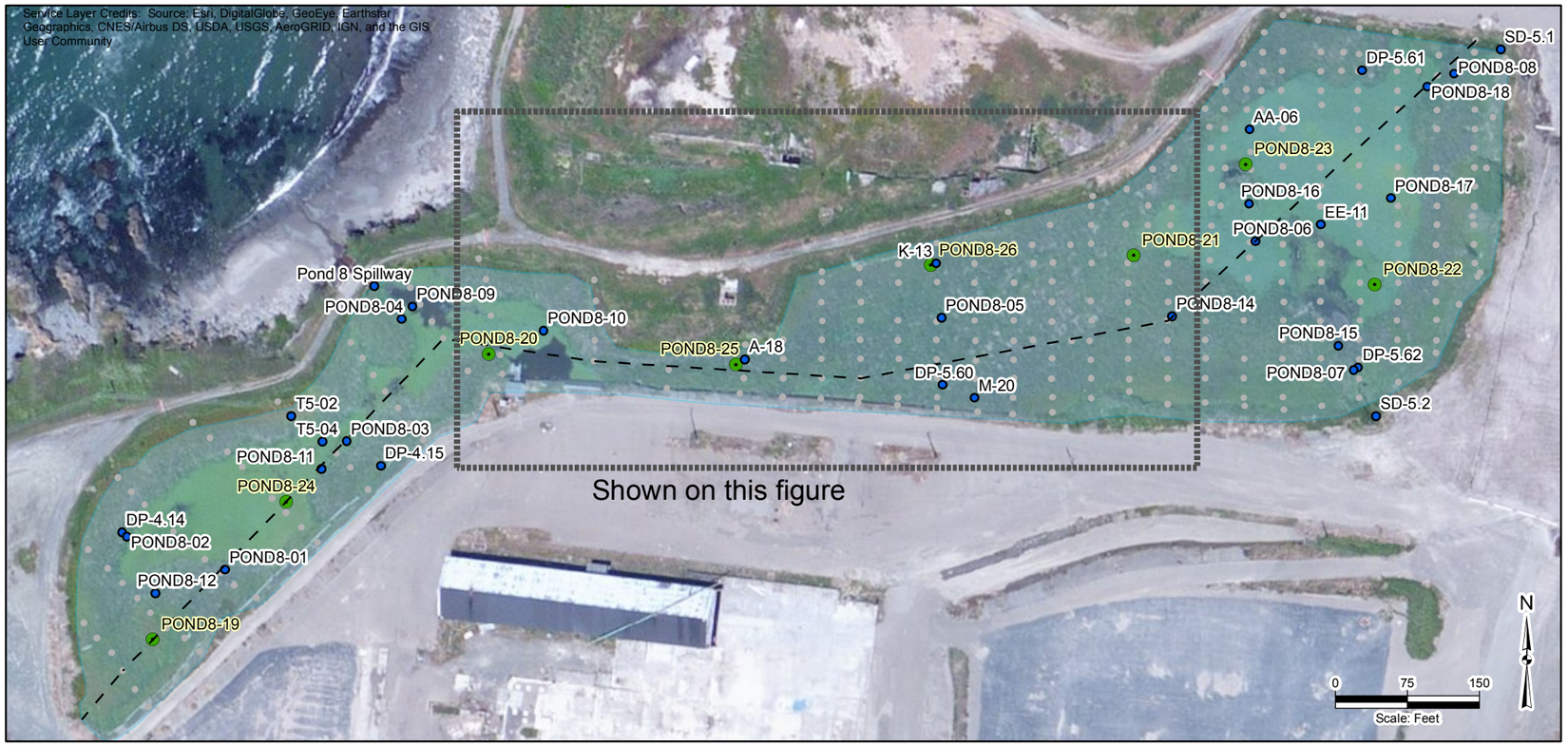
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Pond 8 Sediment Probe Transect
Dioxin Results: Sheet 1

1665018*19
Figure 5





Legend

- Sediment Thickness Probe Location (plan view)
- Boring with Analytical Results (plan view)
- September 2019 Boring Location (plan view)
- Sediment Probe Location
- Boring with Analytical Results (cross section)
- September 2019 Boring Location
- Sample Interval Detected Above 10mg/kg
- Sample Interval Detected Below 10mg/kg

Arsenic Analytical Results

- Detected Below Background Concentration (10 mg/kg)
- Detected Above Background Concentration (10 mg/kg)
- Water
- Sediment
- T5:04: 8.8 — Boring ID and Arsenic concentration in mg/kg

Notes:
1. A total of eighteen (18) samples were collected from ten (10) new sample locations.
2. Locations shown on plan view and cross-section are approximate.
3. BSS = Below Sediment Surface
4. Pond sediment thickness was projected to the cross section and may not reflect sediment thickness at each sample location shown. Samples are only proposed in pond sediment.

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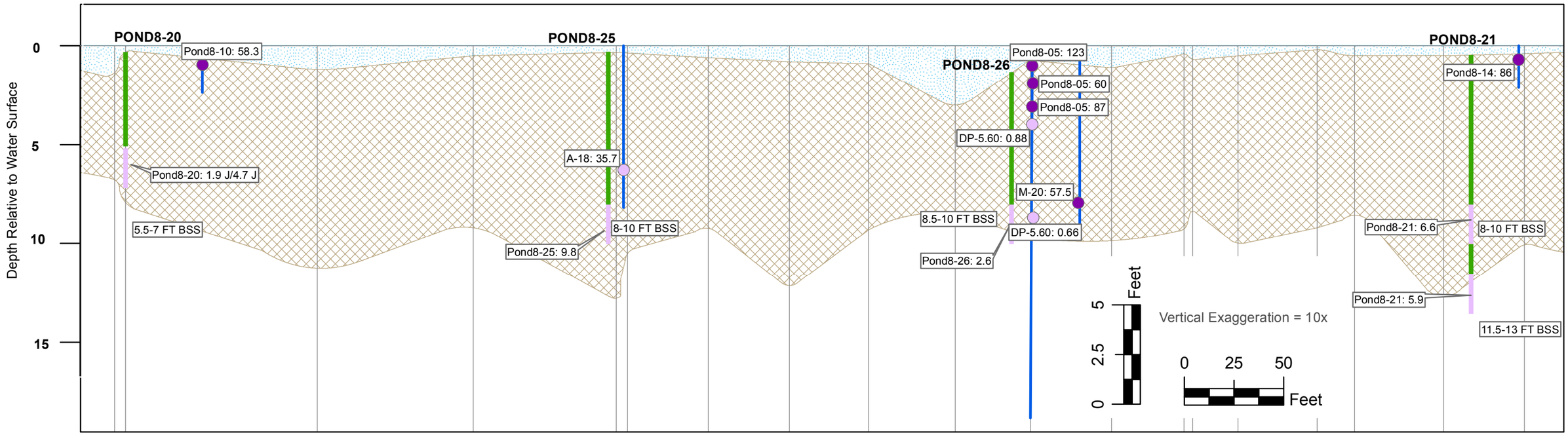
Fort Bragg, California

Pond 8 Sediment Probe Transect
Arsenic Results: Sheet 2

1665018*19
Figure 6



Legend

- Sediment Thickness Probe Location (plan view)
- Boring with Analytical Results (plan view)
- September 2019 Boring Location (plan view)
- Sediment Thickness Probe Location (cross section)
- Boring with Analytical Results (cross section)
- September 2019 Boring Location
- Sample Interval Detected Above 53pg/g
- Sample Interval Detected Below 53pg/g
- Water
- Sediment

Dioxin Analytical Results

- Detected Below Draft Site-Specific Cleanup Goal (53 pg/g)
- Detected Above Draft Site-Specific Cleanup Goal (53 pg/g)

Pond8-04: 52.5 — Boring ID and dioxin concentration in pg/g

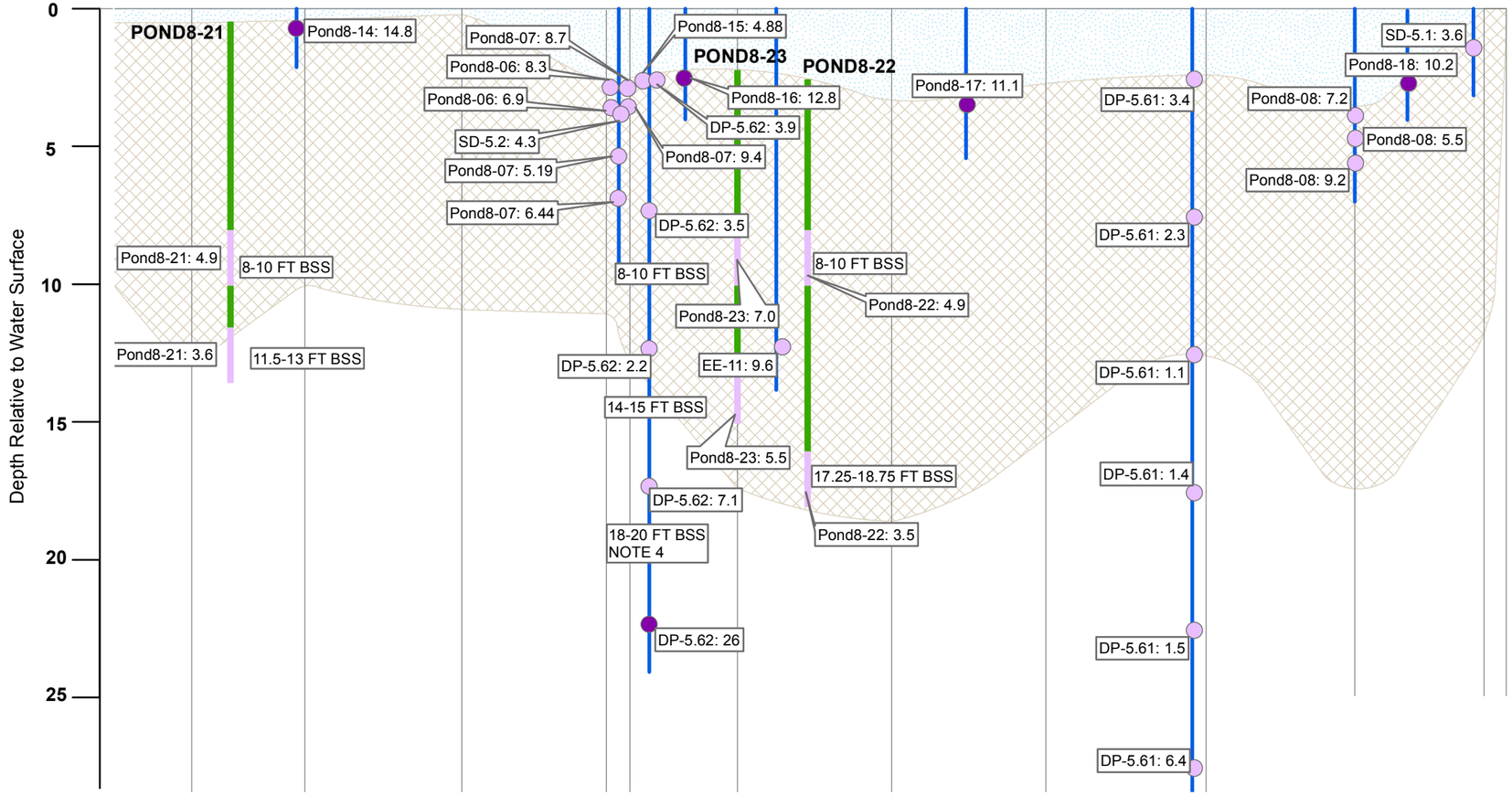
Notes:
1. A total of eighteen (18) samples were collected from ten (10) new sample locations.
2. Locations shown on plan view and cross-section are approximate.
3. BSS = Below Sediment Surface
4. Pond sediment thickness was projected to the cross section and may not reflect sediment thickness at each sample location shown. Samples are only proposed in pond sediment.

Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Pond 8 Sediment Probe Transect
Dioxin Results: Sheet 2

1665018*19
Figure 7

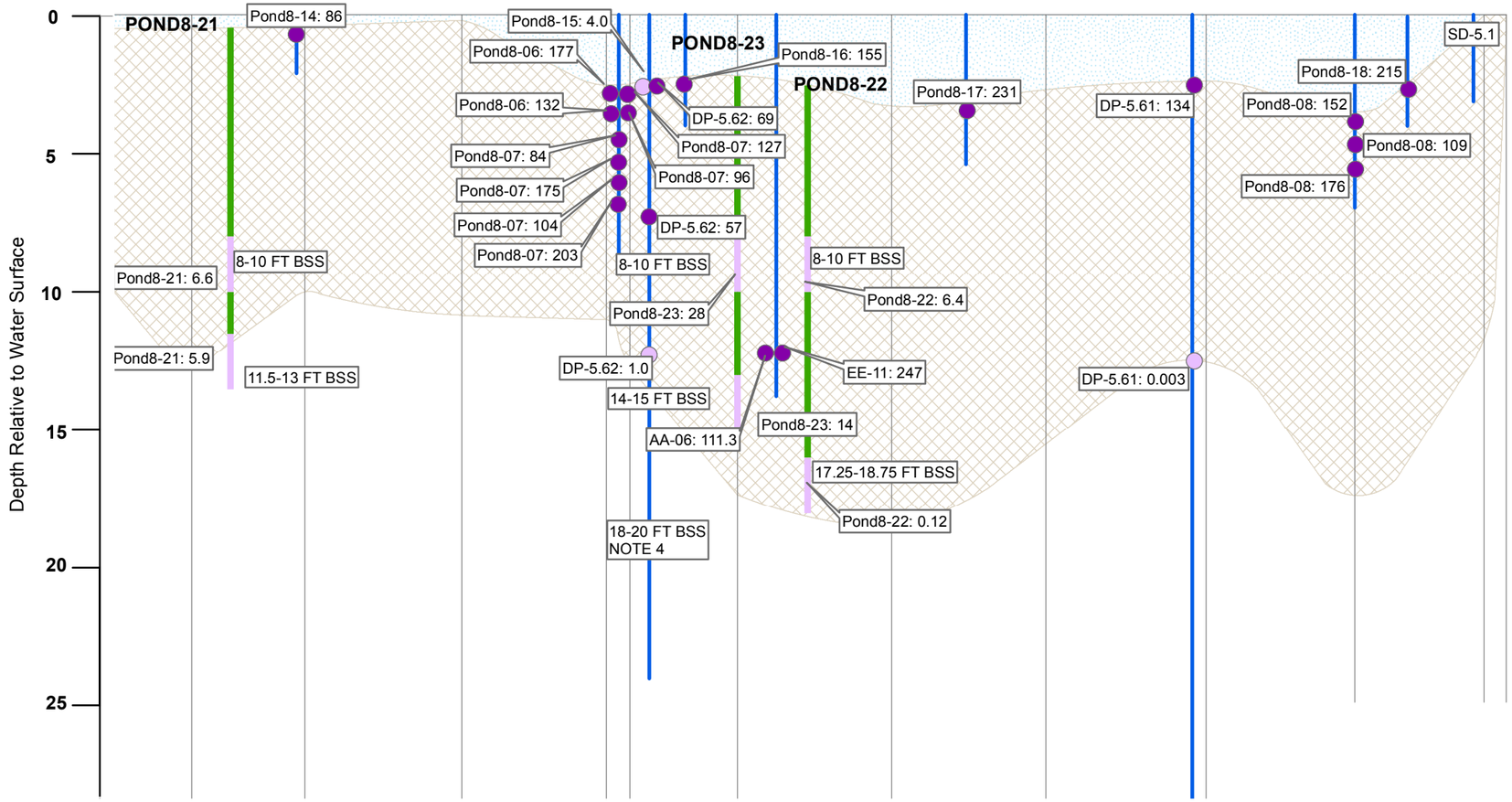


Notes:
1. A total of eighteen (18) samples were collected from ten (10) new sample locations.
2. Locations shown on plan view and cross-section are approximate.
3. BSS = Below Sediment Surface
4. Pond sediment thickness was projected to the cross section and may not reflect sediment thickness at each sample location shown. Samples are only proposed in pond sediment.

Kennedy/Jenks Consultants
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Pond 8 Sediment Probe Transect
Arsenic Results: Sheet 3

1665018*19
Figure 8



Notes:
1. A total of eighteen (18) samples were collected from ten (10) new sample locations.
2. Locations shown on plan view and cross-section are approximate.
3. BSS = Below Sediment Surface
4. Pond sediment thickness was projected to the cross section and may not reflect sediment thickness at each sample location shown. Samples are only proposed in pond sediment.

Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Pond 8 Sediment Probe Transect
Dioxin Results: Sheet 3

1665018*19
Figure 9

Appendix A

Sediment Core Photographs

***Photo #1**:* North Pond, 4.5 to 6.0 feet

***Photo #2**:* *North Pond*

Photo #3: North Pond, 8.5 to 10.0 feet

Photo #4: North Pond, 14.0 to 16.0 feet

***Photo #5**:* North Pond, 14.0 to 16.0 feet (close-up)

***Photo #6**:* North Pond, 18.0 to 20.0 feet

***Photo #7**:* North Pond, 18.0 to 20.0 feet (close-up)

***Photo #8**:* Pond 6, 0.0 to 0.5 foot

Photo #9: Pond 6, 0.0 to 0.5 foot

Photo #10: Pond 6, 1.5 to 3.0 feet

Photo #11: Pond 6, 1.5 to 3.0 feet (close up)

Photo #12: Pond 6, 4.5 to 6.0 feet

Photo #13: Pond 6, 4.5 to 6.0 feet (close-up)

Photo #14: Pond 8, 8-19, 2.0 to 4.0 feet

***Photo #15**:* Pond 8, 8-19, 3.0 to 4.0 feet

***Photo #16**:* Pond 8-20, 5.5 to 7.0 feet

***Photo #17**:* Pond 8-21, 9.0 to 10.0 feet

***Photo #18**:* Pond 8, 8-22, 8.5 to 10.0 feet

Photo #19: Pond 8, 8-22, 8.5 to 10.0 feet

Photo #20: Pond 8, 8-22, 17.25 to 18.75 feet

***Photo #21**:* Pond 8, 8-22, 17.25 to 18.75 feet

***Photo #22**:* Pond 8, 8-23, 9.0 to 10.0 feet

***Photo #23**:* Pond 8, 8-23, 9.0 to 10.0 feet

***Photo #24**:* Pond 8, 8-23, 9.0 to 10.0 feet

***Photo #25**:* Pond 8, 8-23, 9.0 to 10.0 feet

***Photo #26**:* Pond 8, 8-23, 13.0 to 15.0 feet

***Photo #27**:* Pond 8, 8-24, 4.5 to 6.0 feet

***Photo #28**:* Pond 8, 8-24, 4.5 to 6.0 feet

Photo #29: Pond 8, 8-25, 8.0 to 10.0 feet

Photo #30: Pond 8, 8-26, 8.5 to 10.0 feet

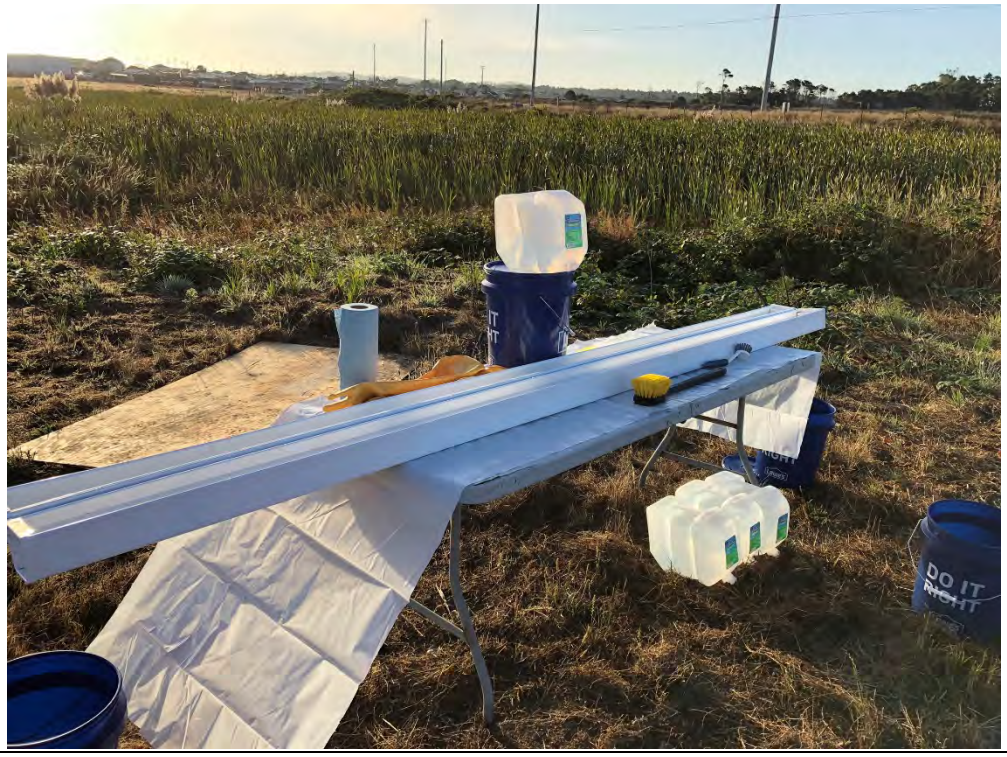


Photo #31: Equipment Cleaning Station

Appendix B

Analytical Laboratory Report

DATA VALIDATION SUMMARY

Laboratory Reports included in Data Validation	Dates	Sample IDs
Laboratory: Test America, Knoxville, TestAmerica, Irvine, CA SDG: 720-94937-1 Analyses: Dioxins and Furans, Metals	**Report Date:** 10/2/2019 **Sample Dates:** 9/3/2019-9/4/2019 **Validation Date:** 11/18/2019	Other Samples: NORTH POND-02 (14.0-16.0), NORTH POND-02 (18.0-20.0), NORTH POND-02 (5.0-5.5), NORTH POND-02 (9.0-9.5), POND 6-03 (0.0-0.5), POND 6-03 (1.5-2.5), POND 6-03 (5.0-5.5), POND 8-19 (3.0-4.0), POND 8-20 (5.5-7.0), POND 8-21 (11.5-13.0), POND 8-21 (8.0-10.0), POND 8-22 (17.25-18.75), POND 8-22 (8.0-10.0), POND 8-23 (14.0-15.0), POND 8-23 (8.0-10.0), POND 8-24 (4.5-6.0), POND 8-25 (8.0-10.0), POND 8-26 (8.5-10.0) Field Duplicates: D-20190904 (duplicate of POND 8-20 (5.5-7.0)) Equipment Blank: EQUIPMENT BLANK Trip Blank: Not Collected

Criteria	(Yes or No)	Comment
Chain-of-Custody (COC) – Chain-of-custody protocol followed?	No	See Note
Temperature Blank – Sample temperature criteria met?	Yes	See Note
Holding times – Samples analyzed within specified holding time?	Yes	
Laboratory method blank samples – Analytes present in method blank samples?	Yes	See Note
Field/Equipment blank samples – Analytes present in field/equipment blank samples?	Yes	See Note
Trip blank samples – Analytes present in trip blank samples?	No	See Note
Matrix Spikes (MS)/Matrix Spike Duplicate (MSD) samples – Control limits met?	No	See Note
Surrogate percent recoveries – Control limits met?	No	See Note
Laboratory Control Sample (LCS) – Control limits met?	Yes	
Laboratory duplicate samples (if applicable) – Control limits met?	Yes	See Note
Field duplicate samples (if submitted) – Relative percent differences within control limits?	No	See Note
Other Issues?	Yes	See Note

COC Note: The container quantities for the following samples did not match the information listed on the Chain-of-Custody (COC): Pond 8-21 (8.0-10.0) received 4-4oz jars, COC listed 2-4oz jars. Pond 8-21 (11.5-13.0) received 3-4oz jars, COC listed 2-4oz jars. Pond 8-20 (5.5-7.0) sample label listed sample date of 9/4/19 and time 10:20, COC lists time of 10:10 and no sample date. No action taken.
Temperature Note: Samples arrived at a temperature of 0.2, 4.0 and 5.7 degrees Celcius (°C) which was within the recommended temperature of 0-6°C.
Method Blank Note: Two (2) dioxin/furan compounds (OCDD and OCDF) were detected in the method blank for batch 140-33467. The detected sample results were less than 10x the method blank concentration, results were qualified as non-detect at the reported concentration.
Total PeCDF was detected in the method blank for batch 140-33467. The associated sample was not detected. No action taken.
Six (6) dioxin/furan compounds were detected in the method blank for batch 140-33722. For detected sample results greater than 5x the method blank concentration (or 10x for OCDD and OCDF), the laboratory's (B) qualifier was removed. For detected sample results less than 5x the method blank concentration (or 10x for OCDD and OCDF), the results were qualified as non-detect at the reported concentration.

Field Blank Note: OCDD, Total TCDF and OCDF were detected in the EQUIPMENT BLANK. These compounds were also detected in the method blank, no additional action taken.
Trip Blank Note: Not Collected
MS/MSD Note: Lab Sample ID: 720-94937-11 Client Sample ID: POND 8-26 (8.5-10.0) Batch: 33722
The RPD for OCDD was above the laboratory acceptance criteria at 18%. No action taken based on RPD.
Surrogate Recovery Note: Client Sample IDs: NORTH POND-02 (18.0-20.0) and POND 6-03 (5.0-5.5) Batch: 140-33722
Isotope dilution analyte recoveries were below the laboratory acceptance criteria of 40-135%. Generally, data quality is not considered affected if the IDA signal-noise ratio is greater than 10:1, which was achieved for all IDA in these samples. No action taken.
Lab Duplicate Note: Not applicable
Field Duplicate Note: Duplicate: D-20190904 Parent Sample ID: POND 8-20 (5.5-7.0)
All of the dioxin/furan compounds exceeded the recommended acceptance criteria. The results were qualified as estimated, J.
Other Note: Estimated maximum concentrations have been qualified as estimated, J.

Sample containers for Equipment blank, 2x amber 1L and 1xpoly 250ml HNO3 were not filled full. No action taken.

Sample container for Pond 8-23 (14.0-15.0), 1-4oz jar (Arsenic) was not filled full. No action taken.

SUMMARY
Overall, the findings with respect to the quality assurance/quality control (QA/QC) data do not adversely affect the use of the analytical results.

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

Laboratory Job ID: 720-94937-1
Client Project/Site: GP, Fort Bragg

For:
Kennedy/Jenks Consultants
421 SW 6th Ave
Suite 1000
Portland, Oregon 97204

Attn: Ms. Alice Robinson

Authorized for release by:
10/2/2019 3:32:32 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Qualifiers

Dioxin

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
F2	MS/MSD RPD exceeds control limits
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-94937-1

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative
720-94937-1

Comments
No additional comments.

Receipt
The samples were received on 9/5/2019 5:52 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 4.0º C and 5.7º C.

Receipt Exceptions

1.) Equipment Blanks 2x amber 1L and 1xpoly 250ml HNO3 were not filled full. 720-94937 #20 KJC/Georgia Pacific
2.) Pond 8-23 (14.0-15.0) 1-4 oz jar (Arsenic) was not filled full.

The container quantites for the following samples did not match the information listed on the Chain-of-Custody (COC):
Pond 8-21 (8.0-10.0) received 4 x4oz jars, while the COC lists 2x4oz jars.
Pond 8-21 (11.5-13.0) received 3 x4oz jars, while the COC lists 2x4oz jars.
720-94937 KJC/Georgia Pacific
Pond 8-20 (5.5-7.0) the sample label lists sample date 9/4/19 and sample time 10:20, while the COC lists time 10:10 and no sample date.

Dioxin
Method(s) 8290A: The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: NORTH POND-02 (18.0-20.0) (720-94937-4) and POND 6-03 (5.0-5.5) (720-94937-7). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: NORTH POND-02 (5,0-5,5) — Lab Sample ID: 720-94937-1

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.61	J I	2.2	0.24	pg/g	1	☼	8290A	Total/NA
Total PeCDD	0.77	J B	11	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.58	J	11	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.51	J I	11	0.16	pg/g	1	☼	8290A	Total/NA
Total HxCDD	3.2	J I	11	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	3.6	J I	11	0.35	pg/g	1	☼	8290A	Total/NA
Total HpCDD	6.6	J I	11	0.35	pg/g	1	☼	8290A	Total/NA
OCDD	22	B	22	0.21	pg/g	1	☼	8290A	Total/NA
Total TCDF	0.70	J I	2.2	0.17	pg/g	1	☼	8290A	Total/NA
Total HxCDF	0.71	J	11	0.26	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	1.3	J B	11	0.13	pg/g	1	☼	8290A	Total/NA
Total HpCDF	3.1	J B	11	0.16	pg/g	1	☼	8290A	Total/NA
OCDF	2.9	J B	22	0.089	pg/g	1	☼	8290A	Total/NA
Arsenic	3.6		1.1	0.55	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: NORTH POND-02 (9,0-9,5) — Lab Sample ID: 720-94937-2

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	1.3	J I	3.7	0.16	pg/g	1	☼	8290A	Total/NA
Total PeCDD	0.95	J I B	19	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.46	J I	19	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.58	J I	19	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.50	J I	19	0.14	pg/g	1	☼	8290A	Total/NA
Total HxCDD	5.3	J I	19	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	7.3	J	19	0.31	pg/g	1	☼	8290A	Total/NA
Total HpCDD	13	J	19	0.31	pg/g	1	☼	8290A	Total/NA
OCDD	41	B	37	0.19	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	0.46	J I	3.7	0.15	pg/g	1	☼	8290A	Total/NA
Total TCDF	3.1	J I	3.7	0.15	pg/g	1	☼	8290A	Total/NA
Total HxCDF	2.2	J I	19	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	2.3	J B	19	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.42	J B	19	0.22	pg/g	1	☼	8290A	Total/NA
Total HpCDF	6.9	J B	19	0.19	pg/g	1	☼	8290A	Total/NA
OCDF	4.9	J I B	37	0.26	pg/g	1	☼	8290A	Total/NA
Arsenic	3.5		1.9	0.93	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: NORTH POND-02 (14.0-16.0) — Lab Sample ID: 720-94937-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.48	J I	3.5	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.49	J I	17	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.55	J I	17	0.16	pg/g	1	☼	8290A	Total/NA
Total HxCDD	3.7	J I	17	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	6.1	J	17	0.34	pg/g	1	☼	8290A	Total/NA
Total HpCDD	12	J	17	0.34	pg/g	1	☼	8290A	Total/NA
OCDD	73	B	35	0.094	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	0.38	J	3.5	0.22	pg/g	1	☼	8290A	Total/NA
Total TCDF	3.0	J I	3.5	0.22	pg/g	1	☼	8290A	Total/NA
Total HxCDF	0.99	J I	17	0.27	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	2.4	J B	17	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.57	J I B	17	0.15	pg/g	1	☼	8290A	Total/NA
Total HpCDF	5.7	J I B	17	0.13	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pleasanton

Client Sample ID: NORTH POND-02 (14.0-16.0) (Continued) — Lab Sample ID: 720-94937-3

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDF	6.0	J B	35	0.096	pg/g	1	☼	8290A	Total/NA
Arsenic	5.1		1.8	0.90	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: NORTH POND-02 (18.0-20.0) — Lab Sample ID: 720-94937-4

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.50	J	2.3	0.24	pg/g	1	☼	8290A	Total/NA
Total TCDD	8.6	I	2.3	0.24	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	0.44	J I	12	0.20	pg/g	1	☼	8290A	Total/NA
Total PeCDD	2.3	J I B	12	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.43	J I	12	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.53	J	12	0.15	pg/g	1	☼	8290A	Total/NA
Total HxCDD	2.2	J I	12	0.16	pg/g	1	☼	8290A	Total/NA
Total HpCDD	1.7	J I	12	0.48	pg/g	1	☼	8290A	Total/NA
OCDD	4.0	J B	23	0.13	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	5.9		2.3	0.40	pg/g	1	☼	8290A	Total/NA
Total TCDF	82	I	2.3	0.42	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	1.1	J I	12	0.23	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	2.0	J	12	0.23	pg/g	1	☼	8290A	Total/NA
Total PeCDF	16	I	12	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	0.64	J I B	12	0.099	pg/g	1	☼	8290A	Total/NA
Total HpCDF	1.1	J I B	12	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	0.89	J B	23	0.12	pg/g	1	☼	8290A	Total/NA
Arsenic	14		1.2	0.58	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 6-03 (0.0-0.5) — Lab Sample ID: 720-94937-5

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.89	J I	6.7	0.51	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	1.2	J	34	0.19	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	0.72	J I	34	0.18	pg/g	1	☼	8290A	Total/NA
Total HxCDD	8.0	J I	34	0.18	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	23	J	34	0.82	pg/g	1	☼	8290A	Total/NA
Total HpCDD	50		34	0.82	pg/g	1	☼	8290A	Total/NA
OCDD	160	B	67	0.11	pg/g	1	☼	8290A	Total/NA
Total TCDF	5.8	J I	6.7	0.79	pg/g	1	☼	8290A	Total/NA
Total PeCDF	1.5	J I	34	0.43	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	0.85	J I	34	0.27	pg/g	1	☼	8290A	Total/NA
Total HxCDF	11	J I	34	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	7.4	J B	34	0.23	pg/g	1	☼	8290A	Total/NA
Total HpCDF	16	J B	34	0.26	pg/g	1	☼	8290A	Total/NA
OCDF	16	J B	67	0.12	pg/g	1	☼	8290A	Total/NA
Arsenic	120		3.4	1.7	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 6-03 (1.5-2.5) — Lab Sample ID: 720-94937-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.54	J I	4.4	0.37	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	0.65	J	22	0.18	pg/g	1	☼	8290A	Total/NA
Total HxCDD	4.8	J I	22	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	12	J	22	0.64	pg/g	1	☼	8290A	Total/NA
Total HpCDD	25		22	0.64	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: POND 6-03 (1.5-2.5) (Continued) — Lab Sample ID: 720-94937-6

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDD	81	B	44	0.17	pg/g	1	☼	8290A	Total/NA
Total TCDF	1.8	J I	4.4	0.52	pg/g	1	☼	8290A	Total/NA
Total PeCDF	0.80	J I	22	0.27	pg/g	1	☼	8290A	Total/NA
Total HxCDF	5.0	J I	22	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	3.0	J B	22	0.23	pg/g	1	☼	8290A	Total/NA
Total HpCDF	7.8	J B	22	0.27	pg/g	1	☼	8290A	Total/NA
OCDF	7.2	J B	44	0.11	pg/g	1	☼	8290A	Total/NA
Arsenic	110		2.2	1.1	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 6-03 (5.0-5.5) — Lab Sample ID: 720-94937-7

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	2.9	J I	3.4	0.26	pg/g	1	☼	8290A	Total/NA
Total TCDD	65	I	3.4	0.26	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	2.5	J I	17	0.18	pg/g	1	☼	8290A	Total/NA
Total PeCDD	27	I B	17	0.18	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	1.2	J	17	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	2.4	J	17	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	2.6	J I	17	0.21	pg/g	1	☼	8290A	Total/NA
Total HxCDD	23	I	17	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	25		17	0.49	pg/g	1	☼	8290A	Total/NA
Total HpCDD	47		17	0.49	pg/g	1	☼	8290A	Total/NA
OCDD	110	B	34	0.16	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	29		3.4	0.88	pg/g	1	☼	8290A	Total/NA
Total TCDF	530	I	3.4	0.57	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	5.1	J	17	0.17	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	9.4	J I	17	0.15	pg/g	1	☼	8290A	Total/NA
Total PeCDF	87	I	17	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	2.8	J	17	0.45	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.6	J	17	0.42	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.91	J	17	0.47	pg/g	1	☼	8290A	Total/NA
Total HxCDF	13	J I	17	0.47	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	3.4	J B	17	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.77	J B	17	0.14	pg/g	1	☼	8290A	Total/NA
Total HpCDF	8.4	J I B	17	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	5.5	J B	34	0.16	pg/g	1	☼	8290A	Total/NA
Arsenic	28		1.7	0.86	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-25 (8.0-10.0) — Lab Sample ID: 720-94937-8

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.1	J I	3.1	0.22	pg/g	1	☼	8290A	Total/NA
Total TCDD	5.7	I	3.1	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	4.1	J I	16	0.15	pg/g	1	☼	8290A	Total/NA
Total PeCDD	21	I B	16	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	2.7	J	16	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	11	J	16	0.21	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	9.5	J	16	0.20	pg/g	1	☼	8290A	Total/NA
Total HxCDD	92		16	0.21	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	150		16	0.37	pg/g	1	☼	8290A	Total/NA
Total HpCDD	270		16	0.37	pg/g	1	☼	8290A	Total/NA
OCDD	400	B	31	0.12	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: POND 8-25 (8.0-10.0) (Continued) — Lab Sample ID: 720-94937-8

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDF	86	I	3.1	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	0.46	J	16	0.12	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	0.64	J	16	0.12	pg/g	1	☼	8290A	Total/NA
Total PeCDF	62	I	16	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	1.0	J I	16	0.20	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	2.1	J	16	0.20	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.75	J	16	0.22	pg/g	1	☼	8290A	Total/NA
Total HxCDF	33	I	16	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	6.7	J B	16	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.67	J B	16	0.20	pg/g	1	☼	8290A	Total/NA
Total HpCDF	21	B	16	0.17	pg/g	1	☼	8290A	Total/NA
OCDF	15	J B	31	0.16	pg/g	1	☼	8290A	Total/NA
Arsenic	4.1		1.6	0.78	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-19 (3.0-4.0) — Lab Sample ID: 720-94937-9

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.52	J I	3.9	0.23	pg/g	1	☼	8290A	Total/NA
Total TCDD	4.7	I	3.9	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	2.3	J I	20	0.13	pg/g	1	☼	8290A	Total/NA
Total PeCDD	9.4	J I B	20	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	1.7	J I	20	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	9.6	J	20	0.32	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	5.3	J	20	0.29	pg/g	1	☼	8290A	Total/NA
Total HxCDD	68	I	20	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	71		20	0.47	pg/g	1	☼	8290A	Total/NA
Total HpCDD	130		20	0.47	pg/g	1	☼	8290A	Total/NA
OCDD	360	B	39	0.37	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	4.2		3.9	0.41	pg/g	1	☼	8290A	Total/NA
Total TCDF	51	I	3.9	0.36	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	1.0	J	20	0.22	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	1.5	J	20	0.21	pg/g	1	☼	8290A	Total/NA
Total PeCDF	22	I	20	0.21	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	1.3	J I	20	0.38	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.6	J I	20	0.37	pg/g	1	☼	8290A	Total/NA
Total HxCDF	25	I	20	0.40	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	9.9	J B	20	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.83	J B	20	0.23	pg/g	1	☼	8290A	Total/NA
Total HpCDF	29	B	20	0.20	pg/g	1	☼	8290A	Total/NA
OCDF	16	J B	39	0.19	pg/g	1	☼	8290A	Total/NA
Arsenic	18		2.0	1.0	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-24 (4.5-6.0) — Lab Sample ID: 720-94937-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.65	J	1.5	0.14	pg/g	1	☼	8290A	Total/NA
Total TCDD	3.0	I	1.5	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	1.5	J I	7.6	0.11	pg/g	1	☼	8290A	Total/NA
Total PeCDD	8.3	I B	7.6	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.98	J I	7.6	0.086	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	4.6	J	7.6	0.087	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	3.7	J	7.6	0.081	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: POND 8-24 (4.5-6.0) (Continued) — Lab Sample ID: 720-94937-10

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	38	I	7.6	0.085	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	63		7.6	0.15	pg/g	1	☼	8290A	Total/NA
Total HpCDD	110		7.6	0.15	pg/g	1	☼	8290A	Total/NA
OCDD	190	B	15	0.11	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	0.39	J	1.5	0.16	pg/g	1	☼	8290A	Total/NA
Total TCDF	87	I	1.5	0.16	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	0.33	J I	7.6	0.12	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	0.60	J	7.6	0.11	pg/g	1	☼	8290A	Total/NA
Total PeCDF	63	I	7.6	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	0.59	J I	7.6	0.12	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.4	J	7.6	0.12	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	0.50	J I	7.6	0.12	pg/g	1	☼	8290A	Total/NA
Total HxCDF	29	I	7.6	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	4.1	J B	7.6	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.26	J B	7.6	0.14	pg/g	1	☼	8290A	Total/NA
Total HpCDF	11	I B	7.6	0.12	pg/g	1	☼	8290A	Total/NA
OCDF	6.8	J B	15	0.12	pg/g	1	☼	8290A	Total/NA
Arsenic	3.9		0.77	0.39	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-26 (8.5-10.0) — Lab Sample ID: 720-94937-11

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	1.7	J I	2.7	0.28	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	0.98	J I	14	0.25	pg/g	1	☼	8290A	Total/NA
Total PeCDD	5.9	J I B	14	0.25	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.85	J	14	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	3.1	J I	14	0.34	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	2.8	J	14	0.31	pg/g	1	☼	8290A	Total/NA
Total HxCDD	24	I	14	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	38		14	0.50	pg/g	1	☼	8290A	Total/NA
Total HpCDD	67		14	0.50	pg/g	1	☼	8290A	Total/NA
OCDD	120	B F2	27	0.55	pg/g	1	☼	8290A	Total/NA
Total TCDF	140	I	2.7	0.45	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	0.68	J	14	0.25	pg/g	1	☼	8290A	Total/NA
Total PeCDF	63	I	14	0.25	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.9	J	14	0.31	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	1.1	J I	14	0.32	pg/g	1	☼	8290A	Total/NA
Total HxCDF	31	I	14	0.34	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	3.2	J B	14	0.38	pg/g	1	☼	8290A	Total/NA
Total HpCDF	9.0	J I B	14	0.44	pg/g	1	☼	8290A	Total/NA
OCDF	6.3	J B	27	0.44	pg/g	1	☼	8290A	Total/NA
Arsenic	11		1.4	0.68	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-20 (5.5-7.0) — Lab Sample ID: 720-94937-12

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	0.49	J	2.1	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	0.66	J I	10	0.086	pg/g	1	☼	8290A	Total/NA
Total PeCDD	3.6	J I B	10	0.086	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.55	J I	10	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	2.1	J	10	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	2.0	J	10	0.16	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: POND 8-20 (5.5-7.0) (Continued) — Lab Sample ID: 720-94937-12

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total HxCDD	20	I	10	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	31		10	0.25	pg/g	1	☼	8290A	Total/NA
Total HpCDD	55		10	0.25	pg/g	1	☼	8290A	Total/NA
OCDD	80	B	21	0.072	pg/g	1	☼	8290A	Total/NA
Total TCDF	99	I	2.1	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	0.35	J I	10	0.16	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	0.65	J	10	0.15	pg/g	1	☼	8290A	Total/NA
Total PeCDF	53	I	10	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	1.7	J I	10	0.21	pg/g	1	☼	8290A	Total/NA
Total HxCDF	24	I	10	0.24	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	2.7	J B	10	0.25	pg/g	1	☼	8290A	Total/NA
Total HpCDF	6.7	J B	10	0.29	pg/g	1	☼	8290A	Total/NA
OCDF	4.7	J I B	21	0.11	pg/g	1	☼	8290A	Total/NA
Arsenic	4.0		1.0	0.51	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-21 (8.0-10.0) — Lab Sample ID: 720-94937-13

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	4.9	I	4.0	0.46	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	1.8	J	20	0.33	pg/g	1	☼	8290A	Total/NA
Total PeCDD	9.3	J I B	20	0.33	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	1.7	J I	20	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	5.4	J	20	0.25	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	4.4	J	20	0.22	pg/g	1	☼	8290A	Total/NA
Total HxCDD	38	I	20	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	62		20	0.85	pg/g	1	☼	8290A	Total/NA
Total HpCDD	110		20	0.85	pg/g	1	☼	8290A	Total/NA
OCDD	270	B	40	0.35	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	2.6	J	4.0	0.71	pg/g	1	☼	8290A	Total/NA
Total TCDF	440	I	4.0	0.71	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	1.2	J I	20	0.24	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	2.9	J	20	0.22	pg/g	1	☼	8290A	Total/NA
Total PeCDF	340	I	20	0.23	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	3.1	J I	20	0.68	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	9.0	J I	20	0.65	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	3.7	J	20	0.73	pg/g	1	☼	8290A	Total/NA
Total HxCDF	160	I	20	0.72	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	14	J B	20	0.19	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	1.4	J B	20	0.26	pg/g	1	☼	8290A	Total/NA
Total HpCDF	40	B	20	0.22	pg/g	1	☼	8290A	Total/NA
OCDF	27	J B	40	0.48	pg/g	1	☼	8290A	Total/NA
Arsenic	4.9		2.1	1.0	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-21 (11.5-13.0) — Lab Sample ID: 720-94937-14

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.79	J	2.8	0.22	pg/g	1	☼	8290A	Total/NA
Total TCDD	3.7	I	2.8	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	1.7	J I	14	0.094	pg/g	1	☼	8290A	Total/NA
Total PeCDD	9.5	J I B	14	0.094	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	1.4	J	14	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	4.9	J	14	0.17	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: POND 8-21 (11.5-13.0) (Continued) — Lab Sample ID: 720-94937-14

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8,9-HxCDD	3.7	J	14	0.16	pg/g	1	☼	8290A	Total/NA
Total HxCDD	36	I	14	0.17	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	59		14	0.30	pg/g	1	☼	8290A	Total/NA
Total HpCDD	100		14	0.30	pg/g	1	☼	8290A	Total/NA
OCDD	240	B	28	0.25	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	2.0	J	2.8	0.35	pg/g	1	☼	8290A	Total/NA
Total TCDF	380	I	2.8	0.35	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	2.1	J	14	0.14	pg/g	1	☼	8290A	Total/NA
Total PeCDF	250	I	14	0.14	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	5.3	J I	14	0.79	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	2.4	J I	14	0.82	pg/g	1	☼	8290A	Total/NA
Total HxCDF	100	I	14	0.86	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	13	J B	14	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	1.0	J I B	14	0.15	pg/g	1	☼	8290A	Total/NA
Total HpCDF	36	I B	14	0.13	pg/g	1	☼	8290A	Total/NA
OCDF	29	B	28	0.28	pg/g	1	☼	8290A	Total/NA
Arsenic	3.6		1.4	0.72	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-23 (8.0-10.0) — Lab Sample ID: 720-94937-15

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	2.1	J	4.1	0.41	pg/g	1	☼	8290A	Total/NA
Total TCDD	15	I	4.1	0.41	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	8.6	J	21	0.34	pg/g	1	☼	8290A	Total/NA
Total PeCDD	72	I B	21	0.34	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	6.8	J	21	0.39	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	24		21	0.37	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	18	J	21	0.36	pg/g	1	☼	8290A	Total/NA
Total HxCDD	160	I	21	0.37	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	300		21	0.55	pg/g	1	☼	8290A	Total/NA
Total HpCDD	550		21	0.55	pg/g	1	☼	8290A	Total/NA
OCDD	1400	B	41	0.51	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	4.0	J I	4.1	3.2	pg/g	1	☼	8290A	Total/NA
Total TCDF	1500	I	4.1	1.6	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	2.3	J	21	0.56	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	8.9	J	21	0.57	pg/g	1	☼	8290A	Total/NA
Total PeCDF	1200	I	21	0.56	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	7.6	J	21	2.7	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	28	I	21	2.7	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	11	J	21	3.0	pg/g	1	☼	8290A	Total/NA
Total HxCDF	560	I	21	3.0	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	64	B	21	0.28	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	6.2	J I B	21	0.38	pg/g	1	☼	8290A	Total/NA
Total HpCDF	180	I B	21	0.33	pg/g	1	☼	8290A	Total/NA
OCDF	120	B	41	1.0	pg/g	1	☼	8290A	Total/NA
Arsenic	7.0		2.1	1.1	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-23 (14.0-15.0) — Lab Sample ID: 720-94937-16

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	1.4	J	3.4	0.18	pg/g	1	☼	8290A	Total/NA
Total TCDD	8.5	I	3.4	0.18	pg/g	1	☼	8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: POND 8-23 (14.0-15.0) (Continued)

Lab Sample ID: 720-94937-16

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	4.6	J	17	0.37	pg/g	1	☼	8290A	Total/NA
Total PeCDD	93	I B	17	0.37	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	3.6	J	17	0.27	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	14	J	17	0.26	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	13	J	17	0.25	pg/g	1	☼	8290A	Total/NA
Total HxCDD	110		17	0.26	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	220		17	0.29	pg/g	1	☼	8290A	Total/NA
Total HpCDD	380		17	0.29	pg/g	1	☼	8290A	Total/NA
OCDD	730	B	34	0.14	pg/g	1	☼	8290A	Total/NA
Total TCDF	420	I	3.4	0.64	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	1.2	J	17	0.25	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	3.5	J	17	0.22	pg/g	1	☼	8290A	Total/NA
Total PeCDF	330	I	17	0.24	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	3.1	J	17	0.86	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	8.4	J I	17	0.84	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	3.8	J	17	0.93	pg/g	1	☼	8290A	Total/NA
Total HxCDF	170	I	17	0.93	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	30	B	17	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	2.9	J B	17	0.15	pg/g	1	☼	8290A	Total/NA
Total HpCDF	89	I B	17	0.14	pg/g	1	☼	8290A	Total/NA
OCDF	68	B	34	0.20	pg/g	1	☼	8290A	Total/NA
Arsenic	5.5		1.7	0.84	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: POND 8-22 (8.0-10.0)

Lab Sample ID: 720-94937-17

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
Total TCDD	2.7	J I	3.3	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	3.0	J	17	0.21	pg/g	1	☼	8290A	Total/NA
Total PeCDD	9.3	J I B	17	0.21	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	2.4	J	17	0.35	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	6.3	J	17	0.36	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	5.6	J	17	0.33	pg/g	1	☼	8290A	Total/NA
Total HxCDD	41		17	0.34	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	81		17	0.58	pg/g	1	☼	8290A	Total/NA
Total HpCDD	150		17	0.58	pg/g	1	☼	8290A	Total/NA
OCDD	440	B	33	0.56	pg/g	1	☼	8290A	Total/NA
Total TCDF	56	I	3.3	0.48	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	0.85	J I	17	0.25	pg/g	1	☼	8290A	Total/NA
Total PeCDF	44	I	17	0.26	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDF	1.7	J I	17	0.36	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	2.1	J	17	0.36	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	1.1	J	17	0.38	pg/g	1	☼	8290A	Total/NA
Total HxCDF	49	I	17	0.38	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	23	B	17	0.31	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	1.8	J B	17	0.37	pg/g	1	☼	8290A	Total/NA
Total HpCDF	66	B	17	0.34	pg/g	1	☼	8290A	Total/NA
OCDF	59	B	33	0.62	pg/g	1	☼	8290A	Total/NA
Arsenic	4.9		1.7	0.84	mg/Kg	20	☼	6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-22 (17.25-18.75) — Lab Sample ID: 720-94937-18

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,6,7,8-HxCDD	0.43	J I	7.2	0.12	pg/g	1	☼	8290A	Total/NA
Total HxCDD	1.7	J I	7.2	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	4.9	J	7.2	0.21	pg/g	1	☼	8290A	Total/NA
Total HpCDD	9.1		7.2	0.21	pg/g	1	☼	8290A	Total/NA
OCDD	30	B	14	0.27	pg/g	1	☼	8290A	Total/NA
Total TCDF	0.74	J	1.4	0.11	pg/g	1	☼	8290A	Total/NA
Total PeCDF	0.75	J I	7.2	0.13	pg/g	1	☼	8290A	Total/NA
Total HxCDF	2.8	J I	7.2	0.15	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	1.8	J B	7.2	0.14	pg/g	1	☼	8290A	Total/NA
Total HpCDF	5.4	J B	7.2	0.17	pg/g	1	☼	8290A	Total/NA
OCDF	5.9	J B	14	0.17	pg/g	1	☼	8290A	Total/NA
Arsenic	3.5		0.73	0.36	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: D-20190904 — Lab Sample ID: 720-94937-19

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	0.74	J I	2.1	0.13	pg/g	1	☼	8290A	Total/NA
Total TCDD	3.8	I	2.1	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDD	1.2	J	11	0.095	pg/g	1	☼	8290A	Total/NA
Total PeCDD	6.9	J I B	11	0.095	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8-HxCDD	0.91	J I	11	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDD	3.9	J	11	0.11	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8,9-HxCDD	3.1	J	11	0.099	pg/g	1	☼	8290A	Total/NA
Total HxCDD	32	I	11	0.10	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDD	57		11	0.30	pg/g	1	☼	8290A	Total/NA
Total HpCDD	99		11	0.30	pg/g	1	☼	8290A	Total/NA
OCDD	170	B	21	0.17	pg/g	1	☼	8290A	Total/NA
2,3,7,8-TCDF	1.2	J I	2.1	0.65	pg/g	1	☼	8290A	Total/NA
Total TCDF	210	I	2.1	0.22	pg/g	1	☼	8290A	Total/NA
1,2,3,7,8-PeCDF	0.60	J I	11	0.14	pg/g	1	☼	8290A	Total/NA
2,3,4,7,8-PeCDF	1.8	J I	11	0.11	pg/g	1	☼	8290A	Total/NA
Total PeCDF	140	I	11	0.13	pg/g	1	☼	8290A	Total/NA
1,2,3,6,7,8-HxCDF	3.5	J I	11	0.39	pg/g	1	☼	8290A	Total/NA
2,3,4,6,7,8-HxCDF	2.1	J	11	0.43	pg/g	1	☼	8290A	Total/NA
Total HxCDF	59	I	11	0.44	pg/g	1	☼	8290A	Total/NA
1,2,3,4,6,7,8-HpCDF	5.3	J B	11	0.051	pg/g	1	☼	8290A	Total/NA
1,2,3,4,7,8,9-HpCDF	0.59	J B	11	0.067	pg/g	1	☼	8290A	Total/NA
Total HpCDF	14	B	11	0.059	pg/g	1	☼	8290A	Total/NA
OCDF	7.7	J B	21	0.11	pg/g	1	☼	8290A	Total/NA
Arsenic	4.1		1.1	0.54	mg/Kg	20	☼	6020	Total/NA

Client Sample ID: EQUIPMENT BLANK — Lab Sample ID: 720-94937-20

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
OCDD	5.2	J I B	130	0.31	pg/L	1		8290A	Total/NA
Total TCDF	2.6	J I	13	0.77	pg/L	1		8290A	Total/NA
OCDF	1.0	J I B	130	0.15	pg/L	1		8290A	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: NORTH POND-02 (5,0-5,5)

Date Collected: 09/03/19 10:30
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-1

Matrix: Solid
Percent Solids: 45.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		2.2	0.24	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total TCDD	**0.61**	**J I**	2.2	0.24	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,7,8-PeCDD	ND		11	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total PeCDD	**0.77**	**J B**	11	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,4,7,8-HxCDD	ND		11	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,6,7,8-HxCDD	**0.58**	**J**	11	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,7,8,9-HxCDD	**0.51**	**J I**	11	0.16	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total HxCDD	**3.2**	**J I**	11	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,4,6,7,8-HpCDD	**3.6**	**J I**	11	0.35	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total HpCDD	**6.6**	**J I**	11	0.35	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
OCDD	**22**	**B**	22	0.21	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
2,3,7,8-TCDF	ND		2.2	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total TCDF	**0.70**	**J I**	2.2	0.17	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,7,8-PeCDF	ND		11	0.30	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
2,3,4,7,8-PeCDF	ND		11	0.28	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total PeCDF	ND		11	0.30	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,4,7,8-HxCDF	ND		11	0.25	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,6,7,8-HxCDF	ND		11	0.22	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
2,3,4,6,7,8-HxCDF	ND		11	0.25	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,7,8,9-HxCDF	ND		11	0.33	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total HxCDF	**0.71**	**J**	11	0.26	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,4,6,7,8-HpCDF	**1.3**	**J B**	11	0.13	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
1,2,3,4,7,8,9-HpCDF	ND		11	0.19	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
Total HpCDF	**3.1**	**J B**	11	0.16	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1
OCDF	**2.9**	**J B**	22	0.089	pg/g	☼	09/19/19 11:50	09/29/19 07:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*50*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,7,8-PeCDD	*46*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,4,7,8-HxCDD	*50*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,6,7,8-HxCDD	*53*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*59*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-OCDD	*50*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-2,3,7,8-TCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,7,8-PeCDF	*45*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-2,3,4,7,8-PeCDF	*45*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,4,7,8-HxCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,6,7,8-HxCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-2,3,4,6,7,8-HxCDF	*46*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,7,8,9-HxCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*
13C-OCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 07:18*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.6**		1.1	0.55	mg/Kg	☼	09/09/19 10:34	09/09/19 17:40	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**54.4**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: NORTH POND-02 (9,0-9,5)

Date Collected: 09/03/19 11:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-2

Matrix: Solid
Percent Solids: 26.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		3.7	0.16	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total TCDD	**1.3**	**J I**	3.7	0.16	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,7,8-PeCDD	ND		19	0.20	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total PeCDD	**0.95**	**J I B**	19	0.20	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,4,7,8-HxCDD	**0.46**	**J I**	19	0.14	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,6,7,8-HxCDD	**0.58**	**J I**	19	0.15	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,7,8,9-HxCDD	**0.50**	**J I**	19	0.14	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total HxCDD	**5.3**	**J I**	19	0.15	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,4,6,7,8-HpCDD	**7.3**	**J**	19	0.31	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total HpCDD	**13**	**J**	19	0.31	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
OCDD	**41**	**B**	37	0.19	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
2,3,7,8-TCDF	**0.46**	**J I**	3.7	0.15	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total TCDF	**3.1**	**J I**	3.7	0.15	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,7,8-PeCDF	ND		19	0.26	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
2,3,4,7,8-PeCDF	ND		19	0.25	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total PeCDF	ND		19	0.26	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,4,7,8-HxCDF	ND		19	0.15	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,6,7,8-HxCDF	ND		19	0.15	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
2,3,4,6,7,8-HxCDF	ND		19	0.17	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,7,8,9-HxCDF	ND		19	0.20	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total HxCDF	**2.2**	**J I**	19	0.17	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,4,6,7,8-HpCDF	**2.3**	**J B**	19	0.16	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
1,2,3,4,7,8,9-HpCDF	**0.42**	**J B**	19	0.22	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
Total HpCDF	**6.9**	**J B**	19	0.19	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1
OCDF	**4.9**	**J I B**	37	0.26	pg/g	☼	09/19/19 11:50	09/29/19 08:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,4,7,8-HxCDD	*50*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*51*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-OCDD	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-2,3,7,8-TCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,7,8-PeCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-2,3,4,7,8-PeCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,6,7,8-HxCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-2,3,4,6,7,8-HxCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,7,8,9-HxCDF	*49*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*44*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*46*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*
13C-OCDF	*46*		*40 - 135*	*09/19/19 11:50*	*09/29/19 08:19*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.5**		1.9	0.93	mg/Kg	☼	09/09/19 10:34	09/09/19 17:42	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**73.6**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: NORTH POND-02 (14.0-16.0)

Date Collected: 09/03/19 11:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-3

Matrix: Solid
Percent Solids: 28.1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		3.5	0.20	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total TCDD	**0.48**	**J I**	3.5	0.20	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,7,8-PeCDD	ND		17	0.31	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total PeCDD	ND		17	0.31	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,4,7,8-HxCDD	**0.49**	**J I**	17	0.17	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,6,7,8-HxCDD	ND		17	0.17	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,7,8,9-HxCDD	**0.55**	**J I**	17	0.16	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total HxCDD	**3.7**	**J I**	17	0.16	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,4,6,7,8-HpCDD	**6.1**	**J**	17	0.34	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total HpCDD	**12**	**J**	17	0.34	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
OCDD	**73**	**B**	35	0.094	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
2,3,7,8-TCDF	**0.38**	**J**	3.5	0.22	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total TCDF	**3.0**	**J I**	3.5	0.22	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,7,8-PeCDF	ND		17	0.24	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
2,3,4,7,8-PeCDF	ND		17	0.22	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total PeCDF	ND		17	0.24	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,4,7,8-HxCDF	ND		17	0.25	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,6,7,8-HxCDF	ND		17	0.24	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
2,3,4,6,7,8-HxCDF	ND		17	0.27	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,7,8,9-HxCDF	ND		17	0.31	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total HxCDF	**0.99**	**J I**	17	0.27	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,4,6,7,8-HpCDF	**2.4**	**J B**	17	0.12	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
1,2,3,4,7,8,9-HpCDF	**0.57**	**J I B**	17	0.15	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
Total HpCDF	**5.7**	**J I B**	17	0.13	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1
OCDF	**6.0**	**J B**	35	0.096	pg/g	☼	09/19/19 11:50	09/29/19 17:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*51*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,7,8-PeCDD	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,4,7,8-HxCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-OCDD	*56*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-2,3,7,8-TCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,7,8-PeCDF	*47*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-2,3,4,7,8-PeCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,6,7,8-HxCDF	*49*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,7,8,9-HxCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*
13C-OCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/29/19 17:21*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.1**		1.8	0.90	mg/Kg	☼	09/09/19 10:34	09/09/19 17:44	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**71.9**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: NORTH POND-02 (18.0-20.0)

Date Collected: 09/03/19 12:20
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-4

Matrix: Solid
Percent Solids: 42.3

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.50**	**J**	2.3	0.24	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total TCDD	**8.6**	**I**	2.3	0.24	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,7,8-PeCDD	**0.44**	**J I**	12	0.20	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total PeCDD	**2.3**	**J I B**	12	0.20	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,4,7,8-HxCDD	ND		12	0.16	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,6,7,8-HxCDD	**0.43**	**J I**	12	0.16	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,7,8,9-HxCDD	**0.53**	**J**	12	0.15	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total HxCDD	**2.2**	**J I**	12	0.16	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,4,6,7,8-HpCDD	ND		12	0.48	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total HpCDD	**1.7**	**J I**	12	0.48	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
OCDD	**4.0**	**J B**	23	0.13	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
2,3,7,8-TCDF	**5.9**		2.3	0.40	pg/g	☼	09/19/19 11:50	10/01/19 12:05	1
Total TCDF	**82**	**I**	2.3	0.42	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,7,8-PeCDF	**1.1**	**J I**	12	0.23	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
2,3,4,7,8-PeCDF	**2.0**	**J**	12	0.23	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total PeCDF	**16**	**I**	12	0.23	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,4,7,8-HxCDF	ND		12	0.34	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,6,7,8-HxCDF	ND		12	0.33	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
2,3,4,6,7,8-HxCDF	ND		12	0.37	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,7,8,9-HxCDF	ND		12	0.40	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total HxCDF	ND		12	0.40	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,4,6,7,8-HpCDF	**0.64**	**J I B**	12	0.099	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
1,2,3,4,7,8,9-HpCDF	ND		12	0.14	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
Total HpCDF	**1.1**	**J I B**	12	0.12	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1
OCDF	**0.89**	**J B**	23	0.12	pg/g	☼	09/19/19 11:50	09/30/19 01:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*40*		*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,7,8-PeCDD	*42*		*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,4,7,8-HxCDD	*41*		*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,6,7,8-HxCDD	*44*		*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*44*		*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-OCDD	*38*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-2,3,7,8-TCDF	*37*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-2,3,7,8-TCDF	*46*		*40 - 135*	*09/19/19 11:50*	*10/01/19 12:05*	*1*
13C-1,2,3,7,8-PeCDF	*41*		*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-2,3,4,7,8-PeCDF	*38*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,4,7,8-HxCDF	*37*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,6,7,8-HxCDF	*38*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-2,3,4,6,7,8-HxCDF	*38*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,7,8,9-HxCDF	*39*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*36*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*36*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*
13C-OCDF	*37*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 01:15*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**14**		1.2	0.58	mg/Kg	☼	09/09/19 10:34	09/09/19 17:46	20

Client Sample Results

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: NORTH POND-02 (18.0-20.0)
Date Collected: 09/03/19 12:20
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-4
Matrix: Solid
Percent Solids: 42.3

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	57.7		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 6-03 (0.0-0.5)

Date Collected: 09/03/19 13:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-5

Matrix: Solid
Percent Solids: 14.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		6.7	0.51	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total TCDD	**0.89**	**J I**	6.7	0.51	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,7,8-PeCDD	ND		34	0.30	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total PeCDD	ND		34	1.1	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,4,7,8-HxCDD	ND		34	0.19	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,6,7,8-HxCDD	**1.2**	**J**	34	0.19	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,7,8,9-HxCDD	**0.72**	**J I**	34	0.18	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total HxCDD	**8.0**	**J I**	34	0.18	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,4,6,7,8-HpCDD	**23**	**J**	34	0.82	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total HpCDD	**50**		34	0.82	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
OCDD	**160**	**B**	67	0.11	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
2,3,7,8-TCDF	ND		6.7	0.79	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total TCDF	**5.8**	**J I**	6.7	0.79	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,7,8-PeCDF	ND		34	0.45	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
2,3,4,7,8-PeCDF	ND		34	0.42	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total PeCDF	**1.5**	**J I**	34	0.43	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,4,7,8-HxCDF	ND		34	0.29	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,6,7,8-HxCDF	**0.85**	**J I**	34	0.27	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
2,3,4,6,7,8-HxCDF	ND		34	0.29	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,7,8,9-HxCDF	ND		34	0.37	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total HxCDF	**11**	**J I**	34	0.31	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,4,6,7,8-HpCDF	**7.4**	**J B**	34	0.23	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
1,2,3,4,7,8,9-HpCDF	ND		34	0.29	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
Total HpCDF	**16**	**J B**	34	0.26	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1
OCDF	**16**	**J B**	67	0.12	pg/g	☼	09/19/19 11:50	09/30/19 02:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,6,7,8-HxCDD	*69*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-OCDD	*71*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-2,3,7,8-TCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-2,3,4,7,8-PeCDF	*68*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,6,7,8-HxCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,7,8,9-HxCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*
13C-OCDF	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 02:16*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**120**		3.4	1.7	mg/Kg	☼	09/09/19 10:34	09/09/19 17:48	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**85.2**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 6-03 (1.5-2.5)

Date Collected: 09/03/19 13:30
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-6

Matrix: Solid
Percent Solids: 22.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		4.4	0.37	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total TCDD	**0.54**	**J I**	4.4	0.37	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,7,8-PeCDD	ND		22	0.24	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total PeCDD	ND		22	0.69	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,4,7,8-HxCDD	ND		22	0.17	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,6,7,8-HxCDD	**0.65**	**J**	22	0.18	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,7,8,9-HxCDD	ND		22	0.17	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total HxCDD	**4.8**	**J I**	22	0.17	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,4,6,7,8-HpCDD	**12**	**J**	22	0.64	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total HpCDD	**25**		22	0.64	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
OCDD	**81**	**B**	44	0.17	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
2,3,7,8-TCDF	ND		4.4	0.52	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total TCDF	**1.8**	**J I**	4.4	0.52	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,7,8-PeCDF	ND		22	0.27	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
2,3,4,7,8-PeCDF	ND		22	0.26	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total PeCDF	**0.80**	**J I**	22	0.27	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,4,7,8-HxCDF	ND		22	0.30	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,6,7,8-HxCDF	ND		22	0.28	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
2,3,4,6,7,8-HxCDF	ND		22	0.30	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,7,8,9-HxCDF	ND		22	0.37	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total HxCDF	**5.0**	**J I**	22	0.31	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,4,6,7,8-HpCDF	**3.0**	**J B**	22	0.23	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
1,2,3,4,7,8,9-HpCDF	ND		22	0.32	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
Total HpCDF	**7.8**	**J B**	22	0.27	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1
OCDF	**7.2**	**J B**	44	0.11	pg/g	☼	09/19/19 11:50	09/30/19 03:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*72*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-OCDD	*67*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-2,3,7,8-TCDF	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-2,3,4,7,8-PeCDF	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*
13C-OCDF	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 03:17*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**110**		2.2	1.1	mg/Kg	☼	09/09/19 10:34	09/09/19 17:50	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**77.2**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 6-03 (5.0-5.5)

Date Collected: 09/03/19 13:45
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-7

Matrix: Solid
Percent Solids: 28.9

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	2.9	J I	3.4	0.26	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total TCDD	65	I	3.4	0.26	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,7,8-PeCDD	2.5	J I	17	0.18	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total PeCDD	27	I B	17	0.18	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,4,7,8-HxCDD	1.2	J	17	0.23	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,6,7,8-HxCDD	2.4	J	17	0.22	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,7,8,9-HxCDD	2.6	J I	17	0.21	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total HxCDD	23	I	17	0.22	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,4,6,7,8-HpCDD	25		17	0.49	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total HpCDD	47		17	0.49	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
OCDD	110	B	34	0.16	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
2,3,7,8-TCDF	29		3.4	0.88	pg/g	☼	09/19/19 11:50	10/01/19 12:41	1
Total TCDF	530	I	3.4	0.57	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,7,8-PeCDF	5.1	J	17	0.17	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
2,3,4,7,8-PeCDF	9.4	J I	17	0.15	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total PeCDF	87	I	17	0.16	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,4,7,8-HxCDF	2.8	J	17	0.45	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,6,7,8-HxCDF	1.6	J	17	0.42	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
2,3,4,6,7,8-HxCDF	0.91	J	17	0.47	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,7,8,9-HxCDF	ND		17	0.54	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total HxCDF	13	J I	17	0.47	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,4,6,7,8-HpCDF	3.4	J B	17	0.10	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
1,2,3,4,7,8,9-HpCDF	0.77	J B	17	0.14	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
Total HpCDF	8.4	J I B	17	0.12	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1
OCDF	5.5	J B	34	0.16	pg/g	☼	09/19/19 11:50	09/30/19 04:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*46*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,7,8-PeCDD	*46*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,4,7,8-HxCDD	*39*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,6,7,8-HxCDD	*41*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*41*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-OCDD	*35*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-2,3,7,8-TCDF	*41*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-2,3,7,8-TCDF	*50*		*40 - 135*	*09/19/19 11:50*	*10/01/19 12:41*	*1*
13C-1,2,3,7,8-PeCDF	*44*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-2,3,4,7,8-PeCDF	*45*		*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,4,7,8-HxCDF	*36*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,6,7,8-HxCDF	*33*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-2,3,4,6,7,8-HxCDF	*37*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,7,8,9-HxCDF	*38*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*30*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*34*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*
13C-OCDF	*32*	*	*40 - 135*	*09/19/19 11:50*	*09/30/19 04:18*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28		1.7	0.86	mg/Kg	☼	09/09/19 10:34	09/09/19 17:52	20

Client Sample Results

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 6-03 (5.0-5.5)
Date Collected: 09/03/19 13:45
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-7
Matrix: Solid
Percent Solids: 28.9

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	71.1		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-25 (8.0-10.0)

Date Collected: 09/03/19 16:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-8

Matrix: Solid
Percent Solids: 31.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.1	J I	3.1	0.22	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total TCDD	5.7	I	3.1	0.22	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,7,8-PeCDD	4.1	J I	16	0.15	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total PeCDD	21	I B	16	0.15	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,4,7,8-HxCDD	2.7	J	16	0.22	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,6,7,8-HxCDD	11	J	16	0.21	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,7,8,9-HxCDD	9.5	J	16	0.20	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total HxCDD	92		16	0.21	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,4,6,7,8-HpCDD	150		16	0.37	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total HpCDD	270		16	0.37	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
OCDD	400	B	31	0.12	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
2,3,7,8-TCDF	ND		3.1	0.23	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total TCDF	86	I	3.1	0.23	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,7,8-PeCDF	0.46	J	16	0.12	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
2,3,4,7,8-PeCDF	0.64	J	16	0.12	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total PeCDF	62	I	16	0.12	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,4,7,8-HxCDF	1.0	J I	16	0.20	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,6,7,8-HxCDF	2.1	J	16	0.20	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
2,3,4,6,7,8-HxCDF	0.75	J	16	0.22	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,7,8,9-HxCDF	ND		16	0.28	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total HxCDF	33	I	16	0.23	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,4,6,7,8-HpCDF	6.7	J B	16	0.15	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
1,2,3,4,7,8,9-HpCDF	0.67	J B	16	0.20	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
Total HpCDF	21	B	16	0.17	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1
OCDF	15	J B	31	0.16	pg/g	☼	09/19/19 11:50	09/30/19 05:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,7,8-PeCDD	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,4,7,8-HxCDD	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-OCDD	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-2,3,7,8-TCDF	*46*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,7,8-PeCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-2,3,4,7,8-PeCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,6,7,8-HxCDF	*46*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-2,3,4,6,7,8-HxCDF	*46*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,7,8,9-HxCDF	*45*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*45*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*
13C-OCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/30/19 05:19*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.1		1.6	0.78	mg/Kg	☼	09/09/19 10:34	09/09/19 17:54	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	68.5		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-19 (3.0-4.0)

Date Collected: 09/03/19 17:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-9

Matrix: Solid
Percent Solids: 24.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.52	J I	3.9	0.23	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total TCDD	4.7	I	3.9	0.23	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,7,8-PeCDD	2.3	J I	20	0.13	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total PeCDD	9.4	J I B	20	0.13	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,4,7,8-HxCDD	1.7	J I	20	0.31	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,6,7,8-HxCDD	9.6	J	20	0.32	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,7,8,9-HxCDD	5.3	J	20	0.29	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total HxCDD	68	I	20	0.31	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,4,6,7,8-HpCDD	71		20	0.47	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total HpCDD	130		20	0.47	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
OCDD	360	B	39	0.37	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
2,3,7,8-TCDF	4.2		3.9	0.41	pg/g	☼	09/19/19 11:50	10/01/19 13:16	1
Total TCDF	51	I	3.9	0.36	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,7,8-PeCDF	1.0	J	20	0.22	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
2,3,4,7,8-PeCDF	1.5	J	20	0.21	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total PeCDF	22	I	20	0.21	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,4,7,8-HxCDF	1.3	J I	20	0.38	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,6,7,8-HxCDF	1.6	J I	20	0.37	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
2,3,4,6,7,8-HxCDF	ND		20	0.38	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,7,8,9-HxCDF	ND		20	0.46	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total HxCDF	25	I	20	0.40	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,4,6,7,8-HpCDF	9.9	J B	20	0.17	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
1,2,3,4,7,8,9-HpCDF	0.83	J B	20	0.23	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
Total HpCDF	29	B	20	0.20	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1
OCDF	16	J B	39	0.19	pg/g	☼	09/19/19 11:50	09/30/19 06:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-OCDD	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-2,3,7,8-TCDF	*52*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-2,3,7,8-TCDF	*58*		*40 - 135*	*09/19/19 11:50*	*10/01/19 13:16*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-2,3,4,7,8-PeCDF	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*52*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*
13C-OCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 06:20*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		2.0	1.0	mg/Kg	☼	09/09/19 10:34	09/09/19 17:56	20

Client Sample Results

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-19 (3.0-4.0)
Date Collected: 09/03/19 17:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-9
Matrix: Solid
Percent Solids: 24.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	75.2		0.1	0.1	%			09/09/19 17:12	1

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-24 (4.5-6.0)

Date Collected: 09/03/19 18:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-10

Matrix: Solid
Percent Solids: 65.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.65	J	1.5	0.14	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total TCDD	3.0	I	1.5	0.14	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,7,8-PeCDD	1.5	J I	7.6	0.11	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total PeCDD	8.3	I B	7.6	0.11	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,4,7,8-HxCDD	0.98	J I	7.6	0.086	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,6,7,8-HxCDD	4.6	J	7.6	0.087	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,7,8,9-HxCDD	3.7	J	7.6	0.081	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total HxCDD	38	I	7.6	0.085	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,4,6,7,8-HpCDD	63		7.6	0.15	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total HpCDD	110		7.6	0.15	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
OCDD	190	B	15	0.11	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
2,3,7,8-TCDF	0.39	J	1.5	0.16	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total TCDF	87	I	1.5	0.16	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,7,8-PeCDF	0.33	J I	7.6	0.12	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
2,3,4,7,8-PeCDF	0.60	J	7.6	0.11	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total PeCDF	63	I	7.6	0.11	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,4,7,8-HxCDF	0.59	J I	7.6	0.12	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,6,7,8-HxCDF	1.4	J	7.6	0.12	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
2,3,4,6,7,8-HxCDF	0.50	J I	7.6	0.12	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,7,8,9-HxCDF	ND		7.6	0.15	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total HxCDF	29	I	7.6	0.13	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,4,6,7,8-HpCDF	4.1	J B	7.6	0.11	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
1,2,3,4,7,8,9-HpCDF	0.26	J B	7.6	0.14	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
Total HpCDF	11	I B	7.6	0.12	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1
OCDF	6.8	J B	15	0.12	pg/g	☼	09/19/19 11:50	09/30/19 07:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,7,8-PeCDD	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-OCDD	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-2,3,7,8-TCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,7,8-PeCDF	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-2,3,4,7,8-PeCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,6,7,8-HxCDF	*49*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-2,3,4,6,7,8-HxCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,7,8,9-HxCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*57*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*
13C-OCDF	*57*		*40 - 135*	*09/19/19 11:50*	*09/30/19 07:21*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9		0.77	0.39	mg/Kg	☼	09/09/19 10:34	09/09/19 17:58	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	34.5		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-26 (8.5-10.0)

Date Collected: 09/04/19 08:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-11

Matrix: Solid
Percent Solids: 36.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		2.7	0.28	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total TCDD	**1.7**	**J I**	2.7	0.28	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,7,8-PeCDD	**0.98**	**J I**	14	0.25	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total PeCDD	**5.9**	**J I B**	14	0.25	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,4,7,8-HxCDD	**0.85**	**J**	14	0.33	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,6,7,8-HxCDD	**3.1**	**J I**	14	0.34	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,7,8,9-HxCDD	**2.8**	**J**	14	0.31	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total HxCDD	**24**	**I**	14	0.33	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,4,6,7,8-HpCDD	**38**		14	0.50	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total HpCDD	**67**		14	0.50	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
OCDD	**120**	**B F2**	27	0.55	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
2,3,7,8-TCDF	ND		2.7	0.45	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total TCDF	**140**	**I**	2.7	0.45	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,7,8-PeCDF	ND		14	0.26	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
2,3,4,7,8-PeCDF	**0.68**	**J**	14	0.25	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total PeCDF	**63**	**I**	14	0.25	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,4,7,8-HxCDF	ND		14	0.31	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,6,7,8-HxCDF	**1.9**	**J**	14	0.31	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
2,3,4,6,7,8-HxCDF	**1.1**	**J I**	14	0.32	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,7,8,9-HxCDF	ND		14	0.42	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total HxCDF	**31**	**I**	14	0.34	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,4,6,7,8-HpCDF	**3.2**	**J B**	14	0.38	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
1,2,3,4,7,8,9-HpCDF	ND		14	0.49	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
Total HpCDF	**9.0**	**J I B**	14	0.44	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1
OCDF	**6.3**	**J B**	27	0.44	pg/g	☼	09/19/19 11:50	09/30/19 16:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,7,8-PeCDD	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,4,7,8-HxCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,6,7,8-HxCDD	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-OCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-2,3,7,8-TCDF	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-2,3,4,7,8-PeCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,6,7,8-HxCDF	*49*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-2,3,4,6,7,8-HxCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,7,8,9-HxCDF	*52*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*
13C-OCDF	*55*		*40 - 135*	*09/19/19 11:50*	*09/30/19 16:08*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**11**		1.4	0.68	mg/Kg	☼	09/09/19 10:34	09/09/19 17:25	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**63.4**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-20 (5.5-7.0)

Date Collected: 09/04/19 10:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-12

Matrix: Solid
Percent Solids: 47.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		2.1	0.22	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total TCDD	**0.49**	**J**	2.1	0.22	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,7,8-PeCDD	**0.66**	**J I**	10	0.086	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total PeCDD	**3.6**	**J I B**	10	0.086	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,4,7,8-HxCDD	**0.55**	**J I**	10	0.17	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,6,7,8-HxCDD	**2.1**	**J**	10	0.17	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,7,8,9-HxCDD	**2.0**	**J**	10	0.16	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total HxCDD	**20**	**I**	10	0.17	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,4,6,7,8-HpCDD	**31**		10	0.25	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total HpCDD	**55**		10	0.25	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
OCDD	**80**	**B**	21	0.072	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
2,3,7,8-TCDF	ND		2.1	0.33	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total TCDF	**99**	**I**	2.1	0.33	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,7,8-PeCDF	**0.35**	**J I**	10	0.16	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
2,3,4,7,8-PeCDF	**0.65**	**J**	10	0.15	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total PeCDF	**53**	**I**	10	0.15	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,4,7,8-HxCDF	ND		10	0.22	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,6,7,8-HxCDF	**1.7**	**J I**	10	0.21	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
2,3,4,6,7,8-HxCDF	ND		10	0.24	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,7,8,9-HxCDF	ND		10	0.30	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total HxCDF	**24**	**I**	10	0.24	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,4,6,7,8-HpCDF	**2.7**	**J B**	10	0.25	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
1,2,3,4,7,8,9-HpCDF	ND		10	0.34	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
Total HpCDF	**6.7**	**J B**	10	0.29	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1
OCDF	**4.7**	**J I B**	21	0.11	pg/g	☼	09/19/19 11:50	09/30/19 12:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,4,7,8-HxCDD	*68*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,6,7,8-HxCDD	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-OCDD	*68*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-2,3,7,8-TCDF	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,7,8-PeCDF	*70*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-2,3,4,7,8-PeCDF	*70*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,4,7,8-HxCDF	*67*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,6,7,8-HxCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-2,3,4,6,7,8-HxCDF	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,7,8,9-HxCDF	*64*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*64*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*68*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*
13C-OCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 12:03*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.0**		1.0	0.51	mg/Kg	☼	09/09/19 10:34	09/09/19 18:04	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**52.4**		0.1	0.1	%			09/09/19 17:12	1

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-21 (8.0-10.0)

Date Collected: 09/04/19 12:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-13

Matrix: Solid
Percent Solids: 24.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		4.0	0.46	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total TCDD	**4.9**	**I**	4.0	0.46	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,7,8-PeCDD	**1.8**	**J**	20	0.33	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total PeCDD	**9.3**	**J I B**	20	0.33	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,4,7,8-HxCDD	**1.7**	**J I**	20	0.22	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,6,7,8-HxCDD	**5.4**	**J**	20	0.25	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,7,8,9-HxCDD	**4.4**	**J**	20	0.22	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total HxCDD	**38**	**I**	20	0.23	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,4,6,7,8-HpCDD	**62**		20	0.85	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total HpCDD	**110**		20	0.85	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
OCDD	**270**	**B**	40	0.35	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
2,3,7,8-TCDF	**2.6**	**J**	4.0	0.71	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total TCDF	**440**	**I**	4.0	0.71	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,7,8-PeCDF	**1.2**	**J I**	20	0.24	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
2,3,4,7,8-PeCDF	**2.9**	**J**	20	0.22	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total PeCDF	**340**	**I**	20	0.23	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,4,7,8-HxCDF	**3.1**	**J I**	20	0.68	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,6,7,8-HxCDF	**9.0**	**J I**	20	0.65	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
2,3,4,6,7,8-HxCDF	**3.7**	**J**	20	0.73	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,7,8,9-HxCDF	ND		20	0.84	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total HxCDF	**160**	**I**	20	0.72	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,4,6,7,8-HpCDF	**14**	**J B**	20	0.19	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
1,2,3,4,7,8,9-HpCDF	**1.4**	**J B**	20	0.26	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
Total HpCDF	**40**	**B**	20	0.22	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1
OCDF	**27**	**J B**	40	0.48	pg/g	☼	09/19/19 11:50	09/30/19 13:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,4,7,8-HxCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,6,7,8-HxCDD	*57*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-OCDD	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-2,3,7,8-TCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-2,3,4,7,8-PeCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,4,7,8-HxCDF	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,6,7,8-HxCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-2,3,4,6,7,8-HxCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,7,8,9-HxCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*
13C-OCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/30/19 13:04*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.9**		2.1	1.0	mg/Kg	☼	09/09/19 10:34	09/09/19 18:07	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**75.6**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-21 (11.5-13.0)

Date Collected: 09/04/19 13:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-14

Matrix: Solid
Percent Solids: 35.5

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.79	J	2.8	0.22	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total TCDD	3.7	I	2.8	0.22	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,7,8-PeCDD	1.7	J I	14	0.094	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total PeCDD	9.5	J I B	14	0.094	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,4,7,8-HxCDD	1.4	J	14	0.17	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,6,7,8-HxCDD	4.9	J	14	0.17	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,7,8,9-HxCDD	3.7	J	14	0.16	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total HxCDD	36	I	14	0.17	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,4,6,7,8-HpCDD	59		14	0.30	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total HpCDD	100		14	0.30	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
OCDD	240	B	28	0.25	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
2,3,7,8-TCDF	2.0	J	2.8	0.35	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total TCDF	380	I	2.8	0.35	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,7,8-PeCDF	ND		14	0.15	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
2,3,4,7,8-PeCDF	2.1	J	14	0.14	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total PeCDF	250	I	14	0.14	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,4,7,8-HxCDF	ND		14	0.80	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,6,7,8-HxCDF	5.3	J I	14	0.79	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
2,3,4,6,7,8-HxCDF	2.4	J I	14	0.82	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,7,8,9-HxCDF	ND		14	1.0	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total HxCDF	100	I	14	0.86	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,4,6,7,8-HpCDF	13	J B	14	0.11	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
1,2,3,4,7,8,9-HpCDF	1.0	J I B	14	0.15	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
Total HpCDF	36	I B	14	0.13	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1
OCDF	29	B	28	0.28	pg/g	☼	09/19/19 11:50	09/30/19 14:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,4,7,8-HxCDD	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-OCDD	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,7,8-PeCDF	*66*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-2,3,4,7,8-PeCDF	*67*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,6,7,8-HxCDF	*57*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-2,3,4,6,7,8-HxCDF	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,7,8,9-HxCDF	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*65*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*
13C-OCDF	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 14:06*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.6		1.4	0.72	mg/Kg	☼	09/09/19 10:34	09/09/19 18:09	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	64.5		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-23 (8.0-10.0)

Date Collected: 09/04/19 16:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-15

Matrix: Solid
Percent Solids: 23.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	2.1	J	4.1	0.41	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total TCDD	15	I	4.1	0.41	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,7,8-PeCDD	8.6	J	21	0.34	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total PeCDD	72	I B	21	0.34	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,4,7,8-HxCDD	6.8	J	21	0.39	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,6,7,8-HxCDD	24		21	0.37	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,7,8,9-HxCDD	18	J	21	0.36	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total HxCDD	160	I	21	0.37	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,4,6,7,8-HpCDD	300		21	0.55	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total HpCDD	550		21	0.55	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
OCDD	1400	B	41	0.51	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
2,3,7,8-TCDF	4.0	J I	4.1	3.2	pg/g	☼	09/19/19 11:50	10/01/19 13:52	1
Total TCDF	1500	I	4.1	1.6	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,7,8-PeCDF	2.3	J	21	0.56	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
2,3,4,7,8-PeCDF	8.9	J	21	0.57	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total PeCDF	1200	I	21	0.56	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,4,7,8-HxCDF	7.6	J	21	2.7	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,6,7,8-HxCDF	28	I	21	2.7	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
2,3,4,6,7,8-HxCDF	11	J	21	3.0	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,7,8,9-HxCDF	ND		21	3.5	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total HxCDF	560	I	21	3.0	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,4,6,7,8-HpCDF	64	B	21	0.28	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
1,2,3,4,7,8,9-HpCDF	6.2	J I B	21	0.38	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
Total HpCDF	180	I B	21	0.33	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1
OCDF	120	B	41	1.0	pg/g	☼	09/19/19 11:50	09/30/19 15:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*52*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,7,8-PeCDD	*60*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,4,7,8-HxCDD	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,6,7,8-HxCDD	*52*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*55*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-OCDD	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-2,3,7,8-TCDF	*52*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-2,3,7,8-TCDF	*53*		*40 - 135*	*09/19/19 11:50*	*10/01/19 13:52*	*1*
13C-1,2,3,7,8-PeCDF	*56*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-2,3,4,7,8-PeCDF	*54*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,4,7,8-HxCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,6,7,8-HxCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-2,3,4,6,7,8-HxCDF	*50*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,7,8,9-HxCDF	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*48*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*53*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*
13C-OCDF	*51*		*40 - 135*	*09/19/19 11:50*	*09/30/19 15:07*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.0		2.1	1.1	mg/Kg	☼	09/09/19 10:34	09/09/19 18:11	20

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-23 (8.0-10.0)
Date Collected: 09/04/19 16:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-15
Matrix: Solid
Percent Solids: 23.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	76.2		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-23 (14.0-15.0)

Date Collected: 09/04/19 16:50
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-16

Matrix: Solid
Percent Solids: 29.4

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.4	J	3.4	0.18	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total TCDD	8.5	I	3.4	0.18	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,7,8-PeCDD	4.6	J	17	0.37	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total PeCDD	93	I B	17	0.37	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,4,7,8-HxCDD	3.6	J	17	0.27	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,6,7,8-HxCDD	14	J	17	0.26	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,7,8,9-HxCDD	13	J	17	0.25	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total HxCDD	110		17	0.26	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,4,6,7,8-HpCDD	220		17	0.29	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total HpCDD	380		17	0.29	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
OCDD	730	B	34	0.14	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
2,3,7,8-TCDF	ND		3.4	1.0	pg/g	☼	09/19/19 11:50	10/01/19 14:27	1
Total TCDF	420	I	3.4	0.64	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,7,8-PeCDF	1.2	J	17	0.25	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
2,3,4,7,8-PeCDF	3.5	J	17	0.22	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total PeCDF	330	I	17	0.24	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,4,7,8-HxCDF	3.1	J	17	0.86	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,6,7,8-HxCDF	8.4	J I	17	0.84	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
2,3,4,6,7,8-HxCDF	3.8	J	17	0.93	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,7,8,9-HxCDF	ND		17	1.1	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total HxCDF	170	I	17	0.93	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,4,6,7,8-HpCDF	30	B	17	0.13	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
1,2,3,4,7,8,9-HpCDF	2.9	J B	17	0.15	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
Total HpCDF	89	I B	17	0.14	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1
OCDF	68	B	34	0.20	pg/g	☼	09/19/19 11:50	09/30/19 23:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,4,7,8-HxCDD	*67*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-OCDD	*69*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-2,3,7,8-TCDF	*65*		*40 - 135*	*09/19/19 11:50*	*10/01/19 14:27*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-2,3,4,7,8-PeCDF	*72*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,4,7,8-HxCDF	*62*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,6,7,8-HxCDF	*55*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-2,3,4,6,7,8-HxCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,7,8,9-HxCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*
13C-OCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/30/19 23:17*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.5		1.7	0.84	mg/Kg	☼	09/09/19 10:34	09/09/19 18:13	20

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-23 (14.0-15.0)
Date Collected: 09/04/19 16:50
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-16
Matrix: Solid
Percent Solids: 29.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	70.6		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: POND 8-22 (8.0-10.0)

Date Collected: 09/04/19 18:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-17

Matrix: Solid
Percent Solids: 29.7

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		3.3	0.31	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total TCDD	**2.7**	**J I**	3.3	0.31	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,7,8-PeCDD	**3.0**	**J**	17	0.21	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total PeCDD	**9.3**	**J I B**	17	0.21	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,4,7,8-HxCDD	**2.4**	**J**	17	0.35	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,6,7,8-HxCDD	**6.3**	**J**	17	0.36	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,7,8,9-HxCDD	**5.6**	**J**	17	0.33	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total HxCDD	**41**		17	0.34	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,4,6,7,8-HpCDD	**81**		17	0.58	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total HpCDD	**150**		17	0.58	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
OCDD	**440**	**B**	33	0.56	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
2,3,7,8-TCDF	ND		3.3	0.48	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total TCDF	**56**	**I**	3.3	0.48	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,7,8-PeCDF	ND		17	0.27	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
2,3,4,7,8-PeCDF	**0.85**	**J I**	17	0.25	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total PeCDF	**44**	**I**	17	0.26	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,4,7,8-HxCDF	**1.7**	**J I**	17	0.36	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,6,7,8-HxCDF	**2.1**	**J**	17	0.36	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
2,3,4,6,7,8-HxCDF	**1.1**	**J**	17	0.38	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,7,8,9-HxCDF	ND		17	0.44	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total HxCDF	**49**	**I**	17	0.38	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,4,6,7,8-HpCDF	**23**	**B**	17	0.31	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
1,2,3,4,7,8,9-HpCDF	**1.8**	**J B**	17	0.37	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
Total HpCDF	**66**	**B**	17	0.34	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1
OCDF	**59**	**B**	33	0.62	pg/g	☼	09/19/19 11:50	10/01/19 00:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*54*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,7,8-PeCDD	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,4,7,8-HxCDD	*52*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,6,7,8-HxCDD	*48*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*54*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-OCDD	*53*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-2,3,7,8-TCDF	*50*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,7,8-PeCDF	*57*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-2,3,4,7,8-PeCDF	*57*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,4,7,8-HxCDF	*50*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,6,7,8-HxCDF	*44*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-2,3,4,6,7,8-HxCDF	*48*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,7,8,9-HxCDF	*49*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*45*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*50*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*
13C-OCDF	*49*		*40 - 135*	*09/19/19 11:50*	*10/01/19 00:18*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.9**		1.7	0.84	mg/Kg	☼	09/09/19 10:34	09/09/19 18:15	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**70.3**		0.1	0.1	%			09/09/19 17:12	1

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-22 (17.25-18.75)

Date Collected: 09/04/19 19:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-18

Matrix: Solid
Percent Solids: 68.6

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.4	0.10	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total TCDD	ND		1.4	0.10	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,7,8-PeCDD	ND		7.2	0.094	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total PeCDD	ND		7.2	0.094	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,4,7,8-HxCDD	ND		7.2	0.11	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,6,7,8-HxCDD	**0.43**	**J I**	7.2	0.12	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,7,8,9-HxCDD	ND		7.2	0.11	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total HxCDD	**1.7**	**J I**	7.2	0.11	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,4,6,7,8-HpCDD	**4.9**	**J**	7.2	0.21	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total HpCDD	**9.1**		7.2	0.21	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
OCDD	**30**	**B**	14	0.27	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
2,3,7,8-TCDF	ND		1.4	0.11	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total TCDF	**0.74**	**J**	1.4	0.11	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,7,8-PeCDF	ND		7.2	0.14	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
2,3,4,7,8-PeCDF	ND		7.2	0.13	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total PeCDF	**0.75**	**J I**	7.2	0.13	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,4,7,8-HxCDF	ND		7.2	0.14	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,6,7,8-HxCDF	ND		7.2	0.14	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
2,3,4,6,7,8-HxCDF	ND		7.2	0.15	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,7,8,9-HxCDF	ND		7.2	0.18	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total HxCDF	**2.8**	**J I**	7.2	0.15	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,4,6,7,8-HpCDF	**1.8**	**J B**	7.2	0.14	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
1,2,3,4,7,8,9-HpCDF	ND		7.2	0.20	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
Total HpCDF	**5.4**	**J B**	7.2	0.17	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1
OCDF	**5.9**	**J B**	14	0.17	pg/g	☼	09/19/19 11:50	10/01/19 01:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-OCDD	*66*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-2,3,7,8-TCDF	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-2,3,4,7,8-PeCDF	*71*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*62*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,6,7,8-HxCDF	*58*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-2,3,4,6,7,8-HxCDF	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,7,8,9-HxCDF	*63*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*55*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*
13C-OCDF	*61*		*40 - 135*	*09/19/19 11:50*	*10/01/19 01:19*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.5**		0.73	0.36	mg/Kg	☼	09/09/19 10:34	09/09/19 18:17	20

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**31.4**		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: D-20190904

Date Collected: 09/04/19 00:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-19

Matrix: Solid
Percent Solids: 46.8

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.74	J I	2.1	0.13	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total TCDD	3.8	I	2.1	0.13	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,7,8-PeCDD	1.2	J	11	0.095	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total PeCDD	6.9	J I B	11	0.095	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,4,7,8-HxCDD	0.91	J I	11	0.10	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,6,7,8-HxCDD	3.9	J	11	0.11	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,7,8,9-HxCDD	3.1	J	11	0.099	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total HxCDD	32	I	11	0.10	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,4,6,7,8-HpCDD	57		11	0.30	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total HpCDD	99		11	0.30	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
OCDD	170	B	21	0.17	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
2,3,7,8-TCDF	1.2	J I	2.1	0.65	pg/g	☼	09/19/19 11:50	10/01/19 15:02	1
Total TCDF	210	I	2.1	0.22	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,7,8-PeCDF	0.60	J I	11	0.14	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
2,3,4,7,8-PeCDF	1.8	J I	11	0.11	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total PeCDF	140	I	11	0.13	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,4,7,8-HxCDF	ND		11	0.42	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,6,7,8-HxCDF	3.5	J I	11	0.39	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
2,3,4,6,7,8-HxCDF	2.1	J	11	0.43	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,7,8,9-HxCDF	ND		11	0.52	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total HxCDF	59	I	11	0.44	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,4,6,7,8-HpCDF	5.3	J B	11	0.051	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
1,2,3,4,7,8,9-HpCDF	0.59	J B	11	0.067	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
Total HpCDF	14	B	11	0.059	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1
OCDF	7.7	J B	21	0.11	pg/g	☼	09/19/19 11:50	10/01/19 02:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,7,8-PeCDD	*69*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,4,7,8-HxCDD	*64*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*63*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*67*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-OCDD	*68*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-2,3,7,8-TCDF	*59*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-2,3,7,8-TCDF	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 15:02*	*1*
13C-1,2,3,7,8-PeCDF	*64*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-2,3,4,7,8-PeCDF	*65*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,6,7,8-HxCDF	*57*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-2,3,4,6,7,8-HxCDF	*60*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,7,8,9-HxCDF	*59*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*55*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*64*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*
13C-OCDF	*64*		*40 - 135*	*09/19/19 11:50*	*10/01/19 02:20*	*1*

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.1		1.1	0.54	mg/Kg	☼	09/09/19 10:34	09/09/19 18:19	20

Client Sample Results

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: D-20190904
Date Collected: 09/04/19 00:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-19
Matrix: Solid
Percent Solids: 46.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	53.2		0.1	0.1	%			09/09/19 17:12	1

Client Sample ID: EQUIPMENT BLANK

Lab Sample ID: 720-94937-20

Date Collected: 09/05/19 17:40
Date Received: 09/05/19 17:52

Matrix: Water

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		13	1.2	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total TCDD	ND		13	1.2	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,7,8-PeCDD	ND		63	0.65	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total PeCDD	ND		63	0.65	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,4,7,8-HxCDD	ND		63	0.54	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,6,7,8-HxCDD	ND		63	0.58	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,7,8,9-HxCDD	ND		63	0.52	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total HxCDD	ND		63	0.58	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,4,6,7,8-HpCDD	ND		63	0.96	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total HpCDD	ND		63	0.96	pg/L		09/11/19 14:31	09/19/19 09:22	1
OCDD	**5.2**	**J I B**	130	0.31	pg/L		09/11/19 14:31	09/19/19 09:22	1
2,3,7,8-TCDF	ND		13	0.77	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total TCDF	**2.6**	**J I**	13	0.77	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,7,8-PeCDF	ND		63	0.60	pg/L		09/11/19 14:31	09/19/19 09:22	1
2,3,4,7,8-PeCDF	ND		63	0.57	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total PeCDF	ND		63	0.60	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,4,7,8-HxCDF	ND		63	0.78	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,6,7,8-HxCDF	ND		63	0.80	pg/L		09/11/19 14:31	09/19/19 09:22	1
2,3,4,6,7,8-HxCDF	ND		63	0.81	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,7,8,9-HxCDF	ND		63	1.0	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total HxCDF	ND		63	1.0	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,4,6,7,8-HpCDF	ND		63	0.35	pg/L		09/11/19 14:31	09/19/19 09:22	1
1,2,3,4,7,8,9-HpCDF	ND		63	0.48	pg/L		09/11/19 14:31	09/19/19 09:22	1
Total HpCDF	ND		63	0.48	pg/L		09/11/19 14:31	09/19/19 09:22	1
OCDF	**1.0**	**J I B**	130	0.15	pg/L		09/11/19 14:31	09/19/19 09:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*55*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,4,7,8-HxCDD	*61*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-OCDD	*92*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-2,3,7,8-TCDF	*51*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,7,8-PeCDF	*69*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-2,3,4,7,8-PeCDF	*66*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,4,7,8-HxCDF	*55*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,6,7,8-HxCDF	*55*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-2,3,4,6,7,8-HxCDF	*61*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,7,8,9-HxCDF	*61*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*71*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*
13C-OCDF	*80*		*40 - 135*	*09/11/19 14:31*	*09/19/19 09:22*	*1*

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.50	ug/L		09/09/19 09:26	09/09/19 15:11	1

Toxicity Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: NORTH POND-02 (5,0-5,5) — Lab Sample ID: 720-94937-1

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		2.2	0.24	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	ND		11	0.17	pg/g	1	0.00	8290A
1,2,3,4,7,8-HxCDD	ND		11	0.17	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDD	**0.58**	**J**	11	0.17	pg/g	0.1	**0.058**	8290A
1,2,3,7,8,9-HxCDD	**0.51**	**J I**	11	0.16	pg/g	0.1	**0.051**	8290A
1,2,3,4,6,7,8-HpCDD	**3.6**	**J I**	11	0.35	pg/g	0.01	**0.036**	8290A
OCDD	**22**	**B**	22	0.21	pg/g	0.0003	**0.0066**	8290A
2,3,7,8-TCDF	ND		2.2	0.17	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		11	0.30	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		11	0.28	pg/g	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		11	0.25	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	ND		11	0.22	pg/g	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		11	0.25	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		11	0.33	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**1.3**	**J B**	11	0.13	pg/g	0.01	**0.013**	8290A
1,2,3,4,7,8,9-HpCDF	ND		11	0.19	pg/g	0.01	0.00	8290A
OCDF	**2.9**	**J B**	22	0.089	pg/g	0.0003	**0.00087**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		0.17	TEQ

Client Sample ID: NORTH POND-02 (9,0-9,5) — Lab Sample ID: 720-94937-2

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		3.7	0.16	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	ND		19	0.20	pg/g	1	0.00	8290A
1,2,3,4,7,8-HxCDD	**0.46**	**J I**	19	0.14	pg/g	0.1	**0.046**	8290A
1,2,3,6,7,8-HxCDD	**0.58**	**J I**	19	0.15	pg/g	0.1	**0.058**	8290A
1,2,3,7,8,9-HxCDD	**0.50**	**J I**	19	0.14	pg/g	0.1	**0.050**	8290A
1,2,3,4,6,7,8-HpCDD	**7.3**	**J**	19	0.31	pg/g	0.01	**0.073**	8290A
OCDD	**41**	**B**	37	0.19	pg/g	0.0003	**0.012**	8290A
2,3,7,8-TCDF	**0.46**	**J I**	3.7	0.15	pg/g	0.1	**0.046**	8290A
1,2,3,7,8-PeCDF	ND		19	0.26	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		19	0.25	pg/g	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		19	0.15	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	ND		19	0.15	pg/g	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		19	0.17	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		19	0.20	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**2.3**	**J B**	19	0.16	pg/g	0.01	**0.023**	8290A
1,2,3,4,7,8,9-HpCDF	**0.42**	**J B**	19	0.22	pg/g	0.01	**0.0042**	8290A
OCDF	**4.9**	**J I B**	37	0.26	pg/g	0.0003	**0.0015**	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: NORTH POND-02 (9,0-9,5) (Continued) — Lab Sample ID: 720-94937-2

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		0.31	TEQ

Client Sample ID: NORTH POND-02 (14.0-16.0) — Lab Sample ID: 720-94937-3

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		3.5	0.20	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	ND		17	0.31	pg/g	1	0.00	8290A
1,2,3,4,7,8-HxCDD	**0.49**	**J I**	17	0.17	pg/g	0.1	**0.049**	8290A
1,2,3,6,7,8-HxCDD	ND		17	0.17	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDD	**0.55**	**J I**	17	0.16	pg/g	0.1	**0.055**	8290A
1,2,3,4,6,7,8-HpCDD	**6.1**	**J**	17	0.34	pg/g	0.01	**0.061**	8290A
OCDD	**73**	**B**	35	0.094	pg/g	0.0003	**0.022**	8290A
2,3,7,8-TCDF	**0.38**	**J**	3.5	0.22	pg/g	0.1	**0.038**	8290A
1,2,3,7,8-PeCDF	ND		17	0.24	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		17	0.22	pg/g	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		17	0.25	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	ND		17	0.24	pg/g	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		17	0.27	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		17	0.31	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**2.4**	**J B**	17	0.12	pg/g	0.01	**0.024**	8290A
1,2,3,4,7,8,9-HpCDF	**0.57**	**J I B**	17	0.15	pg/g	0.01	**0.0057**	8290A
OCDF	**6.0**	**J B**	35	0.096	pg/g	0.0003	**0.0018**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		0.26	TEQ

Client Sample ID: NORTH POND-02 (18.0-20.0) — Lab Sample ID: 720-94937-4

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	**0.50**	**J**	2.3	0.24	pg/g	1	**0.50**	8290A
1,2,3,7,8-PeCDD	**0.44**	**J I**	12	0.20	pg/g	1	**0.44**	8290A
1,2,3,4,7,8-HxCDD	ND		12	0.16	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDD	**0.43**	**J I**	12	0.16	pg/g	0.1	**0.043**	8290A
1,2,3,7,8,9-HxCDD	**0.53**	**J**	12	0.15	pg/g	0.1	**0.053**	8290A
1,2,3,4,6,7,8-HpCDD	ND		12	0.48	pg/g	0.01	0.00	8290A
OCDD	**4.0**	**J B**	23	0.13	pg/g	0.0003	**0.0012**	8290A
2,3,7,8-TCDF	**5.9**		2.3	0.40	pg/g	0.1	**0.59**	8290A
1,2,3,7,8-PeCDF	**1.1**	**J I**	12	0.23	pg/g	0.03	**0.033**	8290A
2,3,4,7,8-PeCDF	**2.0**	**J**	12	0.23	pg/g	0.3	**0.60**	8290A
1,2,3,4,7,8-HxCDF	ND		12	0.34	pg/g	0.1	0.00	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: NORTH POND-02 (18.0-20.0) (Continued) — Lab Sample ID: 720-94937-4

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
1,2,3,6,7,8-HxCDF	ND		12	0.33	pg/g	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		12	0.37	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		12	0.40	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**0.64**	**J I B**	12	0.099	pg/g	0.01	**0.0064**	8290A
1,2,3,4,7,8,9-HpCDF	ND		12	0.14	pg/g	0.01	0.00	8290A
OCDF	**0.89**	**J B**	23	0.12	pg/g	0.0003	**0.00027**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		2.3	TEQ

Client Sample ID: POND 6-03 (0.0-0.5) — Lab Sample ID: 720-94937-5

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		6.7	0.51	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	ND		34	0.30	pg/g	1	0.00	8290A
1,2,3,4,7,8-HxCDD	ND		34	0.19	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDD	**1.2**	**J**	34	0.19	pg/g	0.1	**0.12**	8290A
1,2,3,7,8,9-HxCDD	**0.72**	**J I**	34	0.18	pg/g	0.1	**0.072**	8290A
1,2,3,4,6,7,8-HpCDD	**23**	**J**	34	0.82	pg/g	0.01	**0.23**	8290A
OCDD	**160**	**B**	67	0.11	pg/g	0.0003	**0.048**	8290A
2,3,7,8-TCDF	ND		6.7	0.79	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		34	0.45	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		34	0.42	pg/g	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		34	0.29	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	**0.85**	**J I**	34	0.27	pg/g	0.1	**0.085**	8290A
2,3,4,6,7,8-HxCDF	ND		34	0.29	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		34	0.37	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**7.4**	**J B**	34	0.23	pg/g	0.01	**0.074**	8290A
1,2,3,4,7,8,9-HpCDF	ND		34	0.29	pg/g	0.01	0.00	8290A
OCDF	**16**	**J B**	67	0.12	pg/g	0.0003	**0.0048**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		0.63	TEQ

Client Sample ID: POND 6-03 (1.5-2.5) — Lab Sample ID: 720-94937-6

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		4.4	0.37	pg/g	1	0.00	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 6-03 (1.5-2.5) (Continued) — Lab Sample ID: 720-94937-6

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
1,2,3,7,8-PeCDD	ND		22	0.24	pg/g	1	0.00	8290A
1,2,3,4,7,8-HxCDD	ND		22	0.17	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDD	**0.65**	**J**	22	0.18	pg/g	0.1	**0.065**	8290A
1,2,3,7,8,9-HxCDD	ND		22	0.17	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDD	**12**	**J**	22	0.64	pg/g	0.01	**0.12**	8290A
OCDD	**81**	**B**	44	0.17	pg/g	0.0003	**0.024**	8290A
2,3,7,8-TCDF	ND		4.4	0.52	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		22	0.27	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		22	0.26	pg/g	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		22	0.30	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	ND		22	0.28	pg/g	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		22	0.30	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		22	0.37	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**3.0**	**J B**	22	0.23	pg/g	0.01	**0.030**	8290A
1,2,3,4,7,8,9-HpCDF	ND		22	0.32	pg/g	0.01	0.00	8290A
OCDF	**7.2**	**J B**	44	0.11	pg/g	0.0003	**0.0022**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		0.24	TEQ

Client Sample ID: POND 6-03 (5.0-5.5) — Lab Sample ID: 720-94937-7

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	**2.9**	**J I**	3.4	0.26	pg/g	1	**2.9**	8290A
1,2,3,7,8-PeCDD	**2.5**	**J I**	17	0.18	pg/g	1	**2.5**	8290A
1,2,3,4,7,8-HxCDD	**1.2**	**J**	17	0.23	pg/g	0.1	**0.12**	8290A
1,2,3,6,7,8-HxCDD	**2.4**	**J**	17	0.22	pg/g	0.1	**0.24**	8290A
1,2,3,7,8,9-HxCDD	**2.6**	**J I**	17	0.21	pg/g	0.1	**0.26**	8290A
1,2,3,4,6,7,8-HpCDD	**25**		17	0.49	pg/g	0.01	**0.25**	8290A
OCDD	**110**	**B**	34	0.16	pg/g	0.0003	**0.033**	8290A
2,3,7,8-TCDF	**29**		3.4	0.88	pg/g	0.1	**2.9**	8290A
1,2,3,7,8-PeCDF	**5.1**	**J**	17	0.17	pg/g	0.03	**0.15**	8290A
2,3,4,7,8-PeCDF	**9.4**	**J I**	17	0.15	pg/g	0.3	**2.8**	8290A
1,2,3,4,7,8-HxCDF	**2.8**	**J**	17	0.45	pg/g	0.1	**0.28**	8290A
1,2,3,6,7,8-HxCDF	**1.6**	**J**	17	0.42	pg/g	0.1	**0.16**	8290A
2,3,4,6,7,8-HxCDF	**0.91**	**J**	17	0.47	pg/g	0.1	**0.091**	8290A
1,2,3,7,8,9-HxCDF	ND		17	0.54	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**3.4**	**J B**	17	0.10	pg/g	0.01	**0.034**	8290A
1,2,3,4,7,8,9-HpCDF	**0.77**	**J B**	17	0.14	pg/g	0.01	**0.0077**	8290A
OCDF	**5.5**	**J B**	34	0.16	pg/g	0.0003	**0.0017**	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 6-03 (5.0-5.5) (Continued) — Lab Sample ID: 720-94937-7

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		13	TEQ

Client Sample ID: POND 8-25 (8.0-10.0) — Lab Sample ID: 720-94937-8

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	1.1	J I	3.1	0.22	pg/g	1	1.1	8290A
1,2,3,7,8-PeCDD	4.1	J I	16	0.15	pg/g	1	4.1	8290A
1,2,3,4,7,8-HxCDD	2.7	J	16	0.22	pg/g	0.1	0.27	8290A
1,2,3,6,7,8-HxCDD	11	J	16	0.21	pg/g	0.1	1.1	8290A
1,2,3,7,8,9-HxCDD	9.5	J	16	0.20	pg/g	0.1	0.95	8290A
1,2,3,4,6,7,8-HpCDD	150		16	0.37	pg/g	0.01	1.5	8290A
OCDD	400	B	31	0.12	pg/g	0.0003	0.12	8290A
2,3,7,8-TCDF	ND		3.1	0.23	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	0.46	J	16	0.12	pg/g	0.03	0.014	8290A
2,3,4,7,8-PeCDF	0.64	J	16	0.12	pg/g	0.3	0.19	8290A
1,2,3,4,7,8-HxCDF	1.0	J I	16	0.20	pg/g	0.1	0.10	8290A
1,2,3,6,7,8-HxCDF	2.1	J	16	0.20	pg/g	0.1	0.21	8290A
2,3,4,6,7,8-HxCDF	0.75	J	16	0.22	pg/g	0.1	0.075	8290A
1,2,3,7,8,9-HxCDF	ND		16	0.28	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	6.7	J B	16	0.15	pg/g	0.01	0.067	8290A
1,2,3,4,7,8,9-HpCDF	0.67	J B	16	0.20	pg/g	0.01	0.0067	8290A
OCDF	15	J B	31	0.16	pg/g	0.0003	0.0045	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		9.8	TEQ

Client Sample ID: POND 8-19 (3.0-4.0) — Lab Sample ID: 720-94937-9

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	0.52	J I	3.9	0.23	pg/g	1	0.52	8290A
1,2,3,7,8-PeCDD	2.3	J I	20	0.13	pg/g	1	2.3	8290A
1,2,3,4,7,8-HxCDD	1.7	J I	20	0.31	pg/g	0.1	0.17	8290A
1,2,3,6,7,8-HxCDD	9.6	J	20	0.32	pg/g	0.1	0.96	8290A
1,2,3,7,8,9-HxCDD	5.3	J	20	0.29	pg/g	0.1	0.53	8290A
1,2,3,4,6,7,8-HpCDD	71		20	0.47	pg/g	0.01	0.71	8290A
OCDD	360	B	39	0.37	pg/g	0.0003	0.11	8290A
2,3,7,8-TCDF	4.2		3.9	0.41	pg/g	0.1	0.42	8290A
1,2,3,7,8-PeCDF	1.0	J	20	0.22	pg/g	0.03	0.030	8290A
2,3,4,7,8-PeCDF	1.5	J	20	0.21	pg/g	0.3	0.45	8290A
1,2,3,4,7,8-HxCDF	1.3	J I	20	0.38	pg/g	0.1	0.13	8290A

TEF Reference:

WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 8-19 (3.0-4.0) (Continued) — Lab Sample ID: 720-94937-9

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
1,2,3,6,7,8-HxCDF	1.6	J I	20	0.37	pg/g	0.1	0.16	8290A
2,3,4,6,7,8-HxCDF	ND		20	0.38	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		20	0.46	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	9.9	J B	20	0.17	pg/g	0.01	0.099	8290A
1,2,3,4,7,8,9-HpCDF	0.83	J B	20	0.23	pg/g	0.01	0.0083	8290A
OCDF	16	J B	39	0.19	pg/g	0.0003	0.0048	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
Total Toxic Dioxins and Furans					pg/g		6.6	TEQ

Client Sample ID: POND 8-24 (4.5-6.0) — Lab Sample ID: 720-94937-10

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
2,3,7,8-TCDD	0.65	J	1.5	0.14	pg/g	1	0.65	8290A
1,2,3,7,8-PeCDD	1.5	J I	7.6	0.11	pg/g	1	1.5	8290A
1,2,3,4,7,8-HxCDD	0.98	J I	7.6	0.086	pg/g	0.1	0.098	8290A
1,2,3,6,7,8-HxCDD	4.6	J	7.6	0.087	pg/g	0.1	0.46	8290A
1,2,3,7,8,9-HxCDD	3.7	J	7.6	0.081	pg/g	0.1	0.37	8290A
1,2,3,4,6,7,8-HpCDD	63		7.6	0.15	pg/g	0.01	0.63	8290A
OCDD	190	B	15	0.11	pg/g	0.0003	0.057	8290A
2,3,7,8-TCDF	0.39	J	1.5	0.16	pg/g	0.1	0.039	8290A
1,2,3,7,8-PeCDF	0.33	J I	7.6	0.12	pg/g	0.03	0.0099	8290A
2,3,4,7,8-PeCDF	0.60	J	7.6	0.11	pg/g	0.3	0.18	8290A
1,2,3,4,7,8-HxCDF	0.59	J I	7.6	0.12	pg/g	0.1	0.059	8290A
1,2,3,6,7,8-HxCDF	1.4	J	7.6	0.12	pg/g	0.1	0.14	8290A
2,3,4,6,7,8-HxCDF	0.50	J I	7.6	0.12	pg/g	0.1	0.050	8290A
1,2,3,7,8,9-HxCDF	ND		7.6	0.15	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	4.1	J B	7.6	0.11	pg/g	0.01	0.041	8290A
1,2,3,4,7,8,9-HpCDF	0.26	J B	7.6	0.14	pg/g	0.01	0.0026	8290A
OCDF	6.8	J B	15	0.12	pg/g	0.0003	0.0020	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
Total Toxic Dioxins and Furans					pg/g		4.3	TEQ

Client Sample ID: POND 8-26 (8.5-10.0) — Lab Sample ID: 720-94937-11

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
2,3,7,8-TCDD	ND		2.7	0.28	pg/g	1	0.00	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 8-26 (8.5-10.0) (Continued)

Lab Sample ID: 720-94937-11

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
1,2,3,7,8-PeCDD	0.98	J I	14	0.25	pg/g	1	0.98	8290A
1,2,3,4,7,8-HxCDD	0.85	J	14	0.33	pg/g	0.1	0.085	8290A
1,2,3,6,7,8-HxCDD	3.1	J I	14	0.34	pg/g	0.1	0.31	8290A
1,2,3,7,8,9-HxCDD	2.8	J	14	0.31	pg/g	0.1	0.28	8290A
1,2,3,4,6,7,8-HpCDD	38		14	0.50	pg/g	0.01	0.38	8290A
OCDD	120	B F2	27	0.55	pg/g	0.0003	0.036	8290A
2,3,7,8-TCDF	ND		2.7	0.45	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		14	0.26	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	0.68	J	14	0.25	pg/g	0.3	0.20	8290A
1,2,3,4,7,8-HxCDF	ND		14	0.31	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	1.9	J	14	0.31	pg/g	0.1	0.19	8290A
2,3,4,6,7,8-HxCDF	1.1	J I	14	0.32	pg/g	0.1	0.11	8290A
1,2,3,7,8,9-HxCDF	ND		14	0.42	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	3.2	J B	14	0.38	pg/g	0.01	0.032	8290A
1,2,3,4,7,8,9-HpCDF	ND		14	0.49	pg/g	0.01	0.00	8290A
OCDF	6.3	J B	27	0.44	pg/g	0.0003	0.0019	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		2.6	TEQ

Client Sample ID: POND 8-20 (5.5-7.0)

Lab Sample ID: 720-94937-12

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		2.1	0.22	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	0.66	J I	10	0.086	pg/g	1	0.66	8290A
1,2,3,4,7,8-HxCDD	0.55	J I	10	0.17	pg/g	0.1	0.055	8290A
1,2,3,6,7,8-HxCDD	2.1	J	10	0.17	pg/g	0.1	0.21	8290A
1,2,3,7,8,9-HxCDD	2.0	J	10	0.16	pg/g	0.1	0.20	8290A
1,2,3,4,6,7,8-HpCDD	31		10	0.25	pg/g	0.01	0.31	8290A
OCDD	80	B	21	0.072	pg/g	0.0003	0.024	8290A
2,3,7,8-TCDF	ND		2.1	0.33	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	0.35	J I	10	0.16	pg/g	0.03	0.011	8290A
2,3,4,7,8-PeCDF	0.65	J	10	0.15	pg/g	0.3	0.20	8290A
1,2,3,4,7,8-HxCDF	ND		10	0.22	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	1.7	J I	10	0.21	pg/g	0.1	0.17	8290A
2,3,4,6,7,8-HxCDF	ND		10	0.24	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		10	0.30	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	2.7	J B	10	0.25	pg/g	0.01	0.027	8290A
1,2,3,4,7,8,9-HpCDF	ND		10	0.34	pg/g	0.01	0.00	8290A
OCDF	4.7	J I B	21	0.11	pg/g	0.0003	0.0014	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 8-20 (5.5-7.0) (Continued) — Lab Sample ID: 720-94937-12

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		1.9	TEQ

Client Sample ID: POND 8-21 (8.0-10.0) — Lab Sample ID: 720-94937-13

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		4.0	0.46	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	**1.8**	**J**	20	0.33	pg/g	1	**1.8**	8290A
1,2,3,4,7,8-HxCDD	**1.7**	**J I**	20	0.22	pg/g	0.1	**0.17**	8290A
1,2,3,6,7,8-HxCDD	**5.4**	**J**	20	0.25	pg/g	0.1	**0.54**	8290A
1,2,3,7,8,9-HxCDD	**4.4**	**J**	20	0.22	pg/g	0.1	**0.44**	8290A
1,2,3,4,6,7,8-HpCDD	**62**		20	0.85	pg/g	0.01	**0.62**	8290A
OCDD	**270**	**B**	40	0.35	pg/g	0.0003	**0.081**	8290A
2,3,7,8-TCDF	**2.6**	**J**	4.0	0.71	pg/g	0.1	**0.26**	8290A
1,2,3,7,8-PeCDF	**1.2**	**J I**	20	0.24	pg/g	0.03	**0.036**	8290A
2,3,4,7,8-PeCDF	**2.9**	**J**	20	0.22	pg/g	0.3	**0.87**	8290A
1,2,3,4,7,8-HxCDF	**3.1**	**J I**	20	0.68	pg/g	0.1	**0.31**	8290A
1,2,3,6,7,8-HxCDF	**9.0**	**J I**	20	0.65	pg/g	0.1	**0.90**	8290A
2,3,4,6,7,8-HxCDF	**3.7**	**J**	20	0.73	pg/g	0.1	**0.37**	8290A
1,2,3,7,8,9-HxCDF	ND		20	0.84	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**14**	**J B**	20	0.19	pg/g	0.01	**0.14**	8290A
1,2,3,4,7,8,9-HpCDF	**1.4**	**J B**	20	0.26	pg/g	0.01	**0.014**	8290A
OCDF	**27**	**J B**	40	0.48	pg/g	0.0003	**0.0081**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		6.6	TEQ

Client Sample ID: POND 8-21 (11.5-13.0) — Lab Sample ID: 720-94937-14

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	**0.79**	**J**	2.8	0.22	pg/g	1	**0.79**	8290A
1,2,3,7,8-PeCDD	**1.7**	**J I**	14	0.094	pg/g	1	**1.7**	8290A
1,2,3,4,7,8-HxCDD	**1.4**	**J**	14	0.17	pg/g	0.1	**0.14**	8290A
1,2,3,6,7,8-HxCDD	**4.9**	**J**	14	0.17	pg/g	0.1	**0.49**	8290A
1,2,3,7,8,9-HxCDD	**3.7**	**J**	14	0.16	pg/g	0.1	**0.37**	8290A
1,2,3,4,6,7,8-HpCDD	**59**		14	0.30	pg/g	0.01	**0.59**	8290A
OCDD	**240**	**B**	28	0.25	pg/g	0.0003	**0.072**	8290A
2,3,7,8-TCDF	**2.0**	**J**	2.8	0.35	pg/g	0.1	**0.20**	8290A
1,2,3,7,8-PeCDF	ND		14	0.15	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	**2.1**	**J**	14	0.14	pg/g	0.3	**0.63**	8290A
1,2,3,4,7,8-HxCDF	ND		14	0.80	pg/g	0.1	0.00	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 8-21 (11.5-13.0) (Continued) — Lab Sample ID: 720-94937-14

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
1,2,3,6,7,8-HxCDF	5.3	J I	14	0.79	pg/g	0.1	0.53	8290A
2,3,4,6,7,8-HxCDF	2.4	J I	14	0.82	pg/g	0.1	0.24	8290A
1,2,3,7,8,9-HxCDF	ND		14	1.0	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	13	J B	14	0.11	pg/g	0.01	0.13	8290A
1,2,3,4,7,8,9-HpCDF	1.0	J I B	14	0.15	pg/g	0.01	0.010	8290A
OCDF	29	B	28	0.28	pg/g	0.0003	0.0087	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
Total Toxic Dioxins and Furans					pg/g		5.9	TEQ

Client Sample ID: POND 8-23 (8.0-10.0) — Lab Sample ID: 720-94937-15

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
2,3,7,8-TCDD	2.1	J	4.1	0.41	pg/g	1	2.1	8290A
1,2,3,7,8-PeCDD	8.6	J	21	0.34	pg/g	1	8.6	8290A
1,2,3,4,7,8-HxCDD	6.8	J	21	0.39	pg/g	0.1	0.68	8290A
1,2,3,6,7,8-HxCDD	24		21	0.37	pg/g	0.1	2.4	8290A
1,2,3,7,8,9-HxCDD	18	J	21	0.36	pg/g	0.1	1.8	8290A
1,2,3,4,6,7,8-HpCDD	300		21	0.55	pg/g	0.01	3.0	8290A
OCDD	1400	B	41	0.51	pg/g	0.0003	0.42	8290A
2,3,7,8-TCDF	4.0	J I	4.1	3.2	pg/g	0.1	0.40	8290A
1,2,3,7,8-PeCDF	2.3	J	21	0.56	pg/g	0.03	0.069	8290A
2,3,4,7,8-PeCDF	8.9	J	21	0.57	pg/g	0.3	2.7	8290A
1,2,3,4,7,8-HxCDF	7.6	J	21	2.7	pg/g	0.1	0.76	8290A
1,2,3,6,7,8-HxCDF	28	I	21	2.7	pg/g	0.1	2.8	8290A
2,3,4,6,7,8-HxCDF	11	J	21	3.0	pg/g	0.1	1.1	8290A
1,2,3,7,8,9-HxCDF	ND		21	3.5	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	64	B	21	0.28	pg/g	0.01	0.64	8290A
1,2,3,4,7,8,9-HpCDF	6.2	J I B	21	0.38	pg/g	0.01	0.062	8290A
OCDF	120	B	41	1.0	pg/g	0.0003	0.036	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
Total Toxic Dioxins and Furans					pg/g		28	TEQ

Client Sample ID: POND 8-23 (14.0-15.0) — Lab Sample ID: 720-94937-16

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	TEQ	Method
2,3,7,8-TCDD	1.4	J	3.4	0.18	pg/g	1	1.4	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 8-23 (14.0-15.0) (Continued)

Lab Sample ID: 720-94937-16

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
1,2,3,7,8-PeCDD	4.6	J	17	0.37	pg/g	1	4.6	8290A
1,2,3,4,7,8-HxCDD	3.6	J	17	0.27	pg/g	0.1	0.36	8290A
1,2,3,6,7,8-HxCDD	14	J	17	0.26	pg/g	0.1	1.4	8290A
1,2,3,7,8,9-HxCDD	13	J	17	0.25	pg/g	0.1	1.3	8290A
1,2,3,4,6,7,8-HpCDD	220		17	0.29	pg/g	0.01	2.2	8290A
OCDD	730	B	34	0.14	pg/g	0.0003	0.22	8290A
2,3,7,8-TCDF	ND		3.4	1.0	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	1.2	J	17	0.25	pg/g	0.03	0.036	8290A
2,3,4,7,8-PeCDF	3.5	J	17	0.22	pg/g	0.3	1.1	8290A
1,2,3,4,7,8-HxCDF	3.1	J	17	0.86	pg/g	0.1	0.31	8290A
1,2,3,6,7,8-HxCDF	8.4	J I	17	0.84	pg/g	0.1	0.84	8290A
2,3,4,6,7,8-HxCDF	3.8	J	17	0.93	pg/g	0.1	0.38	8290A
1,2,3,7,8,9-HxCDF	ND		17	1.1	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	30	B	17	0.13	pg/g	0.01	0.30	8290A
1,2,3,4,7,8,9-HpCDF	2.9	J B	17	0.15	pg/g	0.01	0.029	8290A
OCDF	68	B	34	0.20	pg/g	0.0003	0.020	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		14	TEQ

Client Sample ID: POND 8-22 (8.0-10.0)

Lab Sample ID: 720-94937-17

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		3.3	0.31	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	3.0	J	17	0.21	pg/g	1	3.0	8290A
1,2,3,4,7,8-HxCDD	2.4	J	17	0.35	pg/g	0.1	0.24	8290A
1,2,3,6,7,8-HxCDD	6.3	J	17	0.36	pg/g	0.1	0.63	8290A
1,2,3,7,8,9-HxCDD	5.6	J	17	0.33	pg/g	0.1	0.56	8290A
1,2,3,4,6,7,8-HpCDD	81		17	0.58	pg/g	0.01	0.81	8290A
OCDD	440	B	33	0.56	pg/g	0.0003	0.13	8290A
2,3,7,8-TCDF	ND		3.3	0.48	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		17	0.27	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	0.85	J I	17	0.25	pg/g	0.3	0.26	8290A
1,2,3,4,7,8-HxCDF	1.7	J I	17	0.36	pg/g	0.1	0.17	8290A
1,2,3,6,7,8-HxCDF	2.1	J	17	0.36	pg/g	0.1	0.21	8290A
2,3,4,6,7,8-HxCDF	1.1	J	17	0.38	pg/g	0.1	0.11	8290A
1,2,3,7,8,9-HxCDF	ND		17	0.44	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	23	B	17	0.31	pg/g	0.01	0.23	8290A
1,2,3,4,7,8,9-HpCDF	1.8	J B	17	0.37	pg/g	0.01	0.018	8290A
OCDF	59	B	33	0.62	pg/g	0.0003	0.018	8290A

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Client Sample ID: POND 8-22 (8.0-10.0) (Continued)

Lab Sample ID: 720-94937-17

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		6.4	TEQ

Client Sample ID: POND 8-22 (17.25-18.75)

Lab Sample ID: 720-94937-18

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		1.4	0.10	pg/g	1	0.00	8290A
1,2,3,7,8-PeCDD	ND		7.2	0.094	pg/g	1	0.00	8290A
1,2,3,4,7,8-HxCDD	ND		7.2	0.11	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDD	**0.43**	**J I**	7.2	0.12	pg/g	0.1	**0.043**	8290A
1,2,3,7,8,9-HxCDD	ND		7.2	0.11	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDD	**4.9**	**J**	7.2	0.21	pg/g	0.01	**0.049**	8290A
OCDD	**30**	**B**	14	0.27	pg/g	0.0003	**0.0090**	8290A
2,3,7,8-TCDF	ND		1.4	0.11	pg/g	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		7.2	0.14	pg/g	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		7.2	0.13	pg/g	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		7.2	0.14	pg/g	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	ND		7.2	0.14	pg/g	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		7.2	0.15	pg/g	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		7.2	0.18	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**1.8**	**J B**	7.2	0.14	pg/g	0.01	**0.018**	8290A
1,2,3,4,7,8,9-HpCDF	ND		7.2	0.20	pg/g	0.01	0.00	8290A
OCDF	**5.9**	**J B**	14	0.17	pg/g	0.0003	**0.0018**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		0.12	TEQ

Client Sample ID: D-20190904

Lab Sample ID: 720-94937-19

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	**0.74**	**J I**	2.1	0.13	pg/g	1	**0.74**	8290A
1,2,3,7,8-PeCDD	**1.2**	**J**	11	0.095	pg/g	1	**1.2**	8290A
1,2,3,4,7,8-HxCDD	**0.91**	**J I**	11	0.10	pg/g	0.1	**0.091**	8290A
1,2,3,6,7,8-HxCDD	**3.9**	**J**	11	0.11	pg/g	0.1	**0.39**	8290A
1,2,3,7,8,9-HxCDD	**3.1**	**J**	11	0.099	pg/g	0.1	**0.31**	8290A
1,2,3,4,6,7,8-HpCDD	**57**		11	0.30	pg/g	0.01	**0.57**	8290A
OCDD	**170**	**B**	21	0.17	pg/g	0.0003	**0.051**	8290A
2,3,7,8-TCDF	**1.2**	**J I**	2.1	0.65	pg/g	0.1	**0.12**	8290A
1,2,3,7,8-PeCDF	**0.60**	**J I**	11	0.14	pg/g	0.03	**0.018**	8290A
2,3,4,7,8-PeCDF	**1.8**	**J I**	11	0.11	pg/g	0.3	**0.54**	8290A
1,2,3,4,7,8-HxCDF	ND		11	0.42	pg/g	0.1	0.00	8290A

TEF Reference:

WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Toxicity Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: D-20190904 (Continued)

Lab Sample ID: 720-94937-19

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
1,2,3,6,7,8-HxCDF	**3.5**	**J I**	11	0.39	pg/g	0.1	**0.35**	8290A
2,3,4,6,7,8-HxCDF	**2.1**	**J**	11	0.43	pg/g	0.1	**0.21**	8290A
1,2,3,7,8,9-HxCDF	ND		11	0.52	pg/g	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	**5.3**	**J B**	11	0.051	pg/g	0.01	**0.053**	8290A
1,2,3,4,7,8,9-HpCDF	**0.59**	**J B**	11	0.067	pg/g	0.01	**0.0059**	8290A
OCDF	**7.7**	**J B**	21	0.11	pg/g	0.0003	**0.0023**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/g		4.7	TEQ

Client Sample ID: EQUIPMENT BLANK

Lab Sample ID: 720-94937-20

Analyte	Result	Qualifier	RL	EDL	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
2,3,7,8-TCDD	ND		13	1.2	pg/L	1	0.00	8290A
1,2,3,7,8-PeCDD	ND		63	0.65	pg/L	1	0.00	8290A
1,2,3,4,7,8-HxCDD	ND		63	0.54	pg/L	0.1	0.00	8290A
1,2,3,6,7,8-HxCDD	ND		63	0.58	pg/L	0.1	0.00	8290A
1,2,3,7,8,9-HxCDD	ND		63	0.52	pg/L	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDD	ND		63	0.96	pg/L	0.01	0.00	8290A
OCDD	**5.2**	**J I B**	130	0.31	pg/L	0.0003	**0.0016**	8290A
2,3,7,8-TCDF	ND		13	0.77	pg/L	0.1	0.00	8290A
1,2,3,7,8-PeCDF	ND		63	0.60	pg/L	0.03	0.00	8290A
2,3,4,7,8-PeCDF	ND		63	0.57	pg/L	0.3	0.00	8290A
1,2,3,4,7,8-HxCDF	ND		63	0.78	pg/L	0.1	0.00	8290A
1,2,3,6,7,8-HxCDF	ND		63	0.80	pg/L	0.1	0.00	8290A
2,3,4,6,7,8-HxCDF	ND		63	0.81	pg/L	0.1	0.00	8290A
1,2,3,7,8,9-HxCDF	ND		63	1.0	pg/L	0.1	0.00	8290A
1,2,3,4,6,7,8-HpCDF	ND		63	0.35	pg/L	0.01	0.00	8290A
1,2,3,4,7,8,9-HpCDF	ND		63	0.48	pg/L	0.01	0.00	8290A
OCDF	**1.0**	**J I B**	130	0.15	pg/L	0.0003	**0.00030**	8290A

Analyte	Result	Qualifier	NONE	NONE	Unit	WHO 2005 ND = 0 TEF	WHO 2005 ND = 0 TEQ	Method
Total Toxic Dioxins and Furans					pg/L		0.0019	TEQ

TEF Reference:
WHO 2005 = World Health Organization (WHO) 2005 TEF, Dioxins, Furans and PCB Congeners

Note: The analytes PCB-156 and PCB-157 coelute as a single peak.

Isotope Dilution Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD (40-135)	HxDD (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF (40-135)
720-94937-1	NORTH POND-02 (5,0-5,5)	50	46	50	53	59	50	47	45
720-94937-2	NORTH POND-02 (9,0-9,5)	52	48	50	51	55	48	50	48
720-94937-3	NORTH POND-02 (14.0-16.0)	51	48	55	55	64	56	48	47
720-94937-4	NORTH POND-02 (18.0-20.0)	40	42	41	44	44	38 *	37 *	41
720-94937-4	NORTH POND-02 (18.0-20.0)							46	
720-94937-5	POND 6-03 (0.0-0.5)	60	70	68	69	73	71	53	66
720-94937-6	POND 6-03 (1.5-2.5)	59	69	65	66	72	67	51	64
720-94937-7	POND 6-03 (5.0-5.5)	46	46	39 *	41	41	35 *	41	44
720-94937-7	POND 6-03 (5.0-5.5)							50	
720-94937-8	POND 8-25 (8.0-10.0)	55	56	56	53	59	54	46	54
720-94937-9	POND 8-19 (3.0-4.0)	60	61	63	60	62	61	52	59
720-94937-9	POND 8-19 (3.0-4.0)							58	
720-94937-10	POND 8-24 (4.5-6.0)	60	62	64	59	67	63	53	60
720-94937-11	POND 8-26 (8.5-10.0)	51	59	55	51	59	55	51	56
720-94937-11 MS	POND 8-26 (8.5-10.0)	52	61	55	52	59	54	53	56
720-94937-11 MSD	POND 8-26 (8.5-10.0)	55	64	61	61	65	64	55	60
720-94937-12	POND 8-20 (5.5-7.0)	65	76	68	65	70	68	65	70
720-94937-13	POND 8-21 (8.0-10.0)	60	66	60	57	66	61	59	62
720-94937-14	POND 8-21 (11.5-13.0)	62	75	65	60	67	63	61	66
720-94937-15	POND 8-23 (8.0-10.0)	52	60	54	52	55	54	52	56
720-94937-15	POND 8-23 (8.0-10.0)							53	
720-94937-16	POND 8-23 (14.0-15.0)	64	76	67	63	69	69	62	71
720-94937-16	POND 8-23 (14.0-15.0)							65	
720-94937-17	POND 8-22 (8.0-10.0)	54	60	52	48	54	53	50	57
720-94937-18	POND 8-22 (17.25-18.75)	65	76	64	60	66	66	60	71
720-94937-19	D-20190904	60	69	64	63	67	68	59	64
720-94937-19	D-20190904							60	
LCS 140-33722/23-A	Lab Control Sample	61	59	62	77	76	72	61	65
MB 140-33722/22-A	Method Blank	61	56	62	76	72	66	61	59

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCF (40-135)	HxCDF (40-135)	HxDF (40-135)	13CHxCF (40-135)	HxCF (40-135)	HpCDF (40-135)	HpCDF2 (40-135)	I3C-OCDF (40-135)
720-94937-1	NORTH POND-02 (5,0-5,5)	45	47	48	46	47	47	47	47
720-94937-2	NORTH POND-02 (9,0-9,5)	47	48	48	48	49	44	46	46
720-94937-3	NORTH POND-02 (14.0-16.0)	48	54	49	50	53	48	54	54
720-94937-4	NORTH POND-02 (18.0-20.0)	38 *	37 *	38 *	38 *	39 *	36 *	36 *	37 *
720-94937-4	NORTH POND-02 (18.0-20.0)								
720-94937-5	POND 6-03 (0.0-0.5)	68	59	58	61	61	58	63	66
720-94937-6	POND 6-03 (1.5-2.5)	66	58	58	61	60	54	59	60
720-94937-7	POND 6-03 (5.0-5.5)	45	36 *	33 *	37 *	38 *	30 *	34 *	32 *
720-94937-7	POND 6-03 (5.0-5.5)								
720-94937-8	POND 8-25 (8.0-10.0)	54	50	46	46	45	45	48	50
720-94937-9	POND 8-19 (3.0-4.0)	60	51	50	53	52	48	53	56
720-94937-9	POND 8-19 (3.0-4.0)								
720-94937-10	POND 8-24 (4.5-6.0)	59	54	49	54	56	50	57	57
720-94937-11	POND 8-26 (8.5-10.0)	56	54	49	53	52	48	54	55
720-94937-11 MS	POND 8-26 (8.5-10.0)	55	54	49	52	50	47	52	50
720-94937-11 MSD	POND 8-26 (8.5-10.0)	60	60	57	59	58	53	62	62
720-94937-12	POND 8-20 (5.5-7.0)	70	67	63	65	64	64	68	63

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCF (40-135)	HxCDF (40-135)	HxDF (40-135)	13CHxCF (40-135)	HxCF (40-135)	HpCDF (40-135)	HpCDF2 (40-135)	13C-OCDF (40-135)
720-94937-13	POND 8-21 (8.0-10.0)	61	60	56	58	61	56	60	58
720-94937-14	POND 8-21 (11.5-13.0)	67	63	57	62	62	59	65	62
720-94937-15	POND 8-23 (8.0-10.0)	54	53	50	50	51	48	53	51
720-94937-15	POND 8-23 (8.0-10.0)								
720-94937-16	POND 8-23 (14.0-15.0)	72	62	55	59	61	57	63	63
720-94937-16	POND 8-23 (14.0-15.0)								
720-94937-17	POND 8-22 (8.0-10.0)	57	50	44	48	49	45	50	49
720-94937-18	POND 8-22 (17.25-18.75)	71	62	58	60	63	55	60	61
720-94937-19	D-20190904	65	61	57	60	59	55	64	64
720-94937-19	D-20190904								
LCS 140-33722/23-A	Lab Control Sample	62	59	69	67	66	68	64	68
MB 140-33722/22-A	Method Blank	58	59	67	66	64	63	61	64

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
PeCDD = 13C-1,2,3,7,8-PeCDD
HxCDD = 13C-1,2,3,4,7,8-HxCDD
HxDD = 13C-1,2,3,6,7,8-HxCDD
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
OCDD = 13C-OCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
13C-OCDF = 13C-OCDF

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	TCDD (40-135)	PeCDD (40-135)	HxCDD (40-135)	HxDD (40-135)	HpCDD (40-135)	OCDD (40-135)	TCDF (40-135)	PeCDF (40-135)
720-94937-20	EQUIPMENT BLANK	55	77	61	67	79	92	51	69
LCS 140-33467/15-A	Lab Control Sample	78	97	81	83	99	97	79	88
MB 140-33467/14-A	Method Blank	84	85	91	97	93	83	84	81

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCF (40-135)	HxCDF (40-135)	HxDF (40-135)	13CHxCF (40-135)	HxCF (40-135)	HpCDF (40-135)	HpCDF2 (40-135)	13C-OCDF (40-135)
720-94937-20	EQUIPMENT BLANK	66	55	55	61	61	67	71	80
LCS 140-33467/15-A	Lab Control Sample	85	78	79	84	86	91	93	101
MB 140-33467/14-A	Method Blank	83	77	78	91	92	88	90	84

Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD
PeCDD = 13C-1,2,3,7,8-PeCDD
HxCDD = 13C-1,2,3,4,7,8-HxCDD

Isotope Dilution Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

HxDD = 13C-1,2,3,6,7,8-HxCDD
HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
OCDD = 13C-OCDD
TCDF = 13C-2,3,7,8-TCDF
PeCDF = 13C-1,2,3,7,8-PeCDF
PeCF = 13C-2,3,4,7,8-PeCDF
HxCDF = 13C-1,2,3,4,7,8-HxCDF
HxDF = 13C-1,2,3,6,7,8-HxCDF
13CHxCF = 13C-2,3,4,6,7,8-HxCDF
HxCF = 13C-1,2,3,7,8,9-HxCDF
HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
13C-OCDF = 13C-OCDF

Method: 8290A - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 140-33467/14-A
Matrix: Water
Analysis Batch: 33675

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33467

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.25	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total TCDD	ND		10	0.38	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,7,8-PeCDD	ND		50	0.46	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total PeCDD	ND		50	0.46	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,4,7,8-HxCDD	ND		50	0.59	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,6,7,8-HxCDD	ND		50	0.64	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,7,8,9-HxCDD	ND		50	0.57	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total HxCDD	ND		50	0.64	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,4,6,7,8-HpCDD	ND		50	0.88	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total HpCDD	ND		50	0.88	pg/L		09/11/19 14:31	09/18/19 16:24	1
OCDD	7.58	J	100	0.34	pg/L		09/11/19 14:31	09/18/19 16:24	1
2,3,7,8-TCDF	ND		10	0.83	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total TCDF	ND		10	0.83	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,7,8-PeCDF	ND		50	0.98	pg/L		09/11/19 14:31	09/18/19 16:24	1
2,3,4,7,8-PeCDF	ND		50	0.87	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total PeCDF	1.53	J I	50	0.92	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,4,7,8-HxCDF	ND		50	0.55	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,6,7,8-HxCDF	ND		50	0.52	pg/L		09/11/19 14:31	09/18/19 16:24	1
2,3,4,6,7,8-HxCDF	ND		50	0.52	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,7,8,9-HxCDF	ND		50	0.59	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total HxCDF	ND		50	0.59	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.42	pg/L		09/11/19 14:31	09/18/19 16:24	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.59	pg/L		09/11/19 14:31	09/18/19 16:24	1
Total HpCDF	ND		50	0.59	pg/L		09/11/19 14:31	09/18/19 16:24	1
OCDF	4.40	J I	100	0.44	pg/L		09/11/19 14:31	09/18/19 16:24	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*84*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,7,8-PeCDD	*85*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,4,7,8-HxCDD	*91*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,6,7,8-HxCDD	*97*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*93*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-OCDD	*83*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-2,3,7,8-TCDF	*84*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-2,3,4,7,8-PeCDF	*83*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,4,7,8-HxCDF	*77*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,6,7,8-HxCDF	*78*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-2,3,4,6,7,8-HxCDF	*91*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,7,8,9-HxCDF	*92*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*90*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*
13C-OCDF	*84*		*40 - 135*	*09/11/19 14:31*	*09/18/19 16:24*	*1*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 140-33467/15-A
Matrix: Water
Analysis Batch: 33675

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33467

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			200	209		pg/L		105	77 - 127		
1,2,3,7,8-PeCDD			1000	949		pg/L		95	78 - 128		
1,2,3,4,7,8-HxCDD			1000	1020		pg/L		102	73 - 123		
1,2,3,6,7,8-HxCDD			1000	1080		pg/L		108	72 - 127		
1,2,3,7,8,9-HxCDD			1000	1120		pg/L		112	76 - 126		
1,2,3,4,6,7,8-HpCDD			1000	980		pg/L		98	73 - 123		
OCDD			2000	2030		pg/L		101	75 - 125		
2,3,7,8-TCDF			200	219		pg/L		109	74 - 124		
1,2,3,7,8-PeCDF			1000	934		pg/L		93	74 - 124		
2,3,4,7,8-PeCDF			1000	1000		pg/L		100	74 - 124		
1,2,3,4,7,8-HxCDF			1000	1010		pg/L		101	75 - 125		
1,2,3,6,7,8-HxCDF			1000	1010		pg/L		101	75 - 125		
2,3,4,6,7,8-HxCDF			1000	1050		pg/L		105	76 - 126		
1,2,3,7,8,9-HxCDF			1000	1030		pg/L		103	76 - 126		
1,2,3,4,6,7,8-HpCDF			1000	1030		pg/L		103	71 - 121		
1,2,3,4,7,8,9-HpCDF			1000	1050		pg/L		105	73 - 123		
OCDF			2000	1680		pg/L		84	68 - 132		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*78*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*97*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*81*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*99*		*40 - 135*
13C-OCDD	*97*		*40 - 135*
13C-2,3,7,8-TCDF	*79*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*85*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*78*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*79*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*84*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*86*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*91*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*93*		*40 - 135*
13C-OCDF	*101*		*40 - 135*

Lab Sample ID: MB 140-33722/22-A
Matrix: Solid
Analysis Batch: 34030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33722

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.059	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total TCDD	ND		1.0	0.14	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,7,8-PeCDD	ND		5.0	0.049	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total PeCDD	1.17	J I	5.0	0.049	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,4,7,8-HxCDD	ND		5.0	0.074	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.072	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.069	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total HxCDD	ND		5.0	0.074	pg/g		09/19/19 11:50	09/29/19 03:14	1

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 140-33722/22-A
Matrix: Solid
Analysis Batch: 34030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33722

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.14	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total HpCDD	ND		5.0	0.14	pg/g		09/19/19 11:50	09/29/19 03:14	1
OCDD	0.248	J	10	0.029	pg/g		09/19/19 11:50	09/29/19 03:14	1
2,3,7,8-TCDF	ND		1.0	0.10	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total TCDF	ND		1.0	0.10	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,7,8-PeCDF	ND		5.0	0.094	pg/g		09/19/19 11:50	09/29/19 03:14	1
2,3,4,7,8-PeCDF	ND		5.0	0.085	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total PeCDF	ND		5.0	0.094	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.073	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.070	pg/g		09/19/19 11:50	09/29/19 03:14	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.078	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.095	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total HxCDF	ND		5.0	0.095	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,4,6,7,8-HpCDF	0.0785	J	5.0	0.031	pg/g		09/19/19 11:50	09/29/19 03:14	1
1,2,3,4,7,8,9-HpCDF	0.0659	J	5.0	0.047	pg/g		09/19/19 11:50	09/29/19 03:14	1
Total HpCDF	0.144	J	5.0	0.039	pg/g		09/19/19 11:50	09/29/19 03:14	1
OCDF	0.232	J	10	0.059	pg/g		09/19/19 11:50	09/29/19 03:14	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*61*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,7,8-PeCDD	*56*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,4,7,8-HxCDD	*62*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*72*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-OCDD	*66*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-2,3,4,7,8-PeCDF	*58*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,6,7,8-HxCDF	*67*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-2,3,4,6,7,8-HxCDF	*66*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,7,8,9-HxCDF	*64*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*63*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-1,2,3,4,7,8,9-HpCDF	*61*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*
13C-OCDF	*64*		*40 - 135*	*09/19/19 11:50*	*09/29/19 03:14*	*1*

Lab Sample ID: LCS 140-33722/23-A
Matrix: Solid
Analysis Batch: 34030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33722

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	21.7		pg/g		108	79 - 129
1,2,3,7,8-PeCDD	100	114		pg/g		114	79 - 129
1,2,3,4,7,8-HxCDD	100	107		pg/g		107	73 - 123
1,2,3,6,7,8-HxCDD	100	104		pg/g		104	74 - 124
1,2,3,7,8,9-HxCDD	100	111		pg/g		111	70 - 124
1,2,3,4,6,7,8-HpCDD	100	100		pg/g		100	73 - 123
OCDD	200	201		pg/g		101	75 - 125
2,3,7,8-TCDF	20.0	21.6		pg/g		108	75 - 125

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 140-33722/23-A
Matrix: Solid
Analysis Batch: 34030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33722

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,7,8-PeCDF	100	97.4		pg/g		97	74 - 124
2,3,4,7,8-PeCDF	100	108		pg/g		108	75 - 125
1,2,3,4,7,8-HxCDF	100	103		pg/g		103	75 - 125
1,2,3,6,7,8-HxCDF	100	98.9		pg/g		99	76 - 126
2,3,4,6,7,8-HxCDF	100	100		pg/g		100	76 - 126
1,2,3,7,8,9-HxCDF	100	100		pg/g		100	77 - 127
1,2,3,4,6,7,8-HpCDF	100	98.1		pg/g		98	77 - 127
1,2,3,4,7,8,9-HpCDF	100	103		pg/g		103	73 - 123
OCDF	200	186		pg/g		93	49 - 128

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*61*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*59*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*62*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*
13C-OCDD	*72*		*40 - 135*
13C-2,3,7,8-TCDF	*61*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*62*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*59*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*69*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*67*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*66*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*68*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*64*		*40 - 135*
13C-OCDF	*68*		*40 - 135*

Lab Sample ID: 720-94937-11 MS
Matrix: Solid
Analysis Batch: 34053

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA
Prep Batch: 33722

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	ND		54.5	62.0		pg/g	☼	114	79 - 129
1,2,3,7,8-PeCDD	0.98	J I	273	304		pg/g	☼	111	79 - 129
1,2,3,4,7,8-HxCDD	0.85	J	273	302		pg/g	☼	111	73 - 123
1,2,3,6,7,8-HxCDD	3.1	J I	273	309		pg/g	☼	112	73 - 127
1,2,3,7,8,9-HxCDD	2.8	J	273	314		pg/g	☼	114	65 - 141
1,2,3,4,6,7,8-HpCDD	38		273	337		pg/g	☼	110	54 - 138
OCDD	120	B F2	545	747		pg/g	☼	114	31 - 154
2,3,7,8-TCDF	ND		54.5	63.1		pg/g	☼	116	75 - 125
1,2,3,7,8-PeCDF	ND		273	272		pg/g	☼	100	74 - 124
2,3,4,7,8-PeCDF	0.68	J	273	298		pg/g	☼	109	75 - 125
1,2,3,4,7,8-HxCDF	ND		273	303		pg/g	☼	111	75 - 125
1,2,3,6,7,8-HxCDF	1.9	J	273	295		pg/g	☼	107	73 - 131
2,3,4,6,7,8-HxCDF	1.1	J I	273	306		pg/g	☼	112	76 - 129
1,2,3,7,8,9-HxCDF	ND		273	319		pg/g	☼	117	77 - 127
1,2,3,4,6,7,8-HpCDF	3.2	J B	273	313		pg/g	☼	113	72 - 134
1,2,3,4,7,8,9-HpCDF	ND		273	324		pg/g	☼	119	73 - 124

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 720-94937-11 MS
Matrix: Solid
Analysis Batch: 34053

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA
Prep Batch: 33722

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
OCDF	6.3	J B	545	537		pg/g	☼	97	45 - 135

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*52*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*55*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*52*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*59*		*40 - 135*
13C-OCDD	*54*		*40 - 135*
13C-2,3,7,8-TCDF	*53*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*56*		*40 - 135*
13C-2,3,4,7,8-PeCDF	*55*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*54*		*40 - 135*
13C-1,2,3,6,7,8-HxCDF	*49*		*40 - 135*
13C-2,3,4,6,7,8-HxCDF	*52*		*40 - 135*
13C-1,2,3,7,8,9-HxCDF	*50*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*47*		*40 - 135*
13C-1,2,3,4,7,8,9-HpCDF	*52*		*40 - 135*
13C-OCDF	*50*		*40 - 135*

Lab Sample ID: 720-94937-11 MSD
Matrix: Solid
Analysis Batch: 34053

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA
Prep Batch: 33722

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	ND		53.8	58.3		pg/g	☼	108	79 - 129	6	15
1,2,3,7,8-PeCDD	0.98	J I	269	281		pg/g	☼	104	79 - 129	8	15
1,2,3,4,7,8-HxCDD	0.85	J	269	283		pg/g	☼	105	73 - 123	7	15
1,2,3,6,7,8-HxCDD	3.1	J I	269	286		pg/g	☼	105	73 - 127	8	15
1,2,3,7,8,9-HxCDD	2.8	J	269	293		pg/g	☼	108	65 - 141	7	15
1,2,3,4,6,7,8-HpCDD	38		269	310		pg/g	☼	101	54 - 138	9	15
OCDD	120	B F2	538	624	F2	pg/g	☼	93	31 - 154	18	15
2,3,7,8-TCDF	ND		53.8	58.6		pg/g	☼	109	75 - 125	7	15
1,2,3,7,8-PeCDF	ND		269	259		pg/g	☼	96	74 - 124	5	15
2,3,4,7,8-PeCDF	0.68	J	269	273		pg/g	☼	101	75 - 125	9	15
1,2,3,4,7,8-HxCDF	ND		269	290		pg/g	☼	108	75 - 125	4	15
1,2,3,6,7,8-HxCDF	1.9	J	269	279		pg/g	☼	103	73 - 131	6	15
2,3,4,6,7,8-HxCDF	1.1	J I	269	291		pg/g	☼	108	76 - 129	5	15
1,2,3,7,8,9-HxCDF	ND		269	295		pg/g	☼	110	77 - 127	8	15
1,2,3,4,6,7,8-HpCDF	3.2	J B	269	312		pg/g	☼	115	72 - 134	0	15
1,2,3,4,7,8,9-HpCDF	ND		269	294		pg/g	☼	109	73 - 124	10	15
OCDF	6.3	J B	538	495		pg/g	☼	91	45 - 135	8	15

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*55*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*
13C-1,2,3,4,7,8-HxCDD	*61*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*65*		*40 - 135*

Method: 8290A - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: 720-94937-11 MSD
Matrix: Solid
Analysis Batch: 34053

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA
Prep Batch: 33722

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C-OCDD	64		40 - 135
13C-2,3,7,8-TCDF	55		40 - 135
13C-1,2,3,7,8-PeCDF	60		40 - 135
13C-2,3,4,7,8-PeCDF	60		40 - 135
13C-1,2,3,4,7,8-HxCDF	60		40 - 135
13C-1,2,3,6,7,8-HxCDF	57		40 - 135
13C-2,3,4,6,7,8-HxCDF	59		40 - 135
13C-1,2,3,7,8,9-HxCDF	58		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	53		40 - 135
13C-1,2,3,4,7,8,9-HpCDF	62		40 - 135
13C-OCDF	62		40 - 135

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 440-567644/1-A ^20
Matrix: Solid
Analysis Batch: 567771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 567644

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.25	mg/Kg		09/09/19 10:34	09/09/19 17:21	20

Lab Sample ID: LCS 440-567644/2-A ^20
Matrix: Solid
Analysis Batch: 567771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 567644

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	49.5	50.5		mg/Kg		102	80 - 120

Lab Sample ID: 720-94937-11 MS
Matrix: Solid
Analysis Batch: 567771

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA
Prep Batch: 567644

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	11		137	136		mg/Kg	☼	91	75 - 125

Lab Sample ID: 720-94937-11 MSD
Matrix: Solid
Analysis Batch: 567771

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA
Prep Batch: 567644

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	11		137	140		mg/Kg	☼	95	75 - 125	3	20

Lab Sample ID: MB 440-567612/1-A
Matrix: Water
Analysis Batch: 567713

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 567612

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.50	ug/L		09/09/19 09:26	09/09/19 14:33	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-567612/2-A
Matrix: Water
Analysis Batch: 567713

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 567612

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			80.0	77.8		ug/L		97	80 - 120		

Method: Moisture - Percent Moisture

Lab Sample ID: 720-94937-1 DU
Matrix: Solid
Analysis Batch: 567757

Client Sample ID: NORTH POND-02 (5,0-5,5)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	54.4			62.2		%				13	20

Lab Sample ID: 720-94937-11 DU
Matrix: Solid
Analysis Batch: 567757

Client Sample ID: POND 8-26 (8.5-10.0)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	63.4			59.6		%				6	20

Specialty Organics

Prep Batch: 33467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-20	EQUIPMENT BLANK	Total/NA	Water	8290	
MB 140-33467/14-A	Method Blank	Total/NA	Water	8290	
LCS 140-33467/15-A	Lab Control Sample	Total/NA	Water	8290	

Analysis Batch: 33675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 140-33467/14-A	Method Blank	Total/NA	Water	8290A	33467
LCS 140-33467/15-A	Lab Control Sample	Total/NA	Water	8290A	33467

Analysis Batch: 33698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-20	EQUIPMENT BLANK	Total/NA	Water	8290A	33467

Prep Batch: 33722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-1	NORTH POND-02 (5,0-5,5)	Total/NA	Solid	8290	
720-94937-2	NORTH POND-02 (9,0-9,5)	Total/NA	Solid	8290	
720-94937-3	NORTH POND-02 (14.0-16.0)	Total/NA	Solid	8290	
720-94937-4	NORTH POND-02 (18.0-20.0)	Total/NA	Solid	8290	
720-94937-5	POND 6-03 (0.0-0.5)	Total/NA	Solid	8290	
720-94937-6	POND 6-03 (1.5-2.5)	Total/NA	Solid	8290	
720-94937-7	POND 6-03 (5.0-5.5)	Total/NA	Solid	8290	
720-94937-8	POND 8-25 (8.0-10.0)	Total/NA	Solid	8290	
720-94937-9	POND 8-19 (3.0-4.0)	Total/NA	Solid	8290	
720-94937-10	POND 8-24 (4.5-6.0)	Total/NA	Solid	8290	
720-94937-11	POND 8-26 (8.5-10.0)	Total/NA	Solid	8290	
720-94937-12	POND 8-20 (5.5-7.0)	Total/NA	Solid	8290	
720-94937-13	POND 8-21 (8.0-10.0)	Total/NA	Solid	8290	
720-94937-14	POND 8-21 (11.5-13.0)	Total/NA	Solid	8290	
720-94937-15	POND 8-23 (8.0-10.0)	Total/NA	Solid	8290	
720-94937-16	POND 8-23 (14.0-15.0)	Total/NA	Solid	8290	
720-94937-17	POND 8-22 (8.0-10.0)	Total/NA	Solid	8290	
720-94937-18	POND 8-22 (17.25-18.75)	Total/NA	Solid	8290	
720-94937-19	D-20190904	Total/NA	Solid	8290	
MB 140-33722/22-A	Method Blank	Total/NA	Solid	8290	
LCS 140-33722/23-A	Lab Control Sample	Total/NA	Solid	8290	
720-94937-11 MS	POND 8-26 (8.5-10.0)	Total/NA	Solid	8290	
720-94937-11 MSD	POND 8-26 (8.5-10.0)	Total/NA	Solid	8290	

Analysis Batch: 34030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-1	NORTH POND-02 (5,0-5,5)	Total/NA	Solid	8290A	33722
720-94937-2	NORTH POND-02 (9,0-9,5)	Total/NA	Solid	8290A	33722
MB 140-33722/22-A	Method Blank	Total/NA	Solid	8290A	33722
LCS 140-33722/23-A	Lab Control Sample	Total/NA	Solid	8290A	33722

Analysis Batch: 34031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-3	NORTH POND-02 (14.0-16.0)	Total/NA	Solid	8290A	33722

Specialty Organics

Analysis Batch: 34036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-4	NORTH POND-02 (18.0-20.0)	Total/NA	Solid	8290A	33722
720-94937-5	POND 6-03 (0.0-0.5)	Total/NA	Solid	8290A	33722
720-94937-6	POND 6-03 (1.5-2.5)	Total/NA	Solid	8290A	33722
720-94937-7	POND 6-03 (5.0-5.5)	Total/NA	Solid	8290A	33722
720-94937-8	POND 8-25 (8.0-10.0)	Total/NA	Solid	8290A	33722
720-94937-9	POND 8-19 (3.0-4.0)	Total/NA	Solid	8290A	33722
720-94937-10	POND 8-24 (4.5-6.0)	Total/NA	Solid	8290A	33722

Analysis Batch: 34053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-11	POND 8-26 (8.5-10.0)	Total/NA	Solid	8290A	33722
720-94937-12	POND 8-20 (5.5-7.0)	Total/NA	Solid	8290A	33722
720-94937-13	POND 8-21 (8.0-10.0)	Total/NA	Solid	8290A	33722
720-94937-14	POND 8-21 (11.5-13.0)	Total/NA	Solid	8290A	33722
720-94937-15	POND 8-23 (8.0-10.0)	Total/NA	Solid	8290A	33722
720-94937-11 MS	POND 8-26 (8.5-10.0)	Total/NA	Solid	8290A	33722
720-94937-11 MSD	POND 8-26 (8.5-10.0)	Total/NA	Solid	8290A	33722

Analysis Batch: 34068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-16	POND 8-23 (14.0-15.0)	Total/NA	Solid	8290A	33722
720-94937-17	POND 8-22 (8.0-10.0)	Total/NA	Solid	8290A	33722
720-94937-18	POND 8-22 (17.25-18.75)	Total/NA	Solid	8290A	33722
720-94937-19	D-20190904	Total/NA	Solid	8290A	33722

Analysis Batch: 34071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-4	NORTH POND-02 (18.0-20.0)	Total/NA	Solid	8290A	33722
720-94937-7	POND 6-03 (5.0-5.5)	Total/NA	Solid	8290A	33722
720-94937-9	POND 8-19 (3.0-4.0)	Total/NA	Solid	8290A	33722
720-94937-15	POND 8-23 (8.0-10.0)	Total/NA	Solid	8290A	33722
720-94937-16	POND 8-23 (14.0-15.0)	Total/NA	Solid	8290A	33722
720-94937-19	D-20190904	Total/NA	Solid	8290A	33722

Metals

Prep Batch: 567612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-20	EQUIPMENT BLANK	Total Recoverable	Water	3005A	
MB 440-567612/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-567612/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 567644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-1	NORTH POND-02 (5,0-5,5)	Total/NA	Solid	3050B	
720-94937-2	NORTH POND-02 (9,0-9,5)	Total/NA	Solid	3050B	
720-94937-3	NORTH POND-02 (14.0-16.0)	Total/NA	Solid	3050B	
720-94937-4	NORTH POND-02 (18.0-20.0)	Total/NA	Solid	3050B	
720-94937-5	POND 6-03 (0.0-0.5)	Total/NA	Solid	3050B	
720-94937-6	POND 6-03 (1.5-2.5)	Total/NA	Solid	3050B	
720-94937-7	POND 6-03 (5.0-5.5)	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 567644 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-8	POND 8-25 (8.0-10.0)	Total/NA	Solid	3050B	
720-94937-9	POND 8-19 (3.0-4.0)	Total/NA	Solid	3050B	
720-94937-10	POND 8-24 (4.5-6.0)	Total/NA	Solid	3050B	
720-94937-11	POND 8-26 (8.5-10.0)	Total/NA	Solid	3050B	
720-94937-12	POND 8-20 (5.5-7.0)	Total/NA	Solid	3050B	
720-94937-13	POND 8-21 (8.0-10.0)	Total/NA	Solid	3050B	
720-94937-14	POND 8-21 (11.5-13.0)	Total/NA	Solid	3050B	
720-94937-15	POND 8-23 (8.0-10.0)	Total/NA	Solid	3050B	
720-94937-16	POND 8-23 (14.0-15.0)	Total/NA	Solid	3050B	
720-94937-17	POND 8-22 (8.0-10.0)	Total/NA	Solid	3050B	
720-94937-18	POND 8-22 (17.25-18.75)	Total/NA	Solid	3050B	
720-94937-19	D-20190904	Total/NA	Solid	3050B	
MB 440-567644/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 440-567644/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
720-94937-11 MS	POND 8-26 (8.5-10.0)	Total/NA	Solid	3050B	
720-94937-11 MSD	POND 8-26 (8.5-10.0)	Total/NA	Solid	3050B	

Analysis Batch: 567713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-20	EQUIPMENT BLANK	Total Recoverable	Water	6020	567612
MB 440-567612/1-A	Method Blank	Total Recoverable	Water	6020	567612
LCS 440-567612/2-A	Lab Control Sample	Total Recoverable	Water	6020	567612

Analysis Batch: 567771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-1	NORTH POND-02 (5,0-5,5)	Total/NA	Solid	6020	567644
720-94937-2	NORTH POND-02 (9,0-9,5)	Total/NA	Solid	6020	567644
720-94937-3	NORTH POND-02 (14.0-16.0)	Total/NA	Solid	6020	567644
720-94937-4	NORTH POND-02 (18.0-20.0)	Total/NA	Solid	6020	567644
720-94937-5	POND 6-03 (0.0-0.5)	Total/NA	Solid	6020	567644
720-94937-6	POND 6-03 (1.5-2.5)	Total/NA	Solid	6020	567644
720-94937-7	POND 6-03 (5.0-5.5)	Total/NA	Solid	6020	567644
720-94937-8	POND 8-25 (8.0-10.0)	Total/NA	Solid	6020	567644
720-94937-9	POND 8-19 (3.0-4.0)	Total/NA	Solid	6020	567644
720-94937-10	POND 8-24 (4.5-6.0)	Total/NA	Solid	6020	567644
720-94937-11	POND 8-26 (8.5-10.0)	Total/NA	Solid	6020	567644
720-94937-12	POND 8-20 (5.5-7.0)	Total/NA	Solid	6020	567644
720-94937-13	POND 8-21 (8.0-10.0)	Total/NA	Solid	6020	567644
720-94937-14	POND 8-21 (11.5-13.0)	Total/NA	Solid	6020	567644
720-94937-15	POND 8-23 (8.0-10.0)	Total/NA	Solid	6020	567644
720-94937-16	POND 8-23 (14.0-15.0)	Total/NA	Solid	6020	567644
720-94937-17	POND 8-22 (8.0-10.0)	Total/NA	Solid	6020	567644
720-94937-18	POND 8-22 (17.25-18.75)	Total/NA	Solid	6020	567644
720-94937-19	D-20190904	Total/NA	Solid	6020	567644
MB 440-567644/1-A ^20	Method Blank	Total/NA	Solid	6020	567644
LCS 440-567644/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	567644
720-94937-11 MS	POND 8-26 (8.5-10.0)	Total/NA	Solid	6020	567644
720-94937-11 MSD	POND 8-26 (8.5-10.0)	Total/NA	Solid	6020	567644

QC Association Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

General Chemistry

Analysis Batch: 567757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-94937-1	NORTH POND-02 (5,0-5,5)	Total/NA	Solid	Moisture	
720-94937-2	NORTH POND-02 (9,0-9,5)	Total/NA	Solid	Moisture	
720-94937-3	NORTH POND-02 (14.0-16.0)	Total/NA	Solid	Moisture	
720-94937-4	NORTH POND-02 (18.0-20.0)	Total/NA	Solid	Moisture	
720-94937-5	POND 6-03 (0.0-0.5)	Total/NA	Solid	Moisture	
720-94937-6	POND 6-03 (1.5-2.5)	Total/NA	Solid	Moisture	
720-94937-7	POND 6-03 (5.0-5.5)	Total/NA	Solid	Moisture	
720-94937-8	POND 8-25 (8.0-10.0)	Total/NA	Solid	Moisture	
720-94937-9	POND 8-19 (3.0-4.0)	Total/NA	Solid	Moisture	
720-94937-10	POND 8-24 (4.5-6.0)	Total/NA	Solid	Moisture	
720-94937-11	POND 8-26 (8.5-10.0)	Total/NA	Solid	Moisture	
720-94937-12	POND 8-20 (5.5-7.0)	Total/NA	Solid	Moisture	
720-94937-13	POND 8-21 (8.0-10.0)	Total/NA	Solid	Moisture	
720-94937-14	POND 8-21 (11.5-13.0)	Total/NA	Solid	Moisture	
720-94937-15	POND 8-23 (8.0-10.0)	Total/NA	Solid	Moisture	
720-94937-16	POND 8-23 (14.0-15.0)	Total/NA	Solid	Moisture	
720-94937-17	POND 8-22 (8.0-10.0)	Total/NA	Solid	Moisture	
720-94937-18	POND 8-22 (17.25-18.75)	Total/NA	Solid	Moisture	
720-94937-19	D-20190904	Total/NA	Solid	Moisture	
720-94937-11 MS	POND 8-26 (8.5-10.0)	Total/NA	Solid	Moisture	
720-94937-11 MSD	POND 8-26 (8.5-10.0)	Total/NA	Solid	Moisture	
720-94937-1 DU	NORTH POND-02 (5,0-5,5)	Total/NA	Solid	Moisture	
720-94937-11 DU	POND 8-26 (8.5-10.0)	Total/NA	Solid	Moisture	

Client Sample ID: NORTH POND-02 (5,0-5,5)
Date Collected: 09/03/19 10:30
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: NORTH POND-02 (5,0-5,5)
Date Collected: 09/03/19 10:30
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-1
Matrix: Solid
Percent Solids: 45.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.04 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34030	09/29/19 07:18	PMP	TAL KNX
Total/NA	Prep	3050B			2.00 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:40	B1H	TAL IRV

Client Sample ID: NORTH POND-02 (9,0-9,5)
Date Collected: 09/03/19 11:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: NORTH POND-02 (9,0-9,5)
Date Collected: 09/03/19 11:00
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-2
Matrix: Solid
Percent Solids: 26.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.24 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34030	09/29/19 08:19	PMP	TAL KNX
Total/NA	Prep	3050B			2.03 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:42	B1H	TAL IRV

Client Sample ID: NORTH POND-02 (14.0-16.0)
Date Collected: 09/03/19 11:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: NORTH POND-02 (14.0-16.0)
Date Collected: 09/03/19 11:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-3
Matrix: Solid
Percent Solids: 28.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.16 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34031	09/29/19 17:21	MSD	TAL KNX
Total/NA	Prep	3050B			1.98 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:44	B1H	TAL IRV

Client Sample ID: NORTH POND-02 (18.0-20.0)

Lab Sample ID: 720-94937-4
Date Collected: 09/03/19 12:20
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: NORTH POND-02 (18.0-20.0)

Lab Sample ID: 720-94937-4
Date Collected: 09/03/19 12:20
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 42.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.13 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34071	10/01/19 12:05	KBL	TAL KNX
Total/NA	Prep	8290			10.13 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 01:15	LKM	TAL KNX
Total/NA	Prep	3050B			2.02 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:46	B1H	TAL IRV

Client Sample ID: POND 6-03 (0.0-0.5)

Lab Sample ID: 720-94937-5
Date Collected: 09/03/19 13:15
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 6-03 (0.0-0.5)

Lab Sample ID: 720-94937-5
Date Collected: 09/03/19 13:15
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 14.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.07 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 02:16	LKM	TAL KNX
Total/NA	Prep	3050B			2.01 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:48	B1H	TAL IRV

Client Sample ID: POND 6-03 (1.5-2.5)

Lab Sample ID: 720-94937-6
Date Collected: 09/03/19 13:30
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 6-03 (1.5-2.5)

Lab Sample ID: 720-94937-6
Date Collected: 09/03/19 13:30
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 22.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.08 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 03:17	LKM	TAL KNX

Lab Chronicle

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 6-03 (1.5-2.5)
Date Collected: 09/03/19 13:30
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-6
Matrix: Solid
Percent Solids: 22.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:50	B1H	TAL IRV

Client Sample ID: POND 6-03 (5.0-5.5)
Date Collected: 09/03/19 13:45
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 6-03 (5.0-5.5)
Date Collected: 09/03/19 13:45
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-7
Matrix: Solid
Percent Solids: 28.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.08 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34071	10/01/19 12:41	KBL	TAL KNX
Total/NA	Prep	8290			10.08 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 04:18	LKM	TAL KNX
Total/NA	Prep	3050B			2.02 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:52	B1H	TAL IRV

Client Sample ID: POND 8-25 (8.0-10.0)
Date Collected: 09/03/19 16:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-25 (8.0-10.0)
Date Collected: 09/03/19 16:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-8
Matrix: Solid
Percent Solids: 31.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.13 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 05:19	LKM	TAL KNX
Total/NA	Prep	3050B			2.03 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:54	B1H	TAL IRV

Client Sample ID: POND 8-19 (3.0-4.0)
Date Collected: 09/03/19 17:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-19 (3.0-4.0)

Lab Sample ID: 720-94937-9
Date Collected: 09/03/19 17:15
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 24.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.29 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34071	10/01/19 13:16	KBL	TAL KNX
Total/NA	Prep	8290			10.29 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 06:20	LKM	TAL KNX
Total/NA	Prep	3050B			2.00 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:56	B1H	TAL IRV

Client Sample ID: POND 8-24 (4.5-6.0)

Lab Sample ID: 720-94937-10
Date Collected: 09/03/19 18:00
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-24 (4.5-6.0)

Lab Sample ID: 720-94937-10
Date Collected: 09/03/19 18:00
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 65.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.00 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34036	09/30/19 07:21	LKM	TAL KNX
Total/NA	Prep	3050B			1.98 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:58	B1H	TAL IRV

Client Sample ID: POND 8-26 (8.5-10.0)

Lab Sample ID: 720-94937-11
Date Collected: 09/04/19 08:00
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-26 (8.5-10.0)

Lab Sample ID: 720-94937-11
Date Collected: 09/04/19 08:00
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 36.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.10 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34053	09/30/19 16:08	MSD	TAL KNX
Total/NA	Prep	3050B			2.01 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 17:25	B1H	TAL IRV

Client Sample ID: POND 8-20 (5.5-7.0)
Date Collected: 09/04/19 10:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-20 (5.5-7.0)
Date Collected: 09/04/19 10:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-12
Matrix: Solid
Percent Solids: 47.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.12 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34053	09/30/19 12:03	MSD	TAL KNX
Total/NA	Prep	3050B			2.04 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:04	B1H	TAL IRV

Client Sample ID: POND 8-21 (8.0-10.0)
Date Collected: 09/04/19 12:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-21 (8.0-10.0)
Date Collected: 09/04/19 12:10
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-13
Matrix: Solid
Percent Solids: 24.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.28 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34053	09/30/19 13:04	MSD	TAL KNX
Total/NA	Prep	3050B			1.99 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:07	B1H	TAL IRV

Client Sample ID: POND 8-21 (11.5-13.0)
Date Collected: 09/04/19 13:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-21 (11.5-13.0)
Date Collected: 09/04/19 13:15
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-14
Matrix: Solid
Percent Solids: 35.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.18 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34053	09/30/19 14:06	MSD	TAL KNX
Total/NA	Prep	3050B			1.97 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:09	B1H	TAL IRV

Lab Chronicle

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-23 (8.0-10.0)
Lab Sample ID: 720-94937-15
Date Collected: 09/04/19 16:10
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-23 (8.0-10.0)
Lab Sample ID: 720-94937-15
Date Collected: 09/04/19 16:10
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 23.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.23 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34071	10/01/19 13:52	KBL	TAL KNX
Total/NA	Prep	8290			10.23 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34053	09/30/19 15:07	MSD	TAL KNX
Total/NA	Prep	3050B			2.00 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:11	B1H	TAL IRV

Client Sample ID: POND 8-23 (14.0-15.0)
Lab Sample ID: 720-94937-16
Date Collected: 09/04/19 16:50
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-23 (14.0-15.0)
Lab Sample ID: 720-94937-16
Date Collected: 09/04/19 16:50
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 29.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.00 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34071	10/01/19 14:27	KBL	TAL KNX
Total/NA	Prep	8290			10.00 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34068	09/30/19 23:17	LKM	TAL KNX
Total/NA	Prep	3050B			2.02 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:13	B1H	TAL IRV

Client Sample ID: POND 8-22 (8.0-10.0)
Lab Sample ID: 720-94937-17
Date Collected: 09/04/19 18:10
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Lab Chronicle

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: POND 8-22 (8.0-10.0)

Lab Sample ID: 720-94937-17
Date Collected: 09/04/19 18:10
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 29.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.17 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34068	10/01/19 00:18	LKM	TAL KNX
Total/NA	Prep	3050B			2.01 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:15	B1H	TAL IRV

Client Sample ID: POND 8-22 (17.25-18.75)

Lab Sample ID: 720-94937-18
Date Collected: 09/04/19 19:15
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: POND 8-22 (17.25-18.75)

Lab Sample ID: 720-94937-18
Date Collected: 09/04/19 19:15
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 68.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.17 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34068	10/01/19 01:19	LKM	TAL KNX
Total/NA	Prep	3050B			2.00 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:17	B1H	TAL IRV

Client Sample ID: D-20190904

Lab Sample ID: 720-94937-19
Date Collected: 09/04/19 00:00
Matrix: Solid
Date Received: 09/05/19 17:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			567757	09/09/19 17:12	HTL	TAL IRV

Client Sample ID: D-20190904

Lab Sample ID: 720-94937-19
Date Collected: 09/04/19 00:00
Matrix: Solid
Date Received: 09/05/19 17:52
Percent Solids: 46.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			10.17 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34071	10/01/19 15:02	KBL	TAL KNX
Total/NA	Prep	8290			10.17 g	20 uL	33722	09/19/19 11:50	SSS	TAL KNX
Total/NA	Analysis	8290A		1			34068	10/01/19 02:20	LKM	TAL KNX
Total/NA	Prep	3050B			1.99 g	50 mL	567644	09/09/19 10:34	NE1	TAL IRV
Total/NA	Analysis	6020		20			567771	09/09/19 18:19	B1H	TAL IRV

Lab Chronicle

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Client Sample ID: EQUIPMENT BLANK

Date Collected: 09/05/19 17:40
Date Received: 09/05/19 17:52

Lab Sample ID: 720-94937-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8290			788.4 mL	20 uL	33467	09/11/19 14:31	SMA	TAL KNX
Total/NA	Analysis	8290A		1			33698	09/19/19 09:22	PMP	TAL KNX
Total Recoverable	Prep	3005A			25 mL	25 mL	567612	09/09/19 09:26	BV	TAL IRV
Total Recoverable	Analysis	6020		1			567713	09/09/19 15:11	B1H	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Kennedy/Jenks Consultants
Job ID: 720-94937-1
Project/Site: GP, Fort Bragg

Laboratory: Eurofins TestAmerica, Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2496	01-31-20
USDA	US Federal Programs	P330-18-00328	11-06-21

Laboratory: Eurofins TestAmerica, Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA01531	06-30-20
Arizona	State	AZ0671	10-14-19
California	LA Cty Sanitation Districts	10256	06-30-20
California	Los Angeles County Sanitation Districts	10256	06-30-20
California	State	2706	06-30-20
Guam	State	19-005R	01-23-20
Hawaii	State	CA01531	01-29-20
Hawaii	State Program	N/A	01-29-20
Kansas	NELAP	E-10420	07-31-20
Nevada	State	CA015312020-2	07-31-20
New Mexico	State	CA01531	01-29-20
New Mexico	State Program	N/A	01-29-20
Oregon	NELAP	4028 - 006	01-29-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-18-00214	07-09-21
Washington	State Program	C900	09-03-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Laboratory: Eurofins TestAmerica, Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-14-22
ANAB	Dept. of Energy	L2311.01	02-14-22
ANAB	ISO/IEC 17025	L2311	02-13-22
Arkansas DEQ	State	2423	06-16-20
California	State	2423	06-30-20
Colorado	State	TN00009	02-29-20
Connecticut	State	PH-0223	09-30-21
Florida	NELAP	E87177	06-30-20
Georgia (DW)	State	906	04-13-20
Hawaii	State	NA	04-13-20
Kansas	NELAP	E-10349	10-31-19
Kentucky (DW)	State	90101	12-31-19
Louisiana	NELAP	83979	06-30-20
Louisiana (DW)	State	LA019	12-31-19
Maryland	State	277	03-31-20
Michigan	State	9933	04-13-20
Nevada	State	TN00009	07-31-20
New Hampshire	NELAP	2999	01-17-20
New Hampshire	NELAP	299919	01-17-20
New Jersey	NELAP	TN001	06-30-20
New York	NELAP	10781	03-31-20
North Carolina (DW)	State	21705	07-31-20
North Carolina (WW/SW)	State	64	12-31-19
North Carolina (WW/SW)	State Program	64	12-31-19
Ohio VAP	State	CL0059	08-28-20
Oklahoma	State	9415	09-01-20
Oregon	NELAP	TNI0189	01-01-20
Pennsylvania	NELAP	68-00576	12-31-19
Tennessee	State	02014	04-13-20
Texas	NELAP	T104704380-18-12	08-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-20
Virginia	NELAP	460176	09-15-20
Washington	State	C593	01-19-20
West Virginia (DW)	State	9955C	12-31-19
West Virginia DEP	State	345	04-30-20
Wisconsin	State	998044300	08-31-20

Method Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Method	Method Description	Protocol	Laboratory
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL KNX
TEQ	Total TEQ Calculation	TAL SOP	TAL KNX
6020	Metals (ICP/MS)	SW846	TAL IRV
Moisture	Percent Moisture	EPA	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL KNX
8290	Soxhlet Extraction of Dioxins and Furans	SW846	TAL KNX

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: Kennedy/Jenks Consultants
Project/Site: GP, Fort Bragg

Job ID: 720-94937-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
720-94937-1	NORTH POND-02 (5,0-5,5)	Solid	09/03/19 10:30	09/05/19 17:52	
720-94937-2	NORTH POND-02 (9,0-9,5)	Solid	09/03/19 11:00	09/05/19 17:52	
720-94937-3	NORTH POND-02 (14.0-16.0)	Solid	09/03/19 11:40	09/05/19 17:52	
720-94937-4	NORTH POND-02 (18.0-20.0)	Solid	09/03/19 12:20	09/05/19 17:52	
720-94937-5	POND 6-03 (0.0-0.5)	Solid	09/03/19 13:15	09/05/19 17:52	
720-94937-6	POND 6-03 (1.5-2.5)	Solid	09/03/19 13:30	09/05/19 17:52	
720-94937-7	POND 6-03 (5.0-5.5)	Solid	09/03/19 13:45	09/05/19 17:52	
720-94937-8	POND 8-25 (8.0-10.0)	Solid	09/03/19 16:40	09/05/19 17:52	
720-94937-9	POND 8-19 (3.0-4.0)	Solid	09/03/19 17:15	09/05/19 17:52	
720-94937-10	POND 8-24 (4.5-6.0)	Solid	09/03/19 18:00	09/05/19 17:52	
720-94937-11	POND 8-26 (8.5-10.0)	Solid	09/04/19 08:00	09/05/19 17:52	
720-94937-12	POND 8-20 (5.5-7.0)	Solid	09/04/19 10:10	09/05/19 17:52	
720-94937-13	POND 8-21 (8.0-10.0)	Solid	09/04/19 12:10	09/05/19 17:52	
720-94937-14	POND 8-21 (11.5-13.0)	Solid	09/04/19 13:15	09/05/19 17:52	
720-94937-15	POND 8-23 (8.0-10.0)	Solid	09/04/19 16:10	09/05/19 17:52	
720-94937-16	POND 8-23 (14.0-15.0)	Solid	09/04/19 16:50	09/05/19 17:52	
720-94937-17	POND 8-22 (8.0-10.0)	Solid	09/04/19 18:10	09/05/19 17:52	
720-94937-18	POND 8-22 (17.25-18.75)	Solid	09/04/19 19:15	09/05/19 17:52	
720-94937-19	D-20190904	Solid	09/04/19 00:00	09/05/19 17:52	
720-94937-20	EQUIPMENT BLANK	Water	09/05/19 17:40	09/05/19 17:52	

720-94937

Chain of Custody Record

327916
192227

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Deanne Knoll	Site Contact: Alice Robinson	Date: 9-5-19	COC No:
Company Name: Georgia-Pacific	Tel/Fax: 503-423-4017	Lab Contact: Afsaneh Salimpour	Carrier: FedEx hand delivered	AR 1 of 2 COCs
Address: 421 SW 6th Ave Suite 1100	Analysis Turnaround Time			Sampler: Robinson / Freed
City/State/Zip: Portland, OR 97204	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 503-423-4017	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			
Project Name: Fort Bragg Sediment Sampling	☐ 1 week			720-94937 Chain of Custody
Site: GP Fort Bragg Mill Site ✓	☐ 2 days			
P O #	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Arsenic by 6020	Dioxin 8290A	Moisture	Sample Specific Notes:
1	North Pond-02 (5.0-5.5)	9-3-19	10:30	G	S	2						
2	North Pond-02 (9.0-9.5)	9-3-19	11:00	"	"	"						
3	North Pond-02 (14.0-16.0)	9-3-19	11:40									
4	North Pond-02 (18.0-20.0)	9-3-19	12:20									
5	Pond 6-03 (0.0-0.5)		13:15									
6	Pond 6-03 (1.5-2.5)		13:30									
7	Pond 6-03 (5.0-5.5)		13:45									
8	Pond 8-25 (8.0-10.0)		16:40									
9	Pond 8-19 (3.0-4.0)		17:15									
10	Pond 8-24 (5.5-6.0) AR		18:00									
11	Pond 8-26 (8.5-10.0)	9-4-19	8:00			6	X					MS/MSD set
12	Pond 8-20 (5.5-7.0)		10:10									

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:
Composite before analyzing

5.7°C, 0.2°C, 4.0°C

Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.: Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Alice Robinson	Kennedy/Jenks	9-5-19 1752		ETA-PLS	9/5/19 1757
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

10/2/2019

Chain of Custody Record

327918

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

720-94937

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Deanne Knill	Site Contact: Alice Robinson	Date: 9-5-19	COC No:
Company Name: Georgia-Pacific	Tel/Fax: 503-423-4048	Lab Contact: Autumn Salinger	Carrier: Hand deliver	2 of 2 COCs
Address: 421 SW 6th Ave Suite 1000	Analysis Turnaround Time			Sampler: Robinson / Freeal
City/State/Zip: Portland, OR 97204	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 503-423-4017	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Fort Bragg Sediment Sampling	☐ 1 week			
Site: GP Fort Bragg Mill Site	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Arsenic by 6020	Dioxin by 8290A	Moisture	Sample Specific Notes:
3	Pond S-21 (8.0-10.0)	9-4-19	12:10	G	S	2						
4	Pond S-21 (11.5-13.0)		13:15									
5	Pond S-23 (8.0-10.0)		16:10									
6	Pond S-23 (14.0-15.0)		16:50									
7	Pond S-22 (8.0-10.0)		18:10									
8	Pond S-22 (17.25-18.75)		19:15									
9	D-20190904		—									
10	Equipment Blank	9-5-19	17:40	—	W	3			XX			

Page 69 of 88

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:
Composite before analyzing

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Alice Robinson	Company: Kennedy Jenks	Date/Time: 9-5-19 17:52	Received by:	Company: ETA-PLS	Date/Time: 9/5/19 1757
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

10/2/2019

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone: 925-484-1919 Fax: 925-600-3002

Chain of Custody Record

720-94937 Chain of Custody

Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh F		720-43442.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 720-94937-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 9/24/2019			
City: Knoxville JP	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: GP, Fort Bragg	Project #: 72012838			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox (MOD) 17 Isomers + Totals	Total_TEQ/ Total TEQs for Dioxin/Furans	8290A/8290_P_Sep (MOD) 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
NORTH POND-02 (5,0-5,5) (720-94937-1)	9/3/19	10:30 Pacific		Solid			X	X		1	
NORTH POND-02 (9,0-9,5) (720-94937-2)	9/3/19	11:00 Pacific		Solid			X	X		1	
NORTH POND-02 (14.0-16.0) (720-94937-3)	9/3/19	11:40 Pacific		Solid			X	X		1	
NORTH POND-02 (18.0-20.0) (720-94937-4)	9/3/19	12:20 Pacific		Solid			X	X		1	
POND 6-03 (0.0-0.5) (720-94937-5)	9/3/19	13:15 Pacific		Solid			X	X		1	
POND 6-03 (1.5-2.5) (720-94937-6)	9/3/19	13:30 Pacific		Solid			X	X		1	
POND 6-03 (5.0-5.5) (720-94937-7)	9/3/19	13:45 Pacific		Solid			X	X		1	
POND 8-25 (8.0-10.0) (720-94937-8)	9/3/19	16:40 Pacific		Solid			X	X		1	
POND 8-19 (3.0-4.0) (720-94937-9)	9/3/19	17:15 Pacific		Solid			X	X		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 9/6/19 1319	Company ETAPS	Received by:	Date/Time: 9/7/19 0820	Company ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone: 925-484-1919 Fax: 925-600-3002

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh F	Carrier Tracking No(s):	COC No: 720-43442.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 720-94937-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 9/24/2019			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: GP, Fort Bragg	Project #: 72012838			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox (MOD) 17 Isomers + Totals	Total_TEQ/ Total TEQs for Dioxin/Furans	8290A/8290_P_Sep (MOD) 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
POND 8-24 (4.5-6.0) (720-94937-10)	9/3/19	18:00 Pacific		Solid			X	X		1	
POND 8-26 (8.5-10.0) (720-94937-11)	9/4/19	08:00 Pacific		Solid			X	X		1	
POND 8-26 (8.5-10.0) (720-94937-11MS)	9/4/19	08:00 Pacific	MS	Solid			X	X		1	
POND 8-26 (8.5-10.0) (720-94937-11MSD)	9/4/19	08:00 Pacific	MSD	Solid			X	X		1	
POND 8-20 (5.5-7.0) (720-94937-12)	9/4/19	10:10 Pacific		Solid			X	X		1	
POND 8-21 (8.0-10.0) (720-94937-13)	9/4/19	12:10 Pacific		Solid			X	X		2	
POND 8-21 (11.5-13.0) (720-94937-14)	9/4/19	13:15 Pacific		Solid			X	X		2	
POND 8-23 (8.0-10.0) (720-94937-15)	9/4/19	16:10 Pacific		Solid			X	X		1	
POND 8-23 (14.0-15.0) (720-94937-16)	9/4/19	16:50 Pacific		Solid			X	X		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	9/6/19 1310	ETA PLS	[signature]	9/7/19 0920	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone: 925-484-1919 Fax: 925-600-3002

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh F	Carrier Tracking No(s):	COC No: 720-43442.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 720-94937-1
Address: 5815 Middlebrook Pike, ,	Due Date Requested: 9/24/2019			
City: Knoxville	TAT Requested (days):			
State, Zip: TN, 37921				
Phone: 865-291-3000(Tel) 865-584-4315(Fax)	PO #:			
Email:	WO #:			
Project Name: GP, Fort Bragg	Project #: 72012838			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox (MOD) 17 Isomers + Totals	Total_TEQ/ Total TEQs for Dioxin/Furans	8290A/8290_P_Sep (MOD) 17 Isomers + Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
POND 8-22 (8.0-10.0) (720-94937-17)	9/4/19	18:10 Pacific		Solid			X	X		1	
POND 8-22 (17.25-18.75) (720-94937-18)	9/4/19	19:15 Pacific		Solid			X	X		1	
D-20190904 (720-94937-19)	9/4/19	Pacific		Solid			X	X		1	
EQUIPMENT BLANK (720-94937-20)	9/5/19	17:40 Pacific		Water				X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 9/6/19 1318	Company ETA-PLS	Received by:	Date/Time: 9/7/19 0920	Company ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

10/2/2019

Loc: 720
94937

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST **Log In Number:**

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	/			☐ **Containers, Broken**
2. Were ambient air containers received intact?			/	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	/			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC68 Correction factor: 0.0	/			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	/			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	/			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	/			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	/			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	/			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			/	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	/			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	/			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	/			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	/			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	/			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			/	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			/	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			/	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			/	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			/	☐ Project missing info

Comments/Actions Taken

RT: 1.2°C CT: 1.2°C
1 cooler Fedex Po
trK# 1134 9239 8491
Custody seal intact
KW 9/7/19

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: Ken Wh Date: 9/7/19

QA026R32.doc, 062719

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone: 925-484-1919 Fax: 925-600-3002

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh F	Carrier Tracking No(s):	COC No: 720-43443.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 720-94937-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/9/2019			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: GP, Fort Bragg	Project #: 72012838			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020/3050B (MOD) Custom 6020 List - Metals	Moisture/ (MOD) Local Method	6020/3005A (MOD) Custom 6020 List - Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
NORTH POND-02 (5,0-5,5) (720-94937-1)	9/3/19	10:30 Pacific		Solid			X	X		1	
NORTH POND-02 (9,0-9.5) (720-94937-2)	9/3/19	11:00 Pacific		Solid			X	X		1	
NORTH POND-02 (14.0-16.0) (720-94937-3)	9/3/19	11:40 Pacific		Solid			X	X		1	
NORTH POND-02 (18.0-20.0) (720-94937-4)	9/3/19	12:20 Pacific		Solid			X	X		1	
POND 6-03 (0.0-0.5) (720-94937-5)	9/3/19	13:15 Pacific		Solid			X	X		1	
POND 6-03 (1 5-2 5) (720-94937-6)	9/3/19	13:30 Pacific		Solid			X	X		1	
POND 6-03 (5.0-5.5) (720-94937-7)	9/3/19	13.45 Pacific		Solid			X	X		1	
POND 8-25 (8.0-10.0) (720-94937-8)	9/3/19	16:40 Pacific		Solid			X	X		1	
POND 8-19 (3.0-4.0) (720-94937-9)	9/3/19	17:15 Pacific		Solid			X	X		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 9/16/19 1431	Company: EJA-PU	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 9/17/19 1100	Company: EJA IRV

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6/2.0 IR89

Ver: 01/16/2019

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone: 925-484-1919 Fax. 925-600-3002

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh F	Carrier Tracking No(s):	COC No: 720-43443.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 720-94937-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/9/2019			
City: Irvine JP	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #			
Email	WO #:			
Project Name: GP, Fort Bragg	Project #: 72012838			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020/3050B (MOD) Custom 6020 List - Metals	Moisture/ (MOD) Local Method	6020/3005A (MOD) Custom 6020 List - Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
POND 8-24 (4.5-6.0) (720-94937-10)	9/3/19	18:00 Pacific		Solid			X	X		1	
POND 8-26 (8.5-10.0) (720-94937-11)	9/4/19	08:00 Pacific		Solid			X	X		1	
POND 8-26 (8.5-10.0) (720-94937-11MS)	9/4/19	08 00 Pacific	MS	Solid			X			1	
POND 8-26 (8.5-10 0) (720-94937-11MSD)	9/4/19	08:00 Pacific	MSD	Solid			X			1	
POND 8-20 (5.5-7.0) (720-94937-12)	9/4/19	10:10 Pacific		Solid			X	X		1	
POND 8-21 (8.0-10.0) (720-94937-13)	9/4/19	12:10 Pacific		Solid			X	X		2	
POND 8-21 (11 5-13.0) (720-94937-14)	9/4/19	13:15 Pacific		Solid			X	X		1	
POND 8-23 (8.0-10 0) (720-94937-15)	9/4/19	16:10 Pacific		Solid			X	X		1	
POND 8-23 (14 0-15 0) (720-94937-16)	9/4/19	16:50 Pacific		Solid			X	X		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment		
Relinquished by	Date/Time: 9/6/19 1431	Company: EIA-PV	Received by:	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by	Date/Time	Company	Received by:	Date/Time: 9/7/19 1100	Company: TA IRV

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.6/2.0 IR-89

Ver. 01/16/2019

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Phone: 925-484-1919 Fax: 925-600-3002

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Salimpour, Afsaneh F	Carrier Tracking No(s):	COC No: 720-43443.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: afsaneh.salimpour@testamericainc.com	State of Origin: California	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - California		Job #: 720-94937-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 9/9/2019			
City: Irvine JP	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: GP, Fort Bragg	Project #: 72012838			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020/3050B (MOD) Custom 6020 List - Metals	Moisture/ (MOD) Local Method	6020/3005A (MOD) Custom 6020 List - Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
POND 8-22 (8 0-10.0) (720-94937-17)	9/4/19	18:10 Pacific		Solid			X	X		1	
POND 8-22 (17.25-18.75) (720-94937-18)	9/4/19	19:15 Pacific		Solid			X	X		1	
D-20190904 (720-94937-19)	9/4/19	Pacific		Solid			X	X		1	
EQUIPMENT BLANK (720-94937-20)	9/5/19	17:40 Pacific		Water					X	1	

Note. Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody I

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by	Date/Time: 9/6/19 1431	Company: STA-PG	Received by	Date/Time	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by:	Date/Time: 9/7/19 1100	Company: TA IRV

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6/2.0 IR-89

Ver. 01/16/2019

Login Sample Receipt Checklist

Client: Kennedy/Jenks Consultants

Job Number: 720-94937-1

Login Number: 94937
List Number: 1
Creator: Bullock, Tracy

List Source: Eurofins TestAmerica, Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Kennedy/Jenks Consultants

Job Number: 720-94937-1

Login Number: 94937
List Number: 3
Creator: Dolidze, Lado

List Source: Eurofins TestAmerica, Irvine
List Creation: 09/07/19 01:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix C

Analytical Laboratory Report, DTSC Split Samples

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ANALYTICAL LABORATORY REPORT - PERCENT DRY SOLIDS

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Georgia-Pacific Former Mill Site, Fort Bragg
90 Redwood Avenue
Fort Bragg, CA

Tom Lanphar
700 Heinz Ave,
Berkeley, CA 94710

Collector ID	ECL ID
POND 8-20 (5.5-7)DTSC	BD00433
POND 8-21 (11.5-13)DTSC	BD00434
POND 8-22(8-10)DTSC	BD00435
POND 8-23 (8-10)DTSC	BD00436

The results listed within this report pertain only to the samples tested in the laboratory. These results have been reviewed for technical correctness and completeness. This report has been approved for release as verified by the signatures below. This report may be reproduced only in its entirety.

Report Reviewed by:
Sayaka Takaku-Pugh **Date:** 10/1/2019

Report Approved by:
Robert T. Ramage **Date:** 10/1/2019

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ANALYTICAL LABORATORY REPORT - PERCENT DRY SOLIDS

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

1. Sampling Location: Georgia-Pacific Former Mill Site, Fort Bragg
   Address: 90 Redwood Avenue
   Fort Bragg, CA
2. Requestor' Name: Tom Lanphar
   Address: 700 Heinz Ave,
   Berkeley, CA 94710
3. Sample (s) History:

Date Collected:	9/4/2019		
Date Received:	9/6/2019		
Date Prepared:	9/30/2019	Method:	ECL 03.0001.00
Date Analyzed:	10/1/2019	Method:	ECL 03.0001.00

Date data package was completed: 10/1/2019

Case narrative:

1. Wet Session balance accuracy verified? YES
2. Dry Session balance accuracy verified? YES
3. QC parameters were within control limits? YES
4. Sample holding time was met? YES

Any solid samples were reported on a wet-weight basis unless otherwise noted.

Comments:

These results were dry-weight corrected.

Sample Prepared by:
Winnie Leung Date: 10/1/2019

Sample Analyzed by:
Winnie Leung Date: 10/1/2019

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - PERCENT DRY SOLIDS

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Acronym Definitions

MB	Method Blank
DF	Dilution Factor
QL	Quantitation Limit; Reporting Limit x Dilution Factor
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
PS	Post Spike
Q	Qualifier Flag
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leaching Procedure
mg/kg	Milligrams per Kilogram or parts per million
mg/L	Milligrams per Liter or parts per million
µg/kg	Micrograms per Kilogram or parts per billion
µg/L	Micrograms per Liter or parts per billion

Qualifier Definitions

ND	Not Detected; value at a level below the quantitation limit
J	Estimated value
>LR	Greater than the linear range of the instrument
NC	Not calculated
DO	Compound diluted out
B	Analyte found in MB
B1	Analyte found in MB. Analyte concentration in the sample is greater than 10x the concentration found in MB
M	Spike Recovery below control limits
P	Post Spike Recovery below control limits
M2	Spike recovery above control limits
P2	Post Spike recovery above control limits
R	%RPD exceeded control limits
D	Absolute Difference between results exceeded the control limits
d	>40% difference between columns
H	Holding Time exceeded and Estimated value
W	Unexpected value. MB result should be 100% for Dry Solids% test

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ANALYTICAL LABORATORY REPORT - PERCENT DRY SOLIDS

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Requestor Sample ID: POND 8-20 (5.5-7)DTSC
ECL Sample ID: BD00433
Sample Matrix: sediment
Preparation Method: ECL 03.0001.00
Analysis Method: ECL 03.0001.00

Sample Result

Analyte	Result	Qualifier Flags	Units	Prepared	Batch ID	Analysis Date
Dry Solids	51.9		%	09/30/19	19B0071	10/01/19

Requestor Sample ID: POND 8-21 (11.5-13)DTSC
ECL Sample ID: BD00434
Sample Matrix: sediment
Preparation Method: ECL 03.0001.00
Analysis Method: ECL 03.0001.00

Sample Result

Analyte	Result	Qualifier Flags	Units	Prepared	Batch ID	Analysis Date
Dry Solids	29.1		%	09/30/19	19B0071	10/01/19

Requestor Sample ID: POND 8-22(8-10)DTSC
ECL Sample ID: BD00435
Sample Matrix: sediment
Preparation Method: ECL 03.0001.00
Analysis Method: ECL 03.0001.00

Sample Result

Analyte	Result	Qualifier Flags	Units	Prepared	Batch ID	Analysis Date
Dry Solids	28.9		%	09/30/19	19B0071	10/01/19

Requestor Sample ID: POND 8-23 (8-10)DTSC
ECL Sample ID: BD00436
Sample Matrix: sediment
Preparation Method: ECL 03.0001.00
Analysis Method: ECL 03.0001.00

Sample Result

Analyte	Result	Qualifier Flags	Units	Prepared	Batch ID	Analysis Date
Dry Solids	18.6		%	09/30/19	19B0071	10/01/19

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - PERCENT DRY SOLIDS

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

ECL Sample ID: **BD00762**
Sample Matrix: **Al pan**

Preparation Method: **ECL 03.0001.00**
Analysis Method: **ECL 03.0001.00**

Method Blank

Analyte	Result	Qualifier Flags	Units	Prepared	Batch ID	Analysis Date
Dry Solids	100		%	09/30/19	19B0071	10/01/19

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ANALYTICAL LABORATORY REPORT - PERCENT DRY SOLIDS

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Requestor Sample ID:	**POND 8-20 (5.5-7)DTSC**	**Preparation Date:**	**09/30/2019**
ECL Sample ID:	**BD00433**	**Preparation Method:**	**ECL 03.0001.00**
Sample Matrix:	**sediment**	**Analysis Method:**	**ECL 03.0001.00**

Sample Duplicate Results

Analyte	Units	Batch ID	Sample Results	Duplicate Results	RPD %	Qualifier Flags	Analysis Date	Control Limits
Dry Solids	%	19B0071	51.9	59.0	12.75		10/01/19	0-20

State of California
California Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

ENVIRONMENTAL CHEMISTRY LABORATORY
SAMPLE ANALYSIS REQUEST

1. Authorization Number: 19EC0029

ECL No.: BD00433 To BD00437

2. Page 1 of 1

3. Requestor: (to Receive Results) a. Name: Tom Lanphar
b. Address: 700 Heinz Ave, (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: 510-540-3776 (area code first) d. Fax: (area code first)
e. Email: tom.lanphar @dtsc.ca.gov

4. Project Name (if applicable): Georgia-Pacific Fort Bragg

5.TAT Level: 3

6. Sampling Information: a. Date/Time Sampled: 09/04/19 (mm/dd/yy) 10:20am (#:## AM/PM)
b. Location: EPA ID No.
Site: Georgia-Pacific Former Mill Site, Fort Bragg
Address: 90 Redwood Avenue (street number)
Fort Bragg, CA (city, state, zip)
GPS-Lat: 39.44117 GPS-Long: -123.809907
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit SMRP-Cleanup Program(Berkeley)
b. Project ID DTSC200402-00
c. Activity ID 11018
d. MPC NA
e. County 23--Mendocino

8. Samples:

a.ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	Pond 8-20 (5.5-7)DTSC	BD00433	sediment	4 oz clear glass jar	~~2~~ 6	FM 9/13/19
2	Pond 8-21 (11.5-13)DTSC	BD00434	sediment	4 oz clear glass jar	~~2~~ 3	FM 9/13/19
3	Pond 8-22(8-10)DTSC	BD00435	sediment	4 oz clear glass jar	2	
4	Pond 8-23 (8-10)DTSC	BD00436	sediment	4 oz clear glass jar	2	
5	D2:20190904	BD00437	Sediment	4 oz clear glass jar	2	FM 9/13/19
6						
7						
8						
9						

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
Metals-Mass Spec Individual Metals	1-4	Dioxins/Furans by HRGC/HRMS(ECL880-M)	1-4
Other Metals:			

c. TCLP Analysis	d. Other Analysis	
	% dry solid	1-4
	Hold (No analysis) FM 9/13/19	5

e. Comments for Multiphasic Samples/Analysis Priority: metals scan for arsenic

10. Analysis Objective: Site Characterization

11. Detection Limit Requirements:
see emails from Tom Lanphar to Xavier Montalvan

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials _____
Date _____

ECL

13. ECL Lab Remarks:

14. Chain of Custody:

	Name	Title	Signature	Inclusive Dates of Custody
a.				to
b.				to
c.				to
d.				to
e.				to
f.				to
g.				to

FIELD

LAB

COC

INSTRUCTIONS:

(1) If this is your first time to use this form, for Excel 2016, set your Excel security to **"Disable all macros with notification"** by checking File-->Options-->Trust Center-->Trust Center Settings...-->Macro Settings then click OK. This is a one-time setting. Reopen the file and select **Enable Content** to allow the macro to run.
(2) Every time when you open the form, please always click **Enable Content** button.
(3) Each page can hold nine samples. If there are >9 samples in one batch, please enter the total number of pages in Item 2, Page1, marked with RED color, then press Enter. Check 'Instructions' and 'Analysis List' sheets for more information.
(4) Please email this E-SAR to **'SLoff@dtsc.ca.gov'** for Berkeley samples, or **'Lmc@dtsc.ca.gov'** for Pasadena samples. If your computer has the access to DTSC Intranet and has Outlook installed, click the button at the bottom to send this SAR to ECL.

ENVIRONMENTAL CHEMISTRY LABORATORY
SAMPLE ANALYSIS REQUEST

1. Authorization Number: 19EC~~29~~0029

ECL No.: BD00437 To BD00477

2. Page 1 of 1

3. Requestor: (to Receive Results)
a. Name: Tom Lanphar
b. Address: 700 Heinz Ave, (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: 510-540-3776 (area code first) d. Fax: (area code first)
e. Email: tom.lanphar @dtsc.ca.gov

4. Project Name (if applicable): Georgia-Pacific Fort Bragg

5.TAT Level: ~~2~~ 3

6. Sampling Information:
a. Date/Time Sampled: (mm/dd/yy) (#:## AM/PM)
b. Location: EPA ID No.
Site: Georgia-Pacific Former Mill Site, Fort Bragg
Address: 90 Redwood Avenue (street number)
Fort Bragg, CA (city, state, zip)
GPS-Lat: 39.44117 GPS-Long: -123.809907
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit
b. Project ID DTSC200402-00
c. Activity ID 11018
d. MPC
e. County 23--Mendocino

8. Samples:

a.ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	Pond 8-20		Sediment	4oz glass clear	2	
2	Pond 8-21		"	"	"	
3	Pond 8-22		"	"	"	
4	Pond 8-23		"	"	"	
5						
6						
7						
8						
9						

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
arsenic total	Pond 8-20 (5.5-7.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-20 DTSC
arsenic total	Pond 8-21 (11.5-13.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-21 DTSC
arsenic total	Pond 8-23 (8.0-10.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-23 DTSC
arsenic total	Pond 8-22 (8.0-10.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-22 DTSC
	all cards w/ DTSC		
Other Metals:			
c. TCLP Analysis		**d. Other Analysis**	

e. Comments for Multiphasic Samples/Analysis Priority:

10. Analysis Objective: Site Characterization

11. Detection Limit Requirements:

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials
Date

13. ECL Lab Remarks:

FIELD

ECL

LAB

14. Chain of Custody:

	Name	*Title*	*Signature*	*Inclusive Dates of Custody*		
a.	Alice Robinson	Staff Engineer	[signature]	9-3-19 9:00a	to	9-5-19 10:35a
b.	Tom Leigh	Sr. Env. Scientist	[signature]	9-5-19	to	9-6-19 1:29
c.	Karlaina Gupta	environmental scientist	[signature]	9/6/19	to	
d.					to	
e.					to	
f.					to	
g.					to	

07.0146.00_rev 0_12/29/2017_Approved by Quality Management Officer Make Photocopies for Your File

* SLoff@dtsc.ca.gov for Berkeley samples, or Lmc@dtsc.ca.gov for Pasadena samples.

State of California
Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

AUTHORIZATION REQUEST FORM (ARF)

Part A: Requestor's information

Requestor's Name: Thomas Lanphar Email: tom.lanphar@dtsc.ca.gov Phone: 5105403776

Back-up Requestor: Kim Walsh Email: Kimberly.Walsh@dtsc.ca.gov Phone: 5105403773

☐ SUPPLEMENTAL (Check if Supplemental Requested)

Site Name: Georgia-Pacific Former Mill Site, Fort Bragg

Expected Sample Arrival Date: 9/6/2019

Turnaround Time (TAT) : *Rush ☐ *Level 1 ☐ 2 ☐ 3 ☒ *Unit chief's approval required(for Rush or TAT Level = 1):

Project ID: DTSC200402-00 Activity ID: 11018 MPC:

Part B: Project Objective(s) or QAPP (Questions? ECL Point of Contact: ECL Sample Management Officer at SMOFF@dtsc.ca.gov, (510) 540-3111)

Project Objective: DTSC is collecting split samples at Georgia-Pacific Mill Site in Fort Bragg during sampling of sediment at three ponds. Chemicals of Concern are arsenic and dioxin/furans.

Special Informtion: PM, Tom Lanphar will bring samples to Berkeley ECL on Friday morning 9/6/2019. Sampling Plan methods are: Metals by EPA Method 6020 and Dioxins/furans by EPA Method 8290A. Also Moisture.

Part C: Analysis Information

Analysis Name	Test Code	Matrix	Number of Samples	Comments
%Dry Solid	ECL03.0001.00	sediment	4	
Dioxins/Furans by HRGC/HRMS	EPA 1613	sediment	4	
Hold (No Analysis)		sediment	1	
Metals--Mass Spec Individual Metals	EPA 6020A	sediment	4	Arsenic

Part D: (By SMO - ECL)

Authorization Number (AN): 19EC0029

Lab to Receive Sample(s): Environmental Chemistry Lab--Berkeley
700 Heinz Ave, Suite 150, Berkeley, CA 94710
Attn: Xavier Montalvan (510) 540-3111

Sample Management Officer (SMO): Francisco Montalvan

ARF Approval Date: 9/5/2019 (mm/dd/yy) Expiration Date: 9/20/2019 (mm/dd/yy)

ARF Revision Date: 9/13/2019 (mm/dd/yy) ARF Revised by: Francisco Montalvan

Turnaround Time (TAT): * Rush for public health and safety or emergency, *Level 1 = 15 days, 2 = 30 days, 3 = 45 days.
NA--Not Applicable

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite #150, Berkeley, CA 94710
Phone: (510) 540-3111 smoff@dtsc.ca.gov

SAMPLE RECEIPT CHECKLIST

Authorization Number: 19EC0029
ECL No.: BD00433 - BD00437

Date Received: 9/6/19
Time Received: 3:29 am/pm

Sample Checklist Criteria: Part I	Yes	No
1. Sample Analysis Request (SAR) received with the sample(s)?	✓	
2. Sample received with proper preservation and information?	✓	
3. Chain of Custody complete? Names printed? Signed and Dated?	✓	
4. Sample(s) received in a cooler/ice chest with ice/blue ice?	✓	
5. Temperature of sample within ≤ 6 °C? Observed Temp: 5.6 °C	✓	
6. Confirm prioritization list of Test Methods with requestor?	✓	
Sample Checklist Criteria: Part II		
7. Custody seal present and intact?		✓
8. Sample condition acceptable (intact and no damage)?	✓	
9. Container size as noted on SAR?	✓	
10. Do the number of samples on SAR and the number of samples on ARF agree? Are they within 20% range?	✓	
11. Aqueous and liquid samples in 40 mL VOA vials and no head space?	N/A	
12. Is there sufficient sample amount/volume for all analyses? (see SOP on Environmental Sample Receipt, Handling and CoC)	✓	
13. Do sample labels agree with SAR?	See note ✓	
14. Are sample labels legible?	✓ see note	
15. Are samples received in proper containers? (see SOP on Environmental Sample Receipt, Handling and CoC)	✓	
16. If received by FedEx or UPS is Air bill/packing sip signed and dated?	N/A	
17. If supplemental analysis is requested, is it specified in Section 12 of SAR?	↓	
18. Did the Requestor initial & date Section 12 of SAR?	↓	

Non-acceptable discrepancies mentioned above were communicated to Requestor/Transporter:
In Person:___ Date:_____ By Phone:___ Date:_____ By Email:✓ Date:9/13/2019

Comments:
- Custody seal on cooler.
- Wet ice melted and some sample labels are slightly smudged, but still legible.
- Sample BD00436 label does not match SAR. Emailed requestor and sample should be as is on SAR. Attached email to COC.

Name: Francisco Montalvan Signature: [signature] Date: 9/13/19

Supervisor's Approval (if any corrective action taken): _____ Date:_____

Department of Toxics Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 150, Berkeley, CA 94710
Phone: (510) 540-3111 Fax: (510) 540-3615

ECL SAMPLE RECEIPT

Printed on: 9/13/2019 1:42:31 PM

Authorization No.: 19EC0029
Requestor: Tom Lanphar
Date Collected: 9/4/2019
Date Lab Received: 9/6/2019

Sampling Site.: Georgia-Pacific Former Mill Site, Fort Bragg
90 Redwood Avenue
Fort Bragg, CA

ECL No.	Collector's No.	Sample Matrix	Container type	Container Size	Approximate Amount Revd	Custody Seal	Seal Location	Sample Condition	Action Taken
BD00433	POND 8-20 (5.5-7)DTSC	sediment	Clear Glass Jar	6(4 oz)	989.3 g	Absent	N/A	Acceptable	None
BD00434	POND 8-21 (11.5-13)DTSC	sediment	Clear Glass Jar	3(4 oz)	448.6 g	Absent	N/A	Acceptable	None
BD00435	POND 8-22(8-10)DTSC	sediment	Clear Glass Jar	2(4 oz)	299.1 g	Absent	N/A	Acceptable	None
BD00436	POND 8-23 (8-10)DTSC	sediment	Clear Glass Jar	2(4 oz)	253.6 g	Absent	N/A	Acceptable	None
BD00437	D2-20190904	sediment	Clear Glass Jar	2(4 oz)	253.2 g	Absent	N/A	Acceptable	None

Comments:

Sample(s) processed by: Francisco Montalvan Signature: [signature] Date: 9/13/19

Supervisor's approval (if any action taken): Signature: _____ Date: _____

SMOFF@DTSC

From: SMOFF@DTSC
Sent: Monday, September 16, 2019 7:37 AM
To: Lanphar, Tom@DTSC
Subject: RE: 19EC0029 Sample Labels

Hello Tom,

We will go ahead and keep the name as "Pond 8-23 (8-10) DTSC". We will not alter the original sample label, but our ECL sample labels will show the Sample ID as "Pond 8-23 (8-10) DTSC".

Best,
Xavier

From: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Sent: Friday, September 13, 2019 3:57 PM
To: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Subject: RE: 19EC0029 Sample Labels

We can keep the name Pond 8-23 (8-10)DTSC

Tom Lanphar

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Friday, September 13, 2019 3:17 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: 19EC0029 Sample Labels

Hello Tom,

Logging in your samples I noticed that the samples you indicated as "Pond 8-23 (8-10) DTSC" on the SAR have a different Sample ID on the labels. The labels have "2Pond 8-23 (8-10) DTSC". I need to get a confirmation on which Sample ID you would like for us to use, so I can make the necessary updates and have this email confirmation on file. We can keep the name as "Pond 8-23 (8-10) DTSC" as long as we have this email where you state that "Pond 8-23 (8-10) DTSC" is "2Pond 8-23 (8-10) DTSC". If you would like the sample to be "2Pond 8-23 (8-10) DTSC", then I would need to make updates to the SAR to reflect the correct name.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Thursday, September 5, 2019 8:22 AM
To: SMOFF@DTSC
Subject: RE: Georgia-Pacific ARF

Xavier,

Georgia-Pacific's consultant, Kennedy-Jenks sent the following information regarding the methods and detection limits for the arsenic samples. I'm still planning to bring the samples in tomorrow morning.

In an effort to maintain consistency between laboratory quality assurance/quality control (QA/QC) protocols and subsequent data quality, the following information governing the commercial laboratory for this project (TestAmerica) is provided. The field team provided a sample, field duplicate, and matrix spike (MS)/matrix spike duplicate (MSD) for you.

Arsenic concentrations in sediment are to be analyzed by USEPA Method 6020 (https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf). The following parameters apply to arsenic analysis by Method 6020, as presented in the project's Quality Assurance Project Plan (QAPP):

- Practical quantification limit (PQL): 0.5 milligrams per kilogram (mg/kg)
- Applicable accuracy criterion: 74-120 percent recovery (%R) for surrogate recovery ranges
- Precision criteria (relative percent difference [RPD]): 30%

TestAmerica's method detection limit (MDL) for arsenic analysis by Method 6020 is 0.25 mg/kg and their reporting limit (RL) is 0.50 mg/kg. Actual laboratory reporting limits will vary depending upon the sample matrix, sample volume or mass analyzed, and sample dilution factors, if any. Analytical results will be reported to the MDL, and values between the MDL and PQL will be qualified with a "J." The laboratory performing the analysis must be certified pursuant to Health and Safety Code section 25198. Sediment samples analyzed by Method 6020 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 28 days.

Field duplicates and MS/MSD aid in field and laboratory quality control. The purpose of field duplicate collection is to allow calculation of combined sampling and analytical precision. When a sample and a duplicate are taken, both results should be reported, and duplicate sample results will be averaged for use in data evaluations. Surrogate and MS are added to assess the accuracy of the sample analysis, in terms of the spike recovery. MS/MSD pairs are analyzed to provide analytical data on the precision of laboratory measurements.

Additionally, the laboratory will generate and analyze a minimum of one method blank per sample batch for each analysis. While field blanks (such as equipment and trip blanks) are used to assess the combination of field, storage, and laboratory contamination, the laboratory method blank isolates any contamination that may have originated from the laboratory. Results of all laboratory QA/QC analysis is provided with the laboratory report.

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Wednesday, September 4, 2019 11:50 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: Georgia-Pacific ARF

Hi Tom,

I wanted to get this out to you so you could get back to me. For the Metals EPA 6020 method, we need to know what Threshold Limits you are trying to reach, or the Reporting Limits you need for the method. The 6020 method is more sensitive, so it is used to reach lower levels, but if you're looking at standard levels for Arsenic, then 6010 should be able to capture what you need. Let us know these limits and we can determine if we can accept it at Berkeley or would possibly need to contract it out.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Friday, September 6, 2019 11:09 AM
To: SMOFF@DTSC
Subject: FW: arsenic detection
Attachments: Table 3-2_excerpt(dioxin).pdf

Xavier,
Here is more information on the dioxin analysis that GP is running. I'll bring in the samples at about 1:30.

Tom

From: Rachel Morgan <RachelMorgan@kennedyjenks.com>
Sent: Thursday, September 5, 2019 9:55 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Cc: 'Massengill, Dave G.' <DGMassen@GAPAC.com>; Jeremie Maehr <JeremieMaehr@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: RE: arsenic detection

Hi Tom,

I am following up with the dioxin analysis information. Dioxin concentrations in sediment are to be analyzed by USEPA Method 8290 (https://www.epa.gov/sites/production/files/2016-01/documents/sw846method8290a.pdf). The parameters in the attached table apply to dioxin analysis by Method 8290, as presented in the project's Quality Assurance Project Plan (QAPP).

TestAmerica's method detection limits for dioxin and furan congeners analyzed by Method 8290 are approximately 0.05 picograms per gram (pg/g) and their reporting limits generally range from 1 to 5 pg/g. Sediment samples analyzed by Method 8290 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 30 days.

Thanks,

Kennedy Jenks
Rachel Morgan, EIT | Staff Engineer
303 Second Street, Suite 300 South
San Francisco, CA 94107
P: 415.243.2150 | Direct: 415.243.2441
Service is Our Legacy | EST 1919 | KENNEDYJENKS.COM

From: Rachel Morgan
Sent: Wednesday, September 04, 2019 4:53 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Cc: 'Massengill, Dave G.' <DGMassen@GAPAC.com>; Jeremie Maehr <JeremieMaehr@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: RE: arsenic detection

Hi Tom,

In an effort to maintain consistency between laboratory quality assurance/quality control (QA/QC) protocols and subsequent data quality, the following information governing the commercial laboratory for this project (TestAmerica) is provided. The field team provided a sample, field duplicate, and matrix spike (MS)/matrix spike duplicate (MSD) for you.

Arsenic concentrations in sediment are to be analyzed by USEPA Method 6020 (https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf). The following parameters apply to arsenic analysis by Method 6020, as presented in the project's Quality Assurance Project Plan (QAPP):

- Practical quantification limit (PQL): 0.5 milligrams per kilogram (mg/kg)
- Applicable accuracy criterion: 74-120 percent recovery (%R) for surrogate recovery ranges
- Precision criteria (relative percent difference [RPD]): 30%

TestAmerica's method detection limit (MDL) for arsenic analysis by Method 6020 is 0.25 mg/kg and their reporting limit (RL) is 0.50 mg/kg. Actual laboratory reporting limits will vary depending upon the sample matrix, sample volume or mass analyzed, and sample dilution factors, if any. Analytical results will be reported to the MDL, and values between the MDL and PQL will be qualified with a "J." The laboratory performing the analysis must be certified pursuant to Health and Safety Code section 25198. Sediment samples analyzed by Method 6020 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 28 days.

Field duplicates and MS/MSD aid in field and laboratory quality control. The purpose of field duplicate collection is to allow calculation of combined sampling and analytical precision. When a sample and a duplicate are taken, both results should be reported, and duplicate sample results will be averaged for use in data evaluations. Surrogate and MS are added to assess the accuracy of the sample analysis, in terms of the spike recovery. MS/MSD pairs are analyzed to provide analytical data on the precision of laboratory measurements.

Additionally, the laboratory will generate and analyze a minimum of one method blank per sample batch for each analysis. While field blanks (such as equipment and trip blanks) are used to assess the combination of field, storage, and laboratory contamination, the laboratory method blank isolates any contamination that may have originated from the laboratory. Results of all laboratory QA/QC analysis is provided with the laboratory report.

Please let us know if you have any additional questions.

Kennedy Jenks

Rachel Morgan, EIT | Staff Engineer
303 Second Street, Suite 300 South
San Francisco, CA 94107
P: 415.243.2150 | Direct: 415.243.2441
Service is Our Legacy | EST 1919 | KENNEDYJENKS.COM

From: Jeremie Maehr <JeremieMaehr@kennedyjenks.com>
Sent: Wednesday, September 4, 2019 2:18 PM
To: Rachel Morgan <RachelMorgan@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: Fwd: arsenic detection

Sent from my iPhone

Begin forwarded message:

> **From:** "Lanphar, Tom@DTSC" <Tom.Lanphar@dtsc.ca.gov>
> **Date:** September 4, 2019 at 1:42:58 PM PDT
> **To:** "JeremieMaehr@kennedyjenks.com" <JeremieMaehr@kennedyjenks.com>
> **Subject: arsenic detection**
>
> What is your detection limits for arsenic? DTSC lab wants to know.
>
> Tom

Reported Analytes in Sediment Matrix Samples with Analytical Methods, PQLs, and Accuracy and Precision Limits

Analyte	CAS No.	Analytical Method	Units	PQL	Accuracy (%R)	Precision (RPD)
Dioxins and Furans						
2,3,7,8-TCDD	1746-01-6	USEPA 8290	pg/g	0.50	50-150	25
1,2,3,7,8-PeCDD	40321-76-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8-HxCDD	39227-28-6	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,6,7,8-HxCDD	57653-85-7	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,7,8,9-HxCDD	19408-74-3	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,6,7,8-HpCDD	35822-46-9	USEPA 8290	pg/g	2.50	50-150	25
OCDD	3268-87-9	USEPA 8290	pg/g	5.00	50-150	25
2,3,7,8-TCDF	51207-31-9	USEPA 8290	pg/g	0.50	50-150	25
1,2,3,7,8-PeCDF	57117-41-6	USEPA 8290	pg/g	2.50	50-150	25
2,3,4,7,8-PeCDF	57117-31-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8-HxCDF	70648-26-9	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,6,7,8-HxCDF	57117-44-9	USEPA 8290	pg/g	2.50	50-150	25
2,3,4,6,7,8-HxCDF	60851-34-5	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,7,8,9-HxCDF	72918-21-9	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,6,7,8-HpCDF	67562-39-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8,9-HpCDF	55673-89-7	USEPA 8290	pg/g	2.50	50-150	25
OCDF	39001-02-0	USEPA 8290	pg/g	5.00	50-150	25

Notes:

%R = percent recovery

CAS No. = Chemical Abstract Service number

pg/g = picograms per gram

PQL = Practical Quantitation Limit

RPD = relative percent difference

a. PQLs were obtained from the laboratory who planned to perform the analysis when the QAPP was written.

b. Not all compounds require surrogate spike recovery analysis. Representative compounds are selected that can account for all compounds in the suite of analysis for that particular method. Those surrogate recovery ranges are listed.

c. This is an excerpt from Table 3-2 of the project's Quality Assurance Project Plan (QAPP; September 2007).

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Thursday, September 12, 2019 9:55 AM
To: SMOFF@DTSC
Subject: RE: Update to 19EC0029

Xavier,
Thank you for the message. I agree with the updates stated in the message.

Tom Lanphar

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Thursday, September 12, 2019 9:50 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: RE: Update to 19EC0029

Hello Tom,

Please confirm the updates stated in the message below.

Best,
Xavier

From: SMOFF@DTSC
Sent: Wednesday, September 11, 2019 2:17 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: Update to 19EC0029

Hello Tom,

Per our conversation, we will be updating the SAR for 19EC0029 to reflect the extra sample containers that were delivered to ECL. For Sample "Pond 8-20 (5.5-7) DTSC" we will be updating the Number of Containers from 2 to 6. Also, for Sample "Pond 8-21 (11.5-13) DTSC" we will be updating the Number of Containers from 2 to 3. Along with updating those Number of Containers, we will be adding in Sample "D2-20190904" with 2 containers for "Hold (No Analysis)". That way we can have those samples in our system for proper disposal later. Please confirm that you approve of these updates.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

Chain of Custody Record

327922

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact
Company Name: Georgia-Pacific
Address: 421 SW 6th Ave, Suite 1000
City/State/Zip: Portland, OR 97204
Phone: 503-423-4018
Fax:
Project Name: Fort Bragg Sediment Sampling
Site: GP Fort Bragg Mill Site
P O #

Project Manager: Peame Knill
Tel/Fax: 503-423-4017
Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ______
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Alice Robinson
Lab Contact: Afsaneh Salimpour
Date: 9-5-19
Carrier: hand deliver

COC No:
1 of 1 COCs
Sampler: Robinson / Freed
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Arsenic by 6020	Picaram by 8290A	Moisture	Sample Specific Notes:
Pond 8-20 (5.5-7.0) DTSC	10:20	9-4-19	G	S	6		X	|	|	|	
Pond 8-21 (11.5-13.0) DTSC	13:15	↓	↓	↓	2			|	|	|	
Pond 8-23 (8.0-10.0) DTSC	16:10	↓	↓	↓	2			|	|	|	
Pond 8-22 (8.0-10.0) DTSC	18:10	↓	↓	↓	2			|	|	|	
D2-20190904	—	↓	↓	↓	2			|	|	|	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

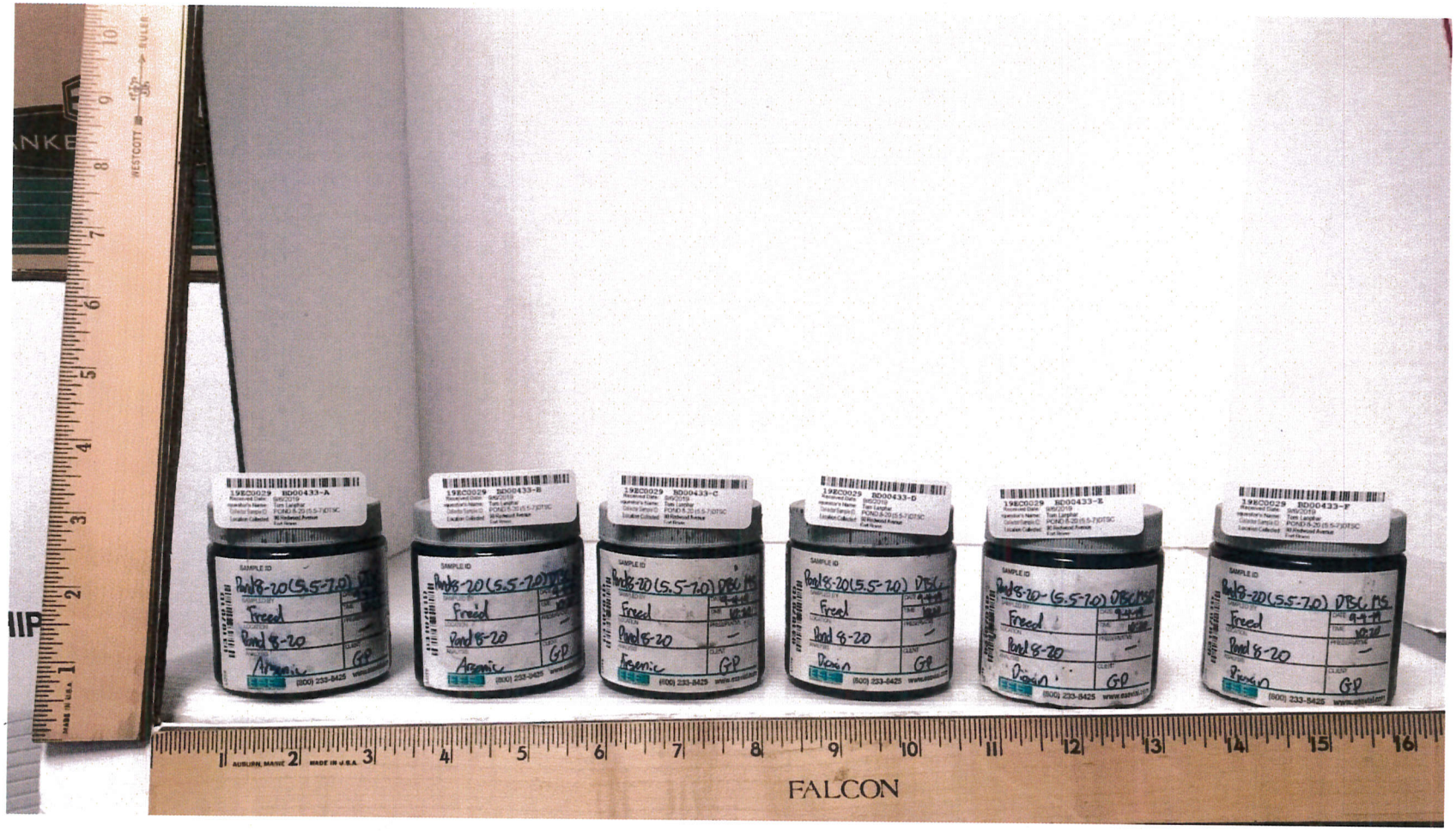
Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

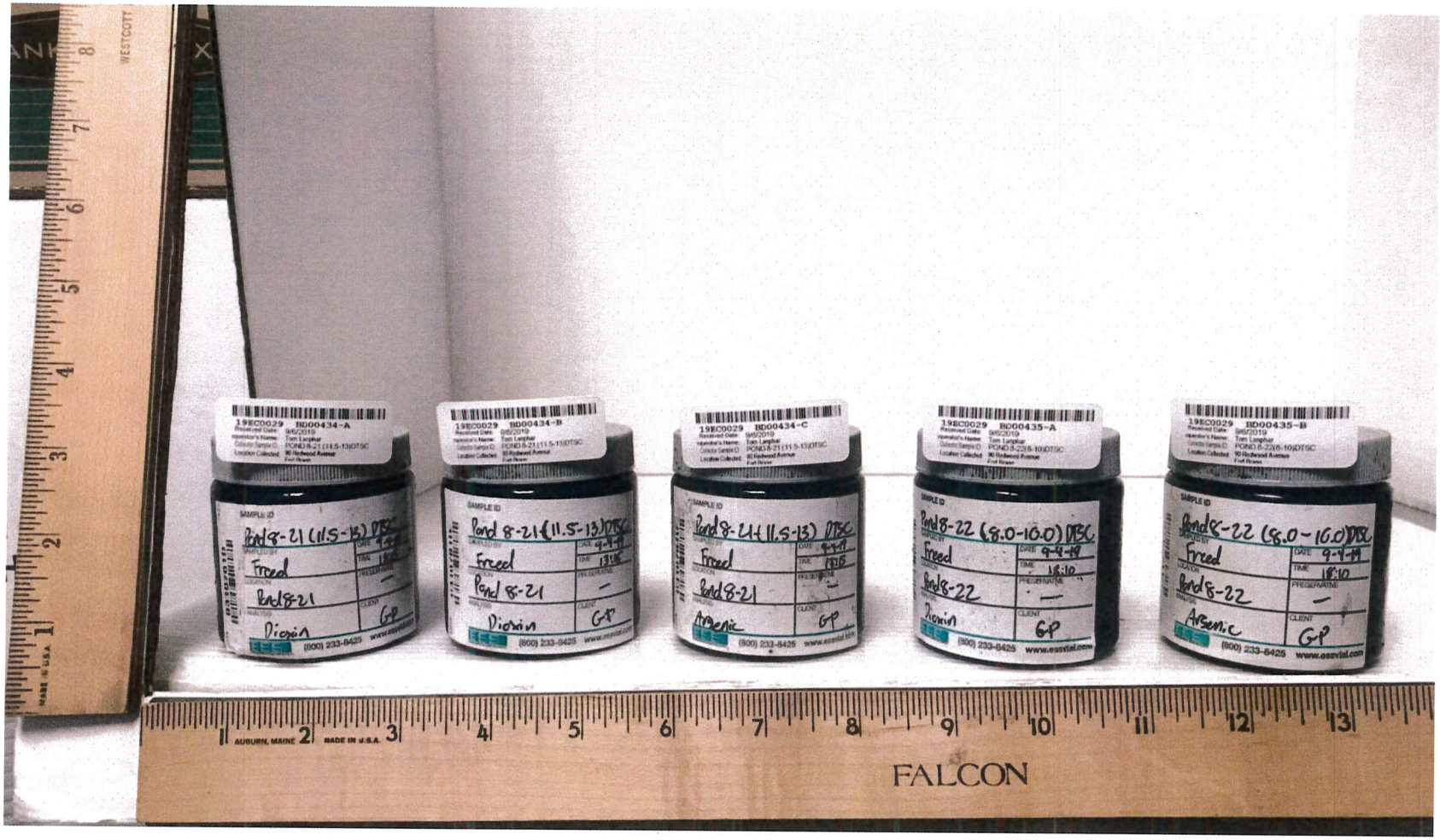
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:
Composite before analyzing

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Alice Robinson [signature]	Kennedy/Jenks	9-5-19 9:35	[signature]	DTSC	9/5/2019; 9:35am
[illegible]	DTSC	9.6.19 3:29	Karina Gipson	DTSC	9/6/2019 3:29
			Received in Laboratory by:		


FALCON


19EC0029 BD00434-A
Pond 8-21 (11.5-13) DTSC
Freed
Pond 8-21
Dioxin
GP
19EC0029 BD00434-B
Pond 8-21 (11.5-13) DTSC
Freed
Pond 8-21
Dioxin
GP
19EC0029 BD00434-C
Pond 8-21 (11.5-13) DTSC
Freed
Pond 8-21
Arsenic
GP
19EC0029 BD00435-A
Pond 8-22 (8.0-10.0) DTSC
Freed
Pond 8-22
Dioxin
GP
19EC0029 BD00435-B
Pond 8-22 (8.0-10.0) DTSC
Freed
Pond 8-22
Arsenic
GP
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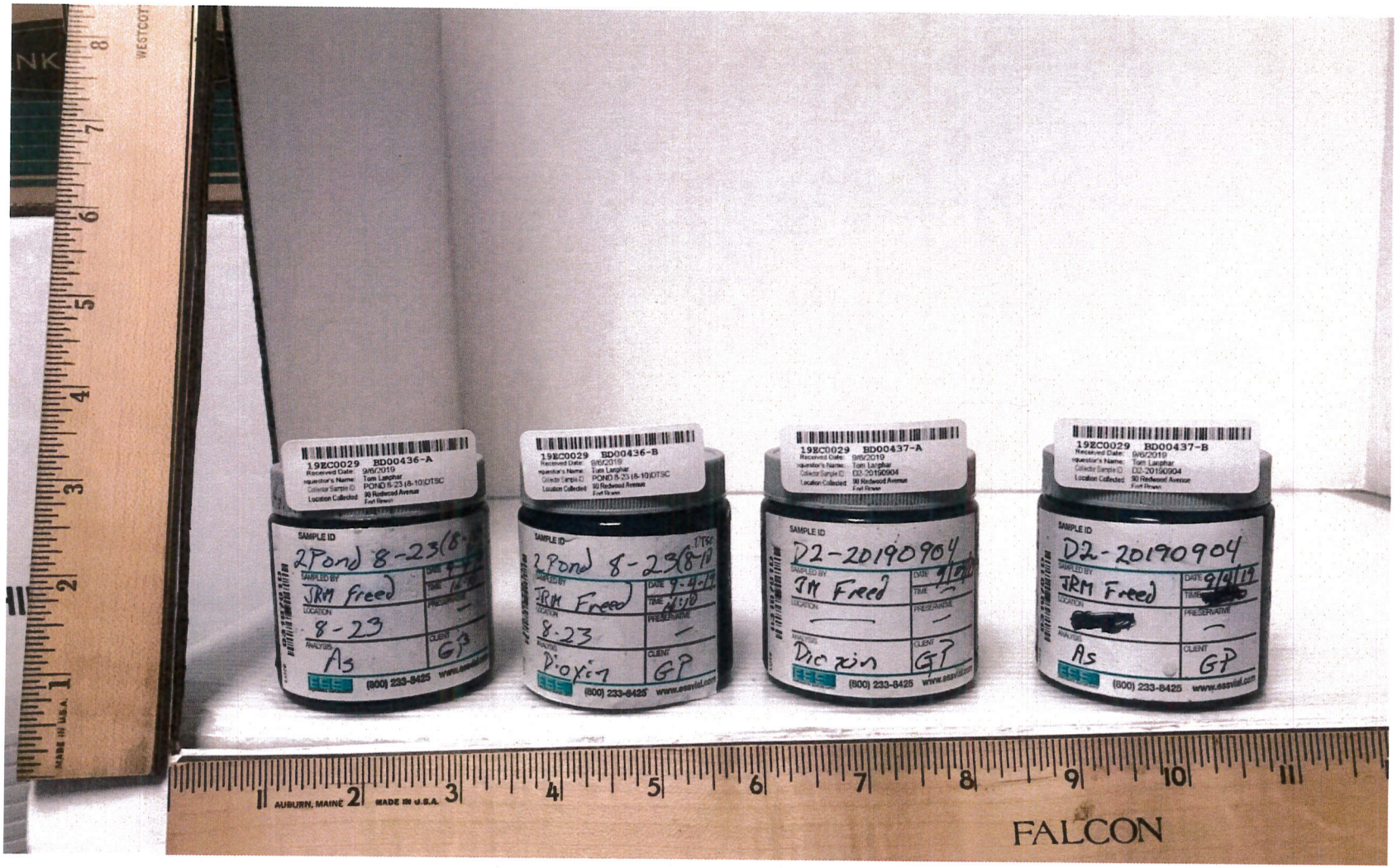
FALCON


19EC0029 BD00436-A
SAMPLE ID
2Pond 8-23(8-
SAMPLED BY
JRM Freed
LOCATION
8-23
ANALYSIS
As
CLIENT
GP
(800) 233-8425
19EC0029 BD00436-B
SAMPLE ID
2Pond 8-23(8-10
SAMPLED BY
JRM Freed
LOCATION
8-23
ANALYSIS
Dioxin
CLIENT
GP
(800) 233-8425
19EC0029 BD00437-A
SAMPLE ID
D2-20190904
SAMPLED BY
JRM Freed
ANALYSIS
Dioxin
CLIENT
GP
(800) 233-8425
19EC0029 BD00437-B
SAMPLE ID
D2-20190904
SAMPLED BY
JRM Freed
ANALYSIS
As
CLIENT
GP
(800) 233-8425
AUBURN, MAINE
MADE IN U.S.A.
FALCON

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.: 19EC0029 **Sample Location: Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Sample #	Collector ID	ECL ID	Sample Matrix
1	Pond 8-20 (5.5-7)DTSC	BD00433	Sedimet
2	Pond 8-21 (11.5-13)DTSC	BD00434	Sedimet
3	Pond 8-22 (8-10)DTSC	BD00435	Sedimet
4	Pond 8-23 (8-10)DTSC	BD00436	Sedimet
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Sample Prep: Darcy Tarrant **Date** 11/19/19
Darcy Tarrant

Analyst: **Date** 11/19/19
F. Reber Brown

Reviewer: **Date** 11/19/19
Joginder Dhaliwal

Supervisor: **Date** 11/19/19
F. Reber Brown

The results listed within this report pertain only to the samples tested in the laboratory. These results have been reviewd for technical correctness and completeness. This report has been approved for release as verified by the signatures below. This report may be reproduced only in its entirety.

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.: 19EC0029 **Sample Location: Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Sample History

Date Collected	09/04/2019	Sequence:	19EC0029 ARF_GP
Date Received	09/06/2019	Instrumental Method:	1613b_SL_043014
Date Prepared	10/15/2019	Instrument	DFS-II (SN03080M)
Date Analyzed	11/08/2019	Method:	05.0018.00_rev1
		Method:	03.1613.00_rev2

Were all method and internal QC criteria met? No

Comments: LCS passed. However, sample duplicate (Pond 8-20 (5.5-7)DTSC -- BD00433Dup) showed poor RPD for several congeners. We attribute this to a lack of homogeneity in the sample. This does not affect the overall results for this batch of samples.

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.: 19EC0029 **Sample Location: Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Acronym Definitions

HEMS	Human and Environmental Monitoring Section
MB	Method blank
DL	Detection Limit Calculated by Instrument Software
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
pg/g	Picograms per Gram (parts per trillion)
TEF	Toxic Equivalent Factor WHO 2005
TEQ	Toxic Equivalent Quotient (TEF * Conc)
Σ TEQ	Sum of TEQs for all 17 2378-substituted congeners

Qualifier Definitions

n.d.	Not Detected; concentration below detection limit
NA	Not Applicable
Blank Ratio	Ratio of mass of analyte in sample to mass of analyte in MB
Blank Ratio Flags	B
	D
Ion Abundance Ratio	Ratio of Quant Mass to Ratio Mass in molecular cluster
	Passed
	Failed
	Isotope ratio failure indicates possible interferent

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	method blank	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	hydromatrix	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Method Blank Results	**Mass of Analyte**	**DL**	**Ion Abundance**
Analyte	**(pg)**	**(pg)**	**Ratio**
2,3,7,8-Cl4DD	0.123	0.147	Failed
1,2,3,7,8-Cl5DD	1.33	0.419	Failed
1,2,3,4,7,8-Cl6DD	0.571	0.161	Failed
1,2,3,6,7,8-Cl6DD	0.592	0.168	Failed
1,2,3,7,8,9-Cl6DD	0.852	0.167	Failed
1,2,3,4,6,7,8-Cl7DD	0.924	0.309	Failed
1,2,3,4,6,7,8,9-Cl8DD	2.96	0.231	Failed
2,3,7,8-Cl4DF	0.384	0.238	Failed
1,2,3,7,8-Cl5DF	0.747	0.0779	Failed
2,3,4,7,8-Cl5DF	0.612	0.0691	Failed
1,2,3,4,7,8-Cl6DF	0.729	0.218	Failed
1,2,3,6,7,8-Cl6DF	0.662	0.210	Failed
1,2,3,7,8,9-Cl6DF	1.53	0.285	Failed
2,3,4,6,7,8-Cl6DF	0.452	0.225	Failed
1,2,3,4,6,7,8-Cl7DF	2.26	0.202	Passed
1,2,3,4,7,8,9-Cl7DF	0.925	0.267	Failed
1,2,3,4,6,7,8,9-Cl8DF	3.09	0.598	Failed
Cl4DD	5.00	0.169	
Cl5DD	15.6	0.357	
Cl6DD	8.04	0.158	
Cl7DD	10.1	0.298	
Cl4DF	36.5	0.223	
Cl5DF	16.1	0.0757	
Cl6DF	7.37	0.224	
Cl7DF	5.41	0.217	

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	method blank	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	hydromatrix	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	85.0	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	92.8	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	83.6	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	79.4	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	71.4	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	59.2	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	86.2	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	85.9	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	92.4	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	83.2	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	81.7	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	77.9	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	83.3	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	75.1	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	65.6	Passed	Yes	50-150

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	laboratory control sample	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	sand	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

LCS Results

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio	Analyte Recovery	LCS Pass?	Native Spike	Control Limits
2,3,7,8-Cl4DD	207	0.149	3370		Passed	103.5	Yes	200	50-150
1,2,3,7,8-Cl5DD	1040	0.306	1560		Passed	104.0	Yes	1000	50-150
1,2,3,4,7,8-Cl6DD	970	0.334	3400		Passed	97.0	Yes	1000	50-150
1,2,3,6,7,8-Cl6DD	969	0.348	3270		Passed	96.9	Yes	1000	50-150
1,2,3,7,8,9-Cl6DD	1040	0.346	2440		Passed	104.0	Yes	1000	50-150
1,2,3,4,6,7,8-Cl7DD	983	0.218	2130		Passed	98.3	Yes	1000	50-150
1,2,3,4,6,7,8,9-Cl8DD	1900	0.307	1280		Passed	95.0	Yes	2000	50-150
2,3,7,8-Cl4DF	194	0.187	1010		Passed	97.0	Yes	200	50-150
1,2,3,7,8-Cl5DF	1050	0.144	2810		Passed	105.0	Yes	1000	50-150
2,3,4,7,8-Cl5DF	890	0.122	2910		Passed	89.0	Yes	1000	50-150
1,2,3,4,7,8-Cl6DF	977	0.456	2680		Passed	97.7	Yes	1000	50-150
1,2,3,6,7,8-Cl6DF	987	0.461	2980		Passed	98.7	Yes	1000	50-150
1,2,3,7,8,9-Cl6DF	1020	0.558	1330		Passed	102.0	Yes	1000	50-150
2,3,4,6,7,8-Cl6DF	959	0.457	4240		Passed	95.9	Yes	1000	50-150
1,2,3,4,6,7,8-Cl7DF	947	0.261	838		Passed	94.7	Yes	1000	50-150
1,2,3,4,7,8,9-Cl7DF	990	0.331	2140		Passed	99.0	Yes	1000	50-150
1,2,3,4,6,7,8,9-Cl8DF	1950	0.449	1260		Passed	97.5	Yes	2000	50-150
Cl4DD	238	0.172							
Cl5DD	888	0.261							
Cl6DD	2850	0.327							
Cl7DD	947	0.210							
Cl4DF	181	0.175							
Cl5DF	2060	0.140							
Cl6DF	3880	0.467							
Cl7DF	1870	0.280							

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700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	laboratory control sample	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	sand	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	86.0	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	99.7	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	84.2	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	81.4	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	80.4	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	73.2	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	85.4	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	88.5	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	98.3	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	81.2	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	80.5	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	79.6	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	83.5	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	82.2	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	76.4	Passed	Yes	50-150

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	WMS-01 ref mat'l	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	Sediment	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Reference Material Result (A)

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio
2,3,7,8-Cl4DD	17.0	0.222	276		Passed
1,2,3,7,8-Cl5DD	9.74	0.343	14.6		Passed
1,2,3,4,7,8-Cl6DD	7.07	0.571	24.8		Passed
1,2,3,6,7,8-Cl6DD	20.3	0.599	68.6		Passed
1,2,3,7,8,9-Cl6DD	16.1	0.594	37.8		Passed
1,2,3,4,6,7,8-Cl7DD	279	0.359	604		Passed
1,2,3,4,6,7,8,9-Cl8DD	1820	0.305	1230		Passed
2,3,7,8-Cl4DF	50.8	0.615	265		Passed
1,2,3,7,8-Cl5DF	13.3	0.513	35.6		Passed
2,3,4,7,8-Cl5DF	15.4	0.444	50.3		Passed
1,2,3,4,7,8-Cl6DF	58.9	0.845	162		Passed
1,2,3,6,7,8-Cl6DF	17.7	0.859	53.5		Passed
1,2,3,7,8,9-Cl6DF	25.6	1.06	33.5		Passed
2,3,4,6,7,8-Cl6DF	14.6	0.839	64.6		Passed
1,2,3,4,6,7,8-Cl7DF	282	0.452	250		Passed
1,2,3,4,7,8,9-Cl7DF	15.4	0.584	33.3		Passed
1,2,3,4,6,7,8,9-Cl8DF	505	0.447	327		Passed
Cl4DD	62.2	0.255			
Cl5DD	20.5	0.292			
Cl6DD	205	0.560			
Cl7DD	569	0.346			
Cl4DF	541	0.574			
Cl5DF	393	0.499			
Cl6DF	367	0.866			
Cl7DF	384	0.485			

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HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	WMS-01 ref mat'l	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	Sediment	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	83.2	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	87.7	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	76.6	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	72.4	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	67.2	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	57.6	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	82.5	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	81.2	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	88.7	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	75.4	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	75.4	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	72.8	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	77.4	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	69.8	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	63.3	Passed	Yes	50-150

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Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	WMS-01 ref mat'l dup	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	Sediment	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Reference Material Results (B)

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio
2,3,7,8-Cl4DD	20.1	0.412	327		Passed
1,2,3,7,8-Cl5DD	11.5	0.689	17.3		Passed
1,2,3,4,7,8-Cl6DD	8.28	0.880	29.0		Passed
1,2,3,6,7,8-Cl6DD	22.7	0.931	76.7		Passed
1,2,3,7,8,9-Cl6DD	16.2	0.923	38.0		Passed
1,2,3,4,6,7,8-Cl7DD	300	1.06	649		Passed
1,2,3,4,6,7,8,9-Cl8DD	1980	0.587	1340		Passed
2,3,7,8-Cl4DF	48.8	1.37	254		Passed
1,2,3,7,8-Cl5DF	14.0	0.894	37.5		Passed
2,3,4,7,8-Cl5DF	16.2	0.802	52.9		Passed
1,2,3,4,7,8-Cl6DF	65.8	1.47	181		Passed
1,2,3,6,7,8-Cl6DF	21.0	1.46	63.4		Passed
1,2,3,7,8,9-Cl6DF	30.6	1.86	40.0		Passed
2,3,4,6,7,8-Cl6DF	13.4	1.41	59.3		Passed
1,2,3,4,6,7,8-Cl7DF	303	1.14	268		Passed
1,2,3,4,7,8,9-Cl7DF	14.8	1.37	32.0		Passed
1,2,3,4,6,7,8,9-Cl8DF	552	1.10	357		Passed
Cl4DD	64.1	0.473			
Cl5DD	22.3	0.587			
Cl6DD	217	0.864			
Cl7DD	607	1.02			
Cl4DF	600	1.28			
Cl5DF	432	0.870			
Cl6DF	393	1.50			
Cl7DF	411	1.22			

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700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	WMS-01 ref mat'l dup	Sequence:	19EC0029 ARF_GP
ECL Sample ID:		Instrumental Method:	1613b_SL_043014
Sample Matrix	Sediment	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	73.8	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	76.1	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	71.3	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	67.0	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	66.1	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	59.9	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	74.4	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	71.8	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	77.6	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	69.6	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	69.0	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	67.8	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	72.2	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	66.7	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	61.7	Passed	Yes	50-150

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		Sequence:	19EC0029 ARF_GP
		Instrumental Method:	1613b_SL_043014
		Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
		Analytical Method:	03.1613.00_rev2

Reference Material Comparison

Analyte	Conc. A (pg/g)	Conc B (pg/g)	Avg Conc	Percent RPD	Ref Conc	Lower Limit	Upper Limit	Conc A In Range?	Conc B In Range?	RPD Range
2,3,7,8-Cl4DD	17.0	20.1	18.6	-16.7	17.7	12.1	23.3	Yes	Yes	0-30
1,2,3,7,8-Cl5DD	9.74	11.5	10.6	-16.6	7.96	5.16	10.8	Yes	No	0-30
1,2,3,4,7,8-Cl6DD	7.07	8.28	7.68	-15.8	8.66	5.96	11.4	Yes	Yes	0-30
1,2,3,6,7,8-Cl6DD	20.3	22.7	21.5	-11.2	20.8	16.0	25.6	Yes	Yes	0-30
1,2,3,7,8,9-Cl6DD	16.1	16.2	16.2	-0.617	17.3	9.30	25.3	Yes	Yes	0-30
1,2,3,4,6,7,8-Cl7DD	279	300	290	-7.24	293	230	356	Yes	Yes	0-30
1,2,3,4,6,7,8,9-Cl8DD	1820	1980	1900	-8.42	1899	1443	2355	Yes	Yes	0-30
2,3,7,8-Cl4DF	50.8	48.8	49.8	4.02	52.5	36.5	68.5	Yes	Yes	0-30
1,2,3,7,8-Cl5DF	13.3	14.0	13.6	-5.15	12.6	7.60	17.6	Yes	Yes	0-30
2,3,4,7,8-Cl5DF	15.4	16.2	15.8	-5.06	18.5	12.4	24.6	Yes	Yes	0-30
1,2,3,4,7,8-Cl6DF	58.9	65.8	62.4	-11.1	67.3	43.3	91.3	Yes	Yes	0-30
1,2,3,6,7,8-Cl6DF	17.7	21.0	19.4	-17.0	20.3	11.6	29	Yes	Yes	0-30
1,2,3,7,8,9-Cl6DF	25.6	30.6	28.1	-17.8	2.68	-1.32	6.68	No	No	0-30
2,3,4,6,7,8-Cl6DF	14.6	13.4	14.0	8.57	16.0	8.00	24.0	Yes	Yes	0-30
1,2,3,4,6,7,8-Cl7DF	282	303	292	-7.19	299	226	372	Yes	Yes	0-30
1,2,3,4,7,8,9-Cl7DF	15.4	14.8	15.1	3.97	15.1	10.5	19.7	Yes	Yes	0-30
1,2,3,4,6,7,8,9-Cl8DF	505	552	528	-8.90	509	352	666	Yes	Yes	0-30
Cl4DD	62.2	64.1	63.2	-3.01	60.1	35.1	85.1	Yes	Yes	0-30
Cl5DD	20.5	22.3	21.4	-8.41	69.5	46.5	92.5	No	No	0-30
Cl6DD	205	217	211	-5.69	238	152	324	Yes	Yes	0-30
Cl7DD	569	607	588	-6.46	608	456	760	Yes	Yes	0-30
Cl4DF	541	600	570	-10.4	374	212	536	No	No	0-30
Cl5DF	393	432	412	-9.47	225	112	338	No	No	0-30
Cl6DF	367	393	380	-6.84	262	167	357	No	No	0-30
Cl7DF	384	411	398	-6.78	411	311	511	Yes	Yes	0-30

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Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

		Sequence:	19EC0029 ARF_GP
		Instrumental Method:	1613b_SL_043014
		Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
		Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	RefA % Recov	RefB % Recov
13C-2,3,7,8-Cl4DD %REC	83.2	73.8
13C-1,2,3,7,8-Cl5DD %REC	87.7	76.1
13C-1,2,3,4,7,8-Cl6DD %REC	76.6	71.3
13C-1,2,3,6,7,8-Cl6DD %REC	72.4	67.0
13C-1,2,3,4,6,7,8-Cl7DD %REC	67.2	66.1
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	57.6	59.9
13C-2,3,7,8-Cl4DF %REC	82.5	74.4
13C-1,2,3,7,8-Cl5DF %REC	81.2	71.8
13C-2,3,4,7,8-Cl5DF %REC	88.7	77.6
13C-1,2,3,4,7,8-Cl6DF %REC	75.4	69.6
13C-1,2,3,6,7,8-Cl6DF %REC	75.4	69.0
13C-1,2,3,7,8,9-Cl6DF %REC	72.8	67.8
13C-2,3,4,6,7,8-Cl6DF %REC	77.4	72.2
13C-1,2,3,4,6,7,8-Cl7DF %REC	69.8	66.7
13C-1,2,3,4,7,8,9-Cl7DF %REC	63.3	61.7

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-20 (5.5-7)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00433	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Sample Results

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio	TEF	TEQ
2,3,7,8-Cl4DD	2.77	0.747	45.0		Failed	1	2.8
1,2,3,7,8-Cl5DD	4.58	2.87	6.89	D	Failed	1	4.6
1,2,3,4,7,8-Cl6DD	2.63	0.971	9.21	D	Failed	0.1	0.3
1,2,3,6,7,8-Cl6DD	4.27	0.999	14.4		Passed	0.1	0.4
1,2,3,7,8,9-Cl6DD	2.96	0.991	6.95	D	Failed	0.1	0.3
1,2,3,4,6,7,8-Cl7DD	72.6	2.27	157		Passed	0.01	0.7
1,2,3,4,6,7,8,9-Cl8DD	237	2.41	160		Passed	0.0003	0.1
2,3,7,8-Cl4DF	n.d.	2.33	NA	NA	Failed	0.1	n.d.
1,2,3,7,8-Cl5DF	0.976	1.19	2.61	B	Failed	0.03	0.0
2,3,4,7,8-Cl5DF	n.d.	1.03	NA	NA	Passed	0.3	n.d.
1,2,3,4,7,8-Cl6DF	3.25	1.41	8.92	D	Passed	0.1	0.3
1,2,3,6,7,8-Cl6DF	0.760	1.42	2.30	B	Failed	0.1	0.1
1,2,3,7,8,9-Cl6DF	4.26	1.78	5.57	D	Passed	0.1	0.4
2,3,4,6,7,8-Cl6DF	0.442	1.37	1.96	B	Failed	0.1	0.0
1,2,3,4,6,7,8-Cl7DF	10.4	1.27	9.20	D	Failed	0.01	0.1
1,2,3,4,7,8,9-Cl7DF	0.898	1.56	1.94	B	Failed	0.01	0.0
1,2,3,4,6,7,8,9-Cl8DF	28.1	3.39	18.2		Failed	0.0003	0.0
Cl4DD	28.0	0.858					
Cl5DD	81.4	2.45					
Cl6DD	25.3	0.953					
Cl7DD	121	2.19					
Cl4DF	481	2.17					
Cl5DF	297	1.16					
Cl6DF	68.2	1.44					
Cl7DF	27.8	1.36				**Σ TEQ =**	**10.2**

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700 Heinz Avenue Suite 100 Berkeley, CA 94710
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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-20 (5.5-7)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00433	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	89.6	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	100	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	81.8	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	82.0	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	80.0	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	72.8	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	93.2	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	93.3	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	101	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	78.8	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	78.7	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	78.2	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	84.3	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	79.9	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	74.6	Passed	Yes	50-150

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-21 (11,5-13)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00434	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/9/2019	Analytical Method:	03.1613.00_rev2

Sample Results

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio	TEF	TEQ
2,3,7,8-Cl4DD	0.830	0.0875	13.5		Passed	1	0.8
1,2,3,7,8-Cl5DD	2.17	0.209	3.26	D	Passed	1	2.2
1,2,3,4,7,8-Cl6DD	1.67	0.220	5.85	D	Passed	0.1	0.2
1,2,3,6,7,8-Cl6DD	6.26	0.226	21.1		Passed	0.1	0.6
1,2,3,7,8,9-Cl6DD	4.57	0.224	10.7		Passed	0.1	0.5
1,2,3,4,6,7,8-Cl7DD	70.7	0.371	153		Passed	0.01	0.7
1,2,3,4,6,7,8,9-Cl8DD	336	0.216	227		Passed	0.0003	0.1
2,3,7,8-Cl4DF	418	0.352	2180		Passed	0.1	41.8
1,2,3,7,8-Cl5DF	1.03	0.352	2.76	B	Passed	0.03	0.0
2,3,4,7,8-Cl5DF	2.20	0.290	7.19	D	Passed	0.3	0.7
1,2,3,4,7,8-Cl6DF	1.23	0.429	3.37	D	Passed	0.1	0.1
1,2,3,6,7,8-Cl6DF	3.84	0.444	11.6		Passed	0.1	0.4
1,2,3,7,8,9-Cl6DF	10.4	0.526	13.6		Passed	0.1	1.0
2,3,4,6,7,8-Cl6DF	6.55	0.434	29.0		Passed	0.1	0.7
1,2,3,4,6,7,8-Cl7DF	14.1	0.266	12.5		Passed	0.01	0.1
1,2,3,4,7,8,9-Cl7DF	1.15	0.323	2.49	B	Passed	0.01	0.0
1,2,3,4,6,7,8,9-Cl8DF	32.4	0.309	21.0		Passed	0.0003	0.0
Cl4DD	5.77	0.101					
Cl5DD	3.54	0.178					
Cl6DD	38.3	0.216					
Cl7DD	121	0.357					
Cl4DF	1350	0.328					
Cl5DF	880	0.343					
Cl6DF	157	0.439					
Cl7DF	36.7	0.285				**Σ TEQ =**	**49.9**

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Telephone: 510.540.2122

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-21 (11,5-13)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00434	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/9/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	91.0	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	104	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	82.3	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	81.0	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	81.6	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	80.8	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	88.2	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	93.0	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	103	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	79.6	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	77.2	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	80.6	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	82.5	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	82.5	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	79.6	Passed	Yes	50-150

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-22 (8-10)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00435	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/9/2019	Analytical Method:	03.1613.00_rev2

Sample Results

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio	TEF	TEQ
2,3,7,8-Cl4DD	0.544	0.0923	8.85	D	Failed	1	0.5
1,2,3,7,8-Cl5DD	3.14	0.225	4.72	D	Passed	1	3.1
1,2,3,4,7,8-Cl6DD	2.18	0.255	7.64	D	Passed	0.1	0.2
1,2,3,6,7,8-Cl6DD	7.29	0.270	24.6		Passed	0.1	0.7
1,2,3,7,8,9-Cl6DD	6.13	0.268	14.4		Passed	0.1	0.6
1,2,3,4,6,7,8-Cl7DD	110	0.399	238		Passed	0.01	1.1
1,2,3,4,6,7,8,9-Cl8DD	822	0.243	555		Passed	0.0003	0.2
2,3,7,8-Cl4DF	0.543	0.234	2.83	B	Failed	0.1	0.1
1,2,3,7,8-Cl5DF	0.704	0.111	1.88	B	Failed	0.03	0.0
2,3,4,7,8-Cl5DF	1.08	0.0964	3.53	D	Failed	0.3	0.3
1,2,3,4,7,8-Cl6DF	1.31	0.262	3.59	D	Failed	0.1	0.1
1,2,3,6,7,8-Cl6DF	1.54	0.255	4.65	D	Failed	0.1	0.2
1,2,3,7,8,9-Cl6DF	0.920	0.341	1.20	B	Failed	0.1	0.1
2,3,4,6,7,8-Cl6DF	1.64	0.260	7.26	D	Failed	0.1	0.2
1,2,3,4,6,7,8-Cl7DF	24.3	0.316	21.5		Passed	0.01	0.2
1,2,3,4,7,8,9-Cl7DF	1.45	0.419	3.14	D	Failed	0.01	0.0
1,2,3,4,6,7,8,9-Cl8DF	82.1	0.513	53.1		Passed	0.0003	0.0
Cl4DD	5.61	0.106					
Cl5DD	7.50	0.191					
Cl6DD	42.5	0.250					
Cl7DD	195	0.384					
Cl4DF	19.2	0.384					
Cl5DF	32.6	0.108					
Cl6DF	41.2	0.269					
Cl7DF	68.6	0.339				**Σ TEQ =**	**7.8**

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Environmental Chemistry Laboratory
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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-22 (8-10)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00435	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/9/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	88.3	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	90.3	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	82.0	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	78.3	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	71.7	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	61.7	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	87.8	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	84.0	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	91.6	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	81.7	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	80.4	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	77.1	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	83.5	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	75.9	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	67.4	Passed	Yes	50-150

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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-23 (8-10)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00436	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/9/2019	Analytical Method:	03.1613.00_rev2

Sample Results

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio	TEF	TEQ
2,3,7,8-Cl4DD	2.27	0.152	36.9		Failed	1	2.3
1,2,3,7,8-Cl5DD	9.36	0.315	14.1		Passed	1	9.4
1,2,3,4,7,8-Cl6DD	5.65	0.513	19.8		Passed	0.1	0.6
1,2,3,6,7,8-Cl6DD	21.1	0.538	71.3		Passed	0.1	2.1
1,2,3,7,8,9-Cl6DD	15.6	0.533	36.6		Passed	0.1	1.6
1,2,3,4,6,7,8-Cl7DD	265	0.535	574		Passed	0.01	2.7
1,2,3,4,6,7,8,9-Cl8DD	1410	0.441	953		Passed	0.0003	0.4
2,3,7,8-Cl4DF	n.d.	0.594	NA	NA	Failed	0.1	n.d.
1,2,3,7,8-Cl5DF	2.93	0.574	7.84	D	Passed	0.03	0.1
2,3,4,7,8-Cl5DF	6.99	0.501	22.8		Passed	0.3	2.1
1,2,3,4,7,8-Cl6DF	5.53	0.850	15.2		Passed	0.1	0.6
1,2,3,6,7,8-Cl6DF	11.8	0.851	35.6		Passed	0.1	1.2
1,2,3,7,8,9-Cl6DF	32.4	1.08	42.4		Passed	0.1	3.2
2,3,4,6,7,8-Cl6DF	9.56	0.862	42.3		Passed	0.1	1.0
1,2,3,4,6,7,8-Cl7DF	46.1	0.357	40.8		Passed	0.01	0.5
1,2,3,4,7,8,9-Cl7DF	4.08	0.476	8.82	D	Passed	0.01	0.0
1,2,3,4,6,7,8,9-Cl8DF	108	0.713	69.9		Passed	0.0003	0.0
Cl4DD	14.1	0.174					
Cl5DD	7.75	0.268					
Cl6DD	131	0.503					
Cl7DD	472	0.515					
Cl4DF	3900	0.554					
Cl5DF	2830	0.558					
Cl6DF	479	0.870					
Cl7DF	125	0.383				**Σ TEQ =**	**27.6**

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Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
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Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-23 (8-10)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00436	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/9/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	88.0	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	89.2	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	80.2	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	79.1	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	68.0	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	56.6	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	87.8	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	82.0	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	88.8	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	81.4	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	79.3	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	77.4	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	83.2	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	72.9	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	65.8	Passed	Yes	50-150

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

Collector ID:	Pond 8-20 (5.5-7)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00433Dup	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Sample Results

Analyte	Conc. (pg/g)	DL (pg/g)	Blank Ratio	Blank Ratio Flag	Ion Abundance Ratio	TEF	TEQ
2,3,7,8-Cl4DD	1.01	0.0917	16.4		Failed	1	1.0
1,2,3,7,8-Cl5DD	1.95	0.198	2.93	B	Passed	1	2.0
1,2,3,4,7,8-Cl6DD	0.985	0.195	3.45	D	Passed	0.1	0.1
1,2,3,6,7,8-Cl6DD	4.36	0.196	14.7		Passed	0.1	0.4
1,2,3,7,8,9-Cl6DD	4.00	0.194	9.39	D	Passed	0.1	0.4
1,2,3,4,6,7,8-Cl7DD	58.3	0.384	126		Passed	0.01	0.6
1,2,3,4,6,7,8,9-Cl8DD	186	0.183	126		Passed	0.0003	0.1
2,3,7,8-Cl4DF	n.d.	0.417	NA	NA	Failed	0.1	n.d.
1,2,3,7,8-Cl5DF	0.726	0.270	1.94	B	Passed	0.03	0.0
2,3,4,7,8-Cl5DF	n.d.	0.239	NA	NA	Passed	0.3	n.d.
1,2,3,4,7,8-Cl6DF	0.645	0.236	1.77	B	Failed	0.1	0.1
1,2,3,6,7,8-Cl6DF	1.50	0.236	4.53	D	Failed	0.1	0.2
1,2,3,7,8,9-Cl6DF	4.18	0.304	5.46	D	Passed	0.1	0.4
2,3,4,6,7,8-Cl6DF	1.93	0.236	8.54	D	Passed	0.1	0.2
1,2,3,4,6,7,8-Cl7DF	4.88	0.174	4.32	D	Passed	0.01	0.0
1,2,3,4,7,8,9-Cl7DF	0.806	0.225	1.74	B	Failed	0.01	0.0
1,2,3,4,6,7,8,9-Cl8DF	9.25	0.317	5.99	D	Passed	0.0003	0.0
Cl4DD	4.90	0.105					
Cl5DD	5.06	0.169					
Cl6DD	23.1	0.192					
Cl7DD	97.7	0.370					
Cl4DF	428	0.389					
Cl5DF	258	0.263					
Cl6DF	41.1	0.242					
Cl7DF	11.8	0.186				**Σ TEQ =**	**5.4**

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HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

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Collector ID:	Pond 8-20 (5.5-7)DTSC	Sequence:	19EC0029 ARF_GP
ECL Sample ID:	BD00433Dup	Instrumental Method:	1613b_SL_043014
Sample Matrix	Sedimet	Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
Analysis Date	11/8/2019	Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	% Recov	Ion Abundanc Ratio	%Recov Status	% Recov Control Limits
13C-2,3,7,8-Cl4DD %REC	92.8	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DD %REC	96.0	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DD %REC	84.6	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DD %REC	83.1	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DD %REC	75.7	Passed	Yes	50-150
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	68.6	Passed	Yes	50-150
13C-2,3,7,8-Cl4DF %REC	90.7	Passed	Yes	50-150
13C-1,2,3,7,8-Cl5DF %REC	90.6	Passed	Yes	50-150
13C-2,3,4,7,8-Cl5DF %REC	98.1	Passed	Yes	50-150
13C-1,2,3,4,7,8-Cl6DF %REC	84.9	Passed	Yes	50-150
13C-1,2,3,6,7,8-Cl6DF %REC	82.9	Passed	Yes	50-150
13C-1,2,3,7,8,9-Cl6DF %REC	82.1	Passed	Yes	50-150
13C-2,3,4,6,7,8-Cl6DF %REC	86.3	Passed	Yes	50-150
13C-1,2,3,4,6,7,8-Cl7DF %REC	80.4	Passed	Yes	50-150
13C-1,2,3,4,7,8,9-Cl7DF %REC	74.1	Passed	Yes	50-150

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HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

		Sequence:	19EC0029 ARF_GP
		Instrumental Method:	1613b_SL_043014
		Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
		Analytical Method:	03.1613.00_rev2

Reference Material Comparison

Analyte	BD00433 (pg/g)	BD00433D (pg/g)	Avg Conc	Percent RPD	RPD Range	Within Range
2,3,7,8-Cl4DD	2.77	1.01	1.89	93.1	0-30	No
1,2,3,7,8-Cl5DD	4.58	1.95	3.26	80.7	0-30	No
1,2,3,4,7,8-Cl6DD	2.63	0.985	1.81	90.9	0-30	No
1,2,3,6,7,8-Cl6DD	4.27	4.36	4.32	2.1	0-30	Yes
1,2,3,7,8,9-Cl6DD	2.96	4.00	3.48	29.9	0-30	Yes
1,2,3,4,6,7,8-Cl7DD	72.6	58.3	65.4	21.9	0-30	Yes
1,2,3,4,6,7,8,9-Cl8DD	237	186	212	24.1	0-30	Yes
2,3,7,8-Cl4DF	n.d.	n.d.			0-30	
1,2,3,7,8-Cl5DF	0.976	0.726	0.851	29.4	0-30	Yes
2,3,4,7,8-Cl5DF	n.d.	n.d.			0-30	
1,2,3,4,7,8-Cl6DF	3.25	0.645	1.95	134.0	0-30	No
1,2,3,6,7,8-Cl6DF	0.760	1.50	1.13	65.5	0-30	No
1,2,3,7,8,9-Cl6DF	4.26	4.18	4.22	1.9	0-30	Yes
2,3,4,6,7,8-Cl6DF	0.442	1.93	1.19	125.0	0-30	No
1,2,3,4,6,7,8-Cl7DF	10.4	4.88	7.64	72.3	0-30	No
1,2,3,4,7,8,9-Cl7DF	0.898	0.806	0.852	10.8	0-30	Yes
1,2,3,4,6,7,8,9-Cl8DF	28.1	9.25	18.7	101.0	0-30	No
Cl4DD	28.0	4.90	16.4	141.0	0-30	No
Cl5DD	81.4	5.06	43.2	177.0	0-30	No
Cl6DD	25.3	23.1	24.2	9.1	0-30	Yes
Cl7DD	121	97.7	109	21.4	0-30	Yes
Cl4DF	481	428	454	11.7	0-30	Yes
Cl5DF	297	258	278	14.0	0-30	Yes
Cl6DF	68.2	41.1	54.6	49.6	0-30	No
Cl7DF	27.8	11.8	19.8	80.8	0-30	No

California Environmental Progetion Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue Suite 100 Berkeley, CA 94710
Telephone: 510.540.2122

HEMS LABORATORY REPORT - Chlorinated Dioxins and Furans

Authorization No.:	**19EC0029**	**Sample Location:**	**Georgia Pacific/Ft Bragg**

Tom Lanphar
700 Heinz Avenue
Berkeley, CA 94710
510.540.3776
tom.lanphar@dtsc.ca.gov

		Sequence:	19EC0029 ARF_GP
		Instrumental Method:	1613b_SL_043014
		Instrument	DFS-II (SN03080M)
Date prepared	10/15/2019	Preparation Method:	05.0018.00_rev1
		Analytical Method:	03.1613.00_rev2

Internal Standard Percent Recovery

Analyte	BD00433 % Recov	BD00433D % Recov
13C-2,3,7,8-Cl4DD %REC	83.2	73.8
13C-1,2,3,7,8-Cl5DD %REC	87.7	76.1
13C-1,2,3,4,7,8-Cl6DD %REC	76.6	71.3
13C-1,2,3,6,7,8-Cl6DD %REC	72.4	67.0
13C-1,2,3,4,6,7,8-Cl7DD %REC	67.2	66.1
13C-1,2,3,4,6,7,8,9-Cl8DD %REC	57.6	59.9
13C-2,3,7,8-Cl4DF %REC	82.5	74.4
13C-1,2,3,7,8-Cl5DF %REC	81.2	71.8
13C-2,3,4,7,8-Cl5DF %REC	88.7	77.6
13C-1,2,3,4,7,8-Cl6DF %REC	75.4	69.6
13C-1,2,3,6,7,8-Cl6DF %REC	75.4	69.0
13C-1,2,3,7,8,9-Cl6DF %REC	72.8	67.8
13C-2,3,4,6,7,8-Cl6DF %REC	77.4	72.2
13C-1,2,3,4,6,7,8-Cl7DF %REC	69.8	66.7
13C-1,2,3,4,7,8,9-Cl7DF %REC	63.3	61.7

State of California
California Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

ENVIRONMENTAL CHEMISTRY LABORATORY SAMPLE ANALYSIS REQUEST

1. Authorization Number	ECL No.:	2. Page
19EC0029	BD00433 To BD00437	1 of 1

3. Requestor: (to Receive Results)
a. Name: Tom Lanphar
b. Address: 700 Heinz Ave, (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: 510-540-3776 (area code first) d. Fax: (area code first)
e. Email: tom.lanphar @dtsc.ca.gov

4. Project Name (if applicable): Georgia-Pacific Fort Bragg

5. TAT Level: 3

6. Sampling Information:
a. Date/Time Sampled: 09/04/19 (mm/dd/yy) 10:20am (#:## AM/PM)
b. Location: EPA ID No.
Site: Georgia-Pacific Former Mill Site, Fort Bragg
Address: 90 Redwood Avenue (street number)
Fort Bragg, CA (city, state, zip)
GPS-Lat: 39.44117 GPS-Long: -123.809907
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit: SMRP-Cleanup Program(Berkeley)
b. Project ID: DTSC200402-00
c. Activity ID: 11018
d. MPC: NA
e. County: 23--Mendocino

8. Samples:

a. ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	Pond 8-20 (5.5-7)DTSC	BD00433	sediment	4 oz clear glass jar	~~2~~ 6	FM 9/13/19
2	Pond 8-21 (11.5-13)DTSC	BD00434	sediment	4 oz clear glass jar	~~2~~ 3	FM 9/13/19
3	Pond 8-22(8-10)DTSC	BD00435	sediment	4 oz clear glass jar	2	
4	Pond 8-23 (8-10)DTSC	BD00436	sediment	4 oz clear glass jar	2	
5	D220190904	BD00437	Sediment	4 oz clear glass jar	2	FM 9/13/19
6						
7						
8						
9						

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
Metals-Mass Spec Individual Metals	1-4	Dioxins/Furans by HRGC/HRMS(ECL880-M)	1-4
Other Metals:			

c. TCLP Analysis	d. Other Analysis	
	% dry solid	1-4
	Hold (No analysis) FM 9/13/19	5

e. Comments for Multiphasic Samples/Analysis Priority: metals scan for arsenic

10. Analysis Objective: Site Characterization

11. Detection Limit Requirements:
see emails from Tom Lanphar to Xavier Montalvan

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials
Date

ECL

13. ECL Lab Remarks:

14. Chain of Custody:

	Name	Title	Signature	Inclusive Dates of Custody
a.				to
b.				to
c.				to
d.				to
e.				to
f.				to
g.				to 11/15/2019

FIELD

LAB

COC

INSTRUCTIONS:

(1) If this is your first time to use this form, for Excel 2016, set your Excel security to **"Disable all macros with notification"** by checking File-->Options-->Trust Center-->Trust Center Settings...-->Macro Settings then click OK. This is a one-time setting. Reopen the file and select **Enable Content** to allow the macro to run.
(2) Every time when you open the form, please always click **Enable Content** button.
(3) Each page can hold nine samples. If there are >9 samples in one batch, please enter the total number of pages in Item 2, Page1, marked with RED color, then press Enter. Check 'Instructions' and 'Analysis List' sheets for more information.
(4) Please email this E-SAR to **'SLoff@dtsc.ca.gov'** for Berkeley samples, or **'Lmc@dtsc.ca.gov'** for Pasadena samples. If your computer has the access to DTSC Intranet and has Outlook installed, click the button at the bottom to send this SAR to ECL.

ENVIRONMENTAL CHEMISTRY LABORATORY
SAMPLE ANALYSIS REQUEST

1. Authorization Number: 19EC-~~29~~-0029

ECL No.: BD00437 To BD00437

2. Page 1 of 1

3. Requestor: (to Receive Results) a. Name: Tom Lanphar
b. Address: 700 Heinz Ave, (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: 510-540-377[illegible] (area code first) d. Fax: (area code first)
e. Email: tom.lanphar @dtsc.ca.gov

4. Project Name (if applicable): Georgia-Pacific Fort Bragg

5.TAT Level: ~~2~~ 3

6. Sampling Information: a. Date/Time Sampled: (mm/dd/yy) (#:## AM/PM)
b. Location: EPA ID No.
Site: Georgia-Pacific Former Mill Site, Fort Bragg
Address: 90 Redwood Avenue (street number)
Fort Bragg, CA (city, state, zip)
GPS-Lat: 39.44117 GPS-Long: -123.809907
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit
b. Project ID DTSC200402-00
c. Activity ID 11018
d. MPC
e. County 23--Mendocino

8. Samples:

a.ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	Pond 8-20		Sediment	4oz. glass clear	2	
2	Pond 8-21		"	"	"	
3	Pond 8-22		"	"	"	
4	Pond 8-23		"	"	"	
5						
6						
7						
8						
9						

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
arsenic total	Pond 8-20 (8.5-7.5)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-20 DTSC
arsenic total	Pond 8-21 (11.5-13.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-21 DTSC
arsenic total	Pond 8-23 (8.0-10.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-23 DTSC
arsenic total	Pond 8-22 (8.0-10.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-22 DTSC
	all cond w/ DTSC		
Other Metals			
c. TCLP Analysis		**d. Other Analysis**	

e. Comments for Multiphasic Samples/Analysis Priority:

10. Analysis Objective: Site Characterization

11. Detection Limit Requirements:

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials
Date

13. ECL Lab Remarks:

FIELD

ECL

14. Chain of Custody:

Name	Title	Signature	Inclusive Dates of Custody		
a. Alice Robinson	Staff Engineer		9-3-19 9:00	to	9-5-19 10:35
b. Tom Leigh	Sr. Env. Scientist		9-5-19	to	9-6-19 13:29
c. Karlaina Carpio	Environmental Scientist		9/10/19	to	
d.				to	
e.				to	
f.				to	
g.				to	

COC

07.0146.00_rev 0_12/29/2017_Approved by Quality Management Officer Make Photocopies for Your File

* SLoff@dtsc.ca.gov for Berkeley samples, or Lmc@dtsc.ca.gov for Pasadena samples.

AUTHORIZATION REQUEST FORM (ARF)

Part A: Requestor's information

Requestor's Name: Thomas Lanphar Email: tom.lanphar@dtsc.ca.gov Phone: 5105403776

Back-up Requestor: Kim Walsh Email: Kimberly.Walsh@dtsc.ca.gov Phone: 5105403773

☐ SUPPLEMENTAL (Check if Supplemental Requested)

Site Name: Georgia-Pacific Former Mill Site, Fort Bragg

Expected Sample Arrival Date: 9/6/2019

Turnaround Time (TAT) : *Rush ☐ *Level 1 ☐ 2 ☐ 3 ☒ *Unit chief's approval required(for Rush or TAT Level = 1): _____

Project ID: DTSC200402-00 Activity ID: 11018 MPC: _____

Part B: Project Objective(s) or QAPP (Questions? ECL Point of Contact: ECL Sample Management Officer at SMOFF@dtsc.ca.gov, (510) 540-3111)

Project Objective: DTSC is collecting split samples at Georgia-Pacific Mill Site in Fort Bragg during sampling of sediment at three ponds. Chemicals of Concern are arsenic and dioxin/furans.

Special Informtion: PM, Tom Lanphar will bring samples to Berkeley ECL on Friday morning 9/6/2019. Sampling Plan methods are: Metals by EPA Method 6020 and Dioxins/furans by EPA Method 8290A. Also Moisture.

Part C: Analysis Information

Analysis Name	Test Code	Matrix	Number of Samples	Comments
%Dry Solid	ECL03.0001.00	sediment	4	
Dioxins/Furans by HRGC/HRMS	EPA 1613	sediment	4	
Hold (No Analysis)		sediment	1	
Metals--Mass Spec Individual Metals	EPA 6020A	sediment	4	Arsenic

Part D: (By SMO - ECL)

Authorization Number (AN): 19EC0029

Lab to Receive Sample(s): Environmental Chemistry Lab--Berkeley
700 Heinz Ave, Suite 150, Berkeley, CA 94710
Attn: Xavier Montalvan (510) 540-3111

Sample Management Officer (SMO): Francisco Montalvan

ARF Approval Date: 9/5/2019 (mm/dd/yy)

Expiration Date: 9/20/2019 (mm/dd/yy)

ARF Revision Date: 9/13/2019 (mm/dd/yy)

ARF Revised by: Francisco Montalvan

Turnaround Time (TAT): * Rush for public health and safety or emergency, *Level 1 = 15 days, 2 = 30 days, 3 = 45 days.

NA--Not Applicable

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite #150, Berkeley, CA 94710
Phone: (510) 540-3111 smoff@dtsc.ca.gov

SAMPLE RECEIPT CHECKLIST

Authorization Number: 19EC0029
ECL No.: BD00433 - BD00437

Date Received: 9/6/19
Time Received: 3.29 am/pm

Sample Checklist Criteria: Part I	Yes	No
1. Sample Analysis Request (SAR) received with the sample(s)?	✓	
2. Sample received with proper preservation and information?	✓	
3. Chain of Custody complete? Names printed? Signed and Dated?	✓	
4. Sample(s) received in a cooler/ice chest with ice/blue ice?	✓	
5. Temperature of sample within ≤ 6 °C? Observed Temp: 5.6 °C	✓	
6. Confirm prioritization list of Test Methods with requestor?	✓	
Sample Checklist Criteria: Part II		
7. Custody seal present and intact?		✓
8. Sample condition acceptable (intact and no damage)?	✓	
9. Container size as noted on SAR?	✓	
10. Do the number of samples on SAR and the number of samples on ARF agree? Are they within 20% range?	✓	
11. Aqueous and liquid samples in 40 mL VOA vials and no head space?	N/A	
12. Is there sufficient sample amount/volume for all analyses? (see SOP on Environmental Sample Receipt, Handling and CoC)	✓	
13. Do sample labels agree with SAR?	See note ✓	
14. Are sample labels legible?	✓ See note	
15. Are samples received in proper containers? (see SOP on Environmental Sample Receipt, Handling and CoC)	✓	
16. If received by FedEx or UPS is Air bill/packing sip signed and dated?	N/A	
17. If supplemental analysis is requested, is it specified in Section 12 of SAR?	↓	
18. Did the Requestor initial & date Section 12 of SAR?	↓	

Non-acceptable discrepancies mentioned above were communicated to Requestor/Transporter:
In Person:___ Date:_____ By Phone:___ Date:_____ By Email:✓ Date:9/13/2019

Comments:
- Custody seal on cooler.
- Wet ice melted and some sample labels are slightly smudged, but still legible.
- Sample BD00436 label does not match SAR. Emailed requestor and sample should be as is on SAR. Attached email to COC.

Name: Francisco Montalvan Signature: [signature] Date: 9/13/19

Supervisor's Approval (if any corrective action taken): _____ Date:_____

Department of Toxics Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 150, Berkeley, CA 94710
Phone: (510) 540-3111 Fax: (510) 540-3615

ECL SAMPLE RECEIPT

Printed on: 9/13/2019 1:42:31 PM

Authorization No.: 19EC0029
Requestor: Tom Lanphar
Date Collected: 9/4/2019
Date Lab Received: 9/6/2019

Sampling Site.: Georgia-Pacific Former Mill Site, Fort Bragg
90 Redwood Avenue
Fort Bragg, CA

ECL No.	Collector's No.	Sample Matrix	Container type	Container Size	Approximate Amount Revd	Custody Seal	Seal Location	Sample Condition	Action Taken
BD00433	POND 8-20 (5.5-7)DTSC	sediment	Clear Glass Jar	6(4 oz)	989.3 g	Absent	N/A	Acceptable	None
BD00434	POND 8-21 (11.5-13)DTSC	sediment	Clear Glass Jar	3(4 oz)	448.6 g	Absent	N/A	Acceptable	None
BD00435	POND 8-22(8-10)DTSC	sediment	Clear Glass Jar	2(4 oz)	299.1 g	Absent	N/A	Acceptable	None
BD00436	POND 8-23 (8-10)DTSC	sediment	Clear Glass Jar	2(4 oz)	253.6 g	Absent	N/A	Acceptable	None
BD00437	D2-20190904	sediment	Clear Glass Jar	2(4 oz)	253.2 g	Absent	N/A	Acceptable	None

Comments:

Sample(s) processed by: Francisco Montalvan Signature: [signature] Date: 9/13/19

Supervisor's approval (if any action taken): Signature: _____ Date: _____

SMOFF@DTSC

From: SMOFF@DTSC
Sent: Monday, September 16, 2019 7:37 AM
To: Lanphar, Tom@DTSC
Subject: RE: 19EC0029 Sample Labels

Hello Tom,

We will go ahead and keep the name as "Pond 8-23 (8-10) DTSC". We will not alter the original sample label, but our ECL sample labels will show the Sample ID as "Pond 8-23 (8-10) DTSC".

Best,
Xavier

From: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Sent: Friday, September 13, 2019 3:57 PM
To: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Subject: RE: 19EC0029 Sample Labels

We can keep the name Pond 8-23 (8-10)DTSC

Tom Lanphar

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Friday, September 13, 2019 3:17 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: 19EC0029 Sample Labels

Hello Tom,

Logging in your samples I noticed that the samples you indicated as "Pond 8-23 (8-10) DTSC" on the SAR have a different Sample ID on the labels. The labels have "2Pond 8-23 (8-10) DTSC". I need to get a confirmation on which Sample ID you would like for us to use, so I can make the necessary updates and have this email confirmation on file. We can keep the name as "Pond 8-23 (8-10) DTSC" as long as we have this email where you state that "Pond 8-23 (8-10) DTSC" is "2Pond 8-23 (8-10) DTSC". If you would like the sample to be "2Pond 8-23 (8-10) DTSC", then I would need to make updates to the SAR to reflect the correct name.

Best,
Xavier
(510) 540-2189

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Thursday, September 5, 2019 8:22 AM
To: SMOFF@DTSC
Subject: RE: Georgia-Pacific ARF

Xavier,

Georgia-Pacific's consultant, Kennedy-Jenks sent the following information regarding the methods and detection limits for the arsenic samples. I'm still planning to bring the samples in tomorrow morning.

In an effort to maintain consistency between laboratory quality assurance/quality control (QA/QC) protocols and subsequent data quality, the following information governing the commercial laboratory for this project (TestAmerica) is provided. The field team provided a sample, field duplicate, and matrix spike (MS)/matrix spike duplicate (MSD) for you.

Arsenic concentrations in sediment are to be analyzed by USEPA Method 6020 (https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf). The following parameters apply to arsenic analysis by Method 6020, as presented in the project's Quality Assurance Project Plan (QAPP):

- Practical quantification limit (PQL): 0.5 milligrams per kilogram (mg/kg)
- Applicable accuracy criterion: 74-120 percent recovery (%R) for surrogate recovery ranges
- Precision criteria (relative percent difference [RPD]): 30%

TestAmerica's method detection limit (MDL) for arsenic analysis by Method 6020 is 0.25 mg/kg and their reporting limit (RL) is 0.50 mg/kg. Actual laboratory reporting limits will vary depending upon the sample matrix, sample volume or mass analyzed, and sample dilution factors, if any. Analytical results will be reported to the MDL, and values between the MDL and PQL will be qualified with a "J." The laboratory performing the analysis must be certified pursuant to Health and Safety Code section 25198. Sediment samples analyzed by Method 6020 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 28 days.

Field duplicates and MS/MSD aid in field and laboratory quality control. The purpose of field duplicate collection is to allow calculation of combined sampling and analytical precision. When a sample and a duplicate are taken, both results should be reported, and duplicate sample results will be averaged for use in data evaluations. Surrogate and MS are added to assess the accuracy of the sample analysis, in terms of the spike recovery. MS/MSD pairs are analyzed to provide analytical data on the precision of laboratory measurements.

Additionally, the laboratory will generate and analyze a minimum of one method blank per sample batch for each analysis. While field blanks (such as equipment and trip blanks) are used to assess the combination of field, storage, and laboratory contamination, the laboratory method blank isolates any contamination that may have originated from the laboratory. Results of all laboratory QA/QC analysis is provided with the laboratory report.

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Wednesday, September 4, 2019 11:50 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: Georgia-Pacific ARF

Hi Tom,

I wanted to get this out to you so you could get back to me. For the Metals EPA 6020 method, we need to know what Threshold Limits you are trying to reach, or the Reporting Limits you need for the method. The 6020 method is more sensitive, so it is used to reach lower levels, but if you're looking at standard levels for Arsenic, then 6010 should be able to capture what you need. Let us know these limits and we can determine if we can accept it at Berkeley or would possibly need to contract it out.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Friday, September 6, 2019 11:09 AM
To: SMOFF@DTSC
Subject: FW: arsenic detection
Attachments: Table 3-2_excerpt(dioxin).pdf

Xavier,
Here is more information on the dioxin analysis that GP is running. I'll bring in the samples at about 1:30.

Tom

From: Rachel Morgan <RachelMorgan@kennedyjenks.com>
Sent: Thursday, September 5, 2019 9:55 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Cc: 'Massengill, Dave G.' <DGMassen@GAPAC.com>; Jeremie Maehr <JeremieMaehr@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: RE: arsenic detection

Hi Tom,

I am following up with the dioxin analysis information. Dioxin concentrations in sediment are to be analyzed by USEPA Method 8290 (https://www.epa.gov/sites/production/files/2016-01/documents/sw846method8290a.pdf). The parameters in the attached table apply to dioxin analysis by Method 8290, as presented in the project's Quality Assurance Project Plan (QAPP).

TestAmerica's method detection limits for dioxin and furan congeners analyzed by Method 8290 are approximately 0.05 picograms per gram (pg/g) and their reporting limits generally range from 1 to 5 pg/g. Sediment samples analyzed by Method 8290 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 30 days.

Thanks,

Kennedy Jenks
Rachel Morgan, EIT | Staff Engineer
303 Second Street, Suite 300 South
San Francisco, CA 94107
P: 415.243.2150 | Direct: 415.243.2441
Service is Our Legacy | EST 1919 | KENNEDYJENKS.COM

From: Rachel Morgan
Sent: Wednesday, September 04, 2019 4:53 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Cc: 'Massengill, Dave G.' <DGMassen@GAPAC.com>; Jeremie Maehr <JeremieMaehr@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: RE: arsenic detection

Hi Tom,

In an effort to maintain consistency between laboratory quality assurance/quality control (QA/QC) protocols and subsequent data quality, the following information governing the commercial laboratory for this project (TestAmerica) is provided. The field team provided a sample, field duplicate, and matrix spike (MS)/matrix spike duplicate (MSD) for you.

Arsenic concentrations in sediment are to be analyzed by USEPA Method 6020 (https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf). The following parameters apply to arsenic analysis by Method 6020, as presented in the project's Quality Assurance Project Plan (QAPP):

- Practical quantification limit (PQL): 0.5 milligrams per kilogram (mg/kg)
- Applicable accuracy criterion: 74-120 percent recovery (%R) for surrogate recovery ranges
- Precision criteria (relative percent difference [RPD]): 30%

TestAmerica's method detection limit (MDL) for arsenic analysis by Method 6020 is 0.25 mg/kg and their reporting limit (RL) is 0.50 mg/kg. Actual laboratory reporting limits will vary depending upon the sample matrix, sample volume or mass analyzed, and sample dilution factors, if any. Analytical results will be reported to the MDL, and values between the MDL and PQL will be qualified with a "J." The laboratory performing the analysis must be certified pursuant to Health and Safety Code section 25198. Sediment samples analyzed by Method 6020 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 28 days.

Field duplicates and MS/MSD aid in field and laboratory quality control. The purpose of field duplicate collection is to allow calculation of combined sampling and analytical precision. When a sample and a duplicate are taken, both results should be reported, and duplicate sample results will be averaged for use in data evaluations. Surrogate and MS are added to assess the accuracy of the sample analysis, in terms of the spike recovery. MS/MSD pairs are analyzed to provide analytical data on the precision of laboratory measurements.

Additionally, the laboratory will generate and analyze a minimum of one method blank per sample batch for each analysis. While field blanks (such as equipment and trip blanks) are used to assess the combination of field, storage, and laboratory contamination, the laboratory method blank isolates any contamination that may have originated from the laboratory. Results of all laboratory QA/QC analysis is provided with the laboratory report.

Please let us know if you have any additional questions.

Kennedy Jenks

Rachel Morgan, EIT | Staff Engineer
303 Second Street, Suite 300 South
San Francisco, CA 94107
P: 415.243.2150 | Direct: 415.243.2441
Service is Our Legacy | EST 1919 | KENNEDYJENKS.COM

From: Jeremie Maehr <JeremieMaehr@kennedyjenks.com>
Sent: Wednesday, September 4, 2019 2:18 PM
To: Rachel Morgan <RachelMorgan@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: Fwd: arsenic detection

Sent from my iPhone

Begin forwarded message:

> **From:** "Lanphar, Tom@DTSC" <Tom.Lanphar@dtsc.ca.gov>
> **Date:** September 4, 2019 at 1:42:58 PM PDT
> **To:** "JeremieMaehr@kennedyjenks.com" <JeremieMaehr@kennedyjenks.com>
> **Subject: arsenic detection**
>
> What is your detection limits for arsenic? DTSC lab wants to know.
>
> Tom

Reported Analytes in Sediment Matrix Samples with Analytical Methods, PQLs, and Accuracy and Precision Limits

Parameter	CAS No.	Analytical Method	Units	Sediment		
				PQL (a)	Accuracy Criteria (%R) (b)	Precision Criteria (RPD)
Dioxins and Furans						
2,3,7,8-TCDD	1746-01-6	USEPA 8290	pg/g	0.50	50-150	25
1,2,3,7,8-PeCDD	40321-76-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8-HxCDD	39227-28-6	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,6,7,8-HxCDD	57653-85-7	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,7,8,9-HxCDD	19408-74-3	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,6,7,8-HpCDD	35822-46-9	USEPA 8290	pg/g	2.50	50-150	25
OCDD	3268-87-9	USEPA 8290	pg/g	5.00	50-150	25
2,3,7,8-TCDF	51207-31-9	USEPA 8290	pg/g	0.50	50-150	25
1,2,3,7,8-PeCDF	57117-41-6	USEPA 8290	pg/g	2.50	50-150	25
2,3,4,7,8-PeCDF	57117-31-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8-HxCDF	70648-26-9	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,6,7,8-HxCDF	57117-44-9	USEPA 8290	pg/g	2.50	50-150	25
2,3,4,6,7,8-HxCDF	60851-34-5	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,7,8,9-HxCDF	72918-21-9	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,6,7,8-HpCDF	67562-39-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8,9-HpCDF	55673-89-7	USEPA 8290	pg/g	2.50	50-150	25
OCDF	39001-02-0	USEPA 8290	pg/g	5.00	50-150	25

Notes:

%R = percent recovery

CAS No. = Chemical Abstract Service number

pg/g = picograms per gram

PQL = Practical Quantitation Limit

RPD = relative percent difference

a. PQLs were obtained from the laboratory who planned to perform the analysis when the QAPP was written.

b. Not all compounds require surrogate spike recovery analysis. Representative compounds are selected that can account for all compounds in the suite of analysis for that particular method. Those surrogate recovery ranges are listed.

c. This is an excerpt from Table 3-2 of the project's Quality Assurance Project Plan (QAPP; September 2007).

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Thursday, September 12, 2019 9:55 AM
To: SMOFF@DTSC
Subject: RE: Update to 19EC0029

Xavier,
Thank you for the message. I agree with the updates stated in the message.

Tom Lanphar

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Thursday, September 12, 2019 9:50 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: RE: Update to 19EC0029

Hello Tom,

Please confirm the updates stated in the message below.

Best,
Xavier

From: SMOFF@DTSC
Sent: Wednesday, September 11, 2019 2:17 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: Update to 19EC0029

Hello Tom,

Per our conversation, we will be updating the SAR for 19EC0029 to reflect the extra sample containers that were delivered to ECL. For Sample "Pond 8-20 (5.5-7) DTSC" we will be updating the Number of Containers from 2 to 6. Also, for Sample "Pond 8-21 (11.5-13) DTSC" we will be updating the Number of Containers from 2 to 3. Along with updating those Number of Containers, we will be adding in Sample "D2-20190904" with 2 containers for "Hold (No Analysis)". That way we can have those samples in our system for proper disposal later. Please confirm that you approve of these updates.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

Chain of Custody Record

327922

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Dennis Hill	Site Contact: Alice Robinson	Date: 9-5-19	COC No:
Company Name: Georgia-Pacific	Tel/Fax: 503-423-4017	Lab Contact: Asaneh Salimpour	Carrier: Hand deliver	1 of 1 COCs
Address: 421 SW 6th Ave, Suite 1000	Analysis Turnaround Time			Sampler: Robinson / Freed
City/State/Zip: Portland, OR 97204	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 503-423-4018	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Fort Bragg Sediment Sampling	☐ 1 week			Job / SDG No.:
Site: GP Fort Bragg Mill Site	☐ 2 days			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Arsenic by 6020	Dioxins by 8290A	Moisture	Sample Specific Notes:
Pond 8-20 (5.5-7.0) DTSC	10:20	9-4-19	G	S	6		X				
Pond 8-21 (11.5-13.0) DTSC	13:15	↓	↓	↓	2						
Pond 8-23 (8.0-10.0) DTSC	16:10	↓	↓	↓	2						
Pond 8-22 (8.0-10.0) DTSC	18:10	↓	↓	↓	2						
D2-20190904	—	↓	↓	↓	2						

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

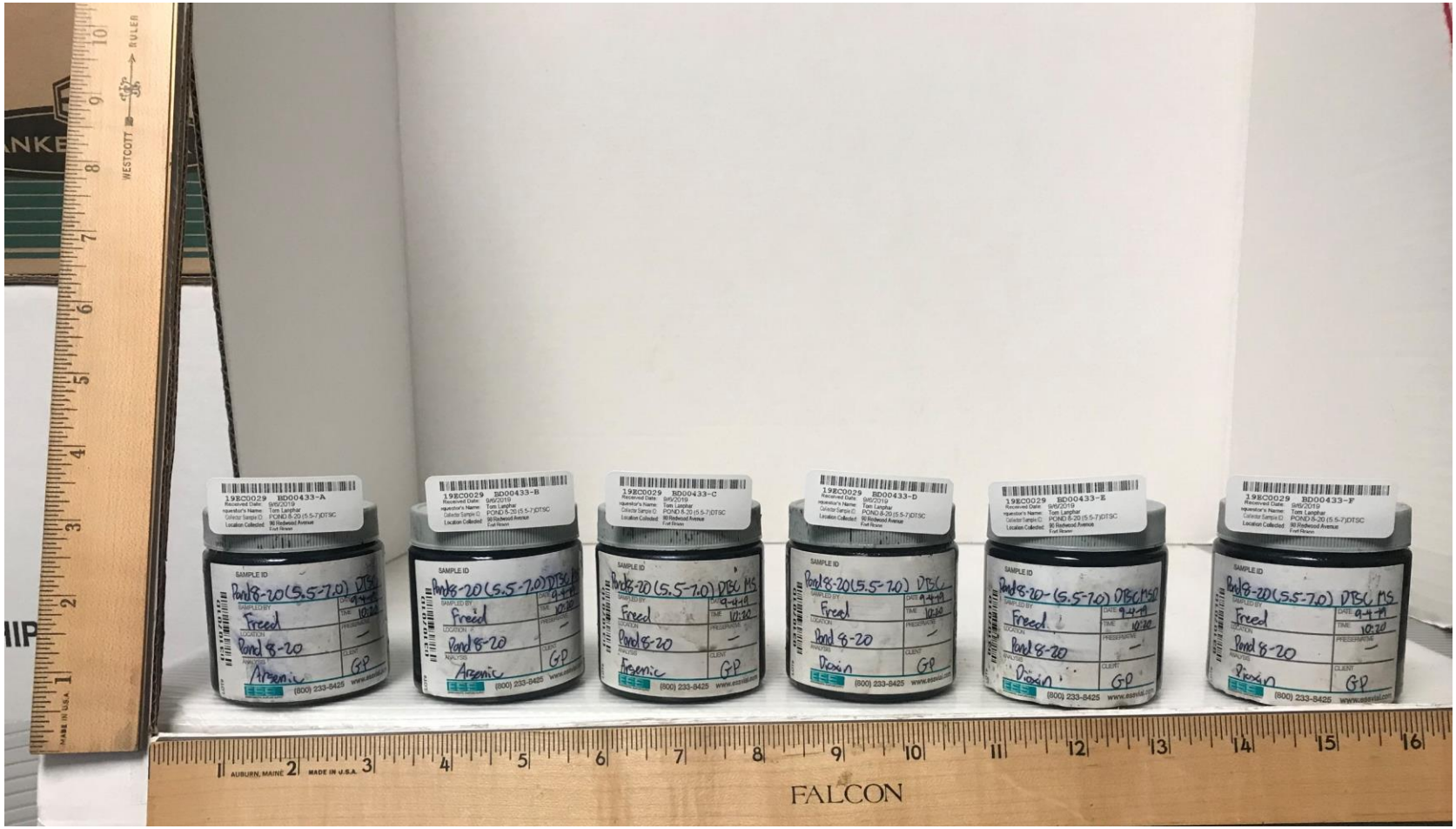
☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

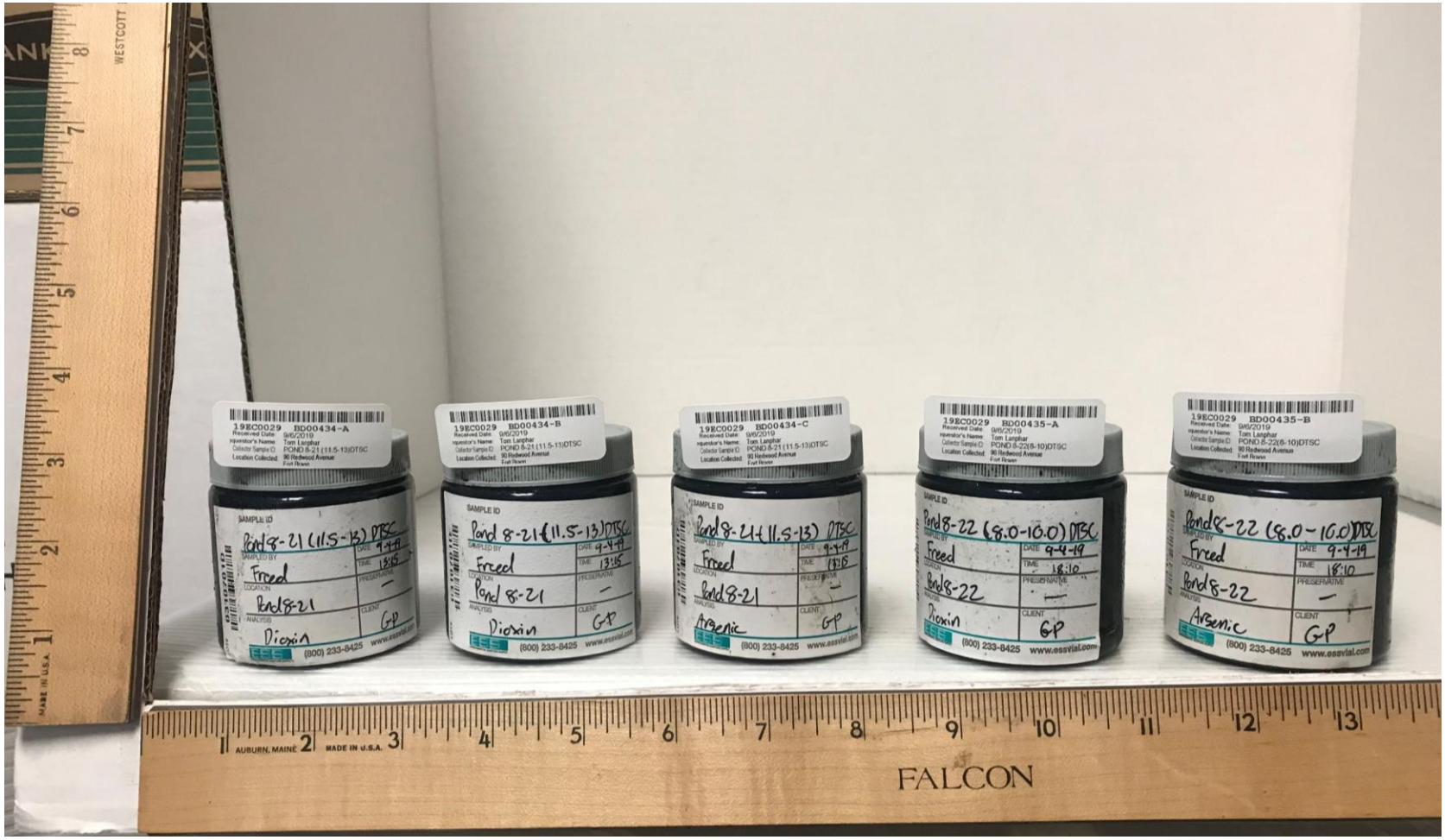
Special Instructions/QC Requirements & Comments:

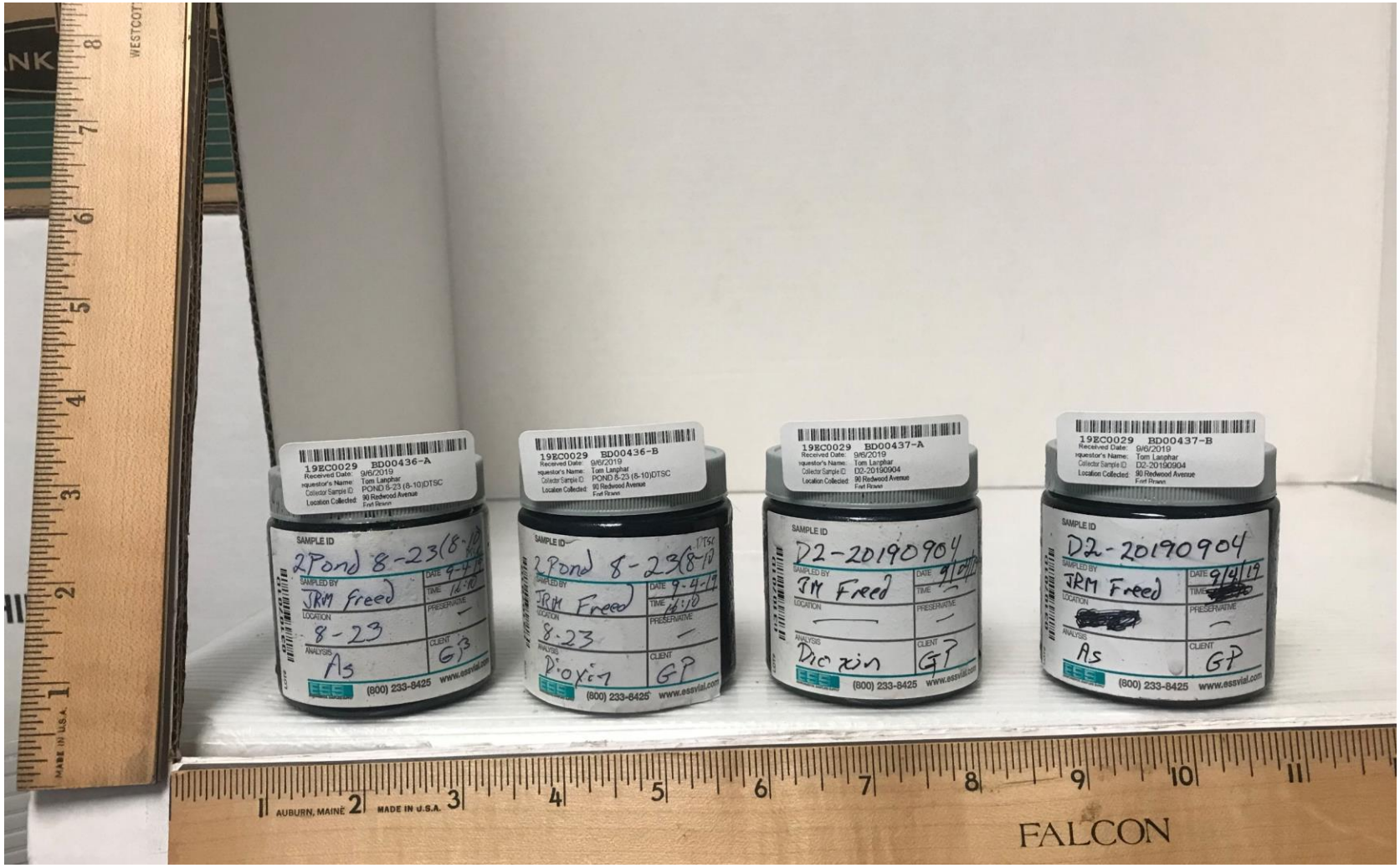
Composite before analyzing

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ | Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Alice Robinson	Kennedy/Jenks	9-5-19 9:35	TC P RL	DTSC	9/5/2019; 9:35 Am
Relinquished by: Tom Lanphar	Company: DTSC	Date/Time: 9.6.19 3:29	Received by: Karlena Gipson	Company: DTSC	Date/Time: 9/6/2019 3:29
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:


19EC0029 BD00433-A
19EC0029 BD00433-B
19EC0029 BD00433-C
19EC0029 BD00433-D
19EC0029 BD00433-E
19EC0029 BD00433-F
SAMPLE ID
Pond 8-20 (5.5-7.0) DTSC
Pond 8-20 (5.5-7.0) DTSC MS
Pond 8-20 (5.5-7.0) DTSC MSD
Freed
Pond 8-20
Arsenic
Dioxin
GP
(800) 233-8425
AUBURN, MAINE
MADE IN U.S.A.
FALCON


19EC0029 BD00434-A
Pond 8-21 (11.5-13) DTSC
Freed
Pond 8-21
Dioxin
GP
19EC0029 BD00434-B
Pond 8-21 (11.5-13) DTSC
Freed
Pond 8-21
Dioxin
GP
19EC0029 BD00434-C
Pond 8-21 (11.5-13) DTSC
Freed
Pond 8-21
Arsenic
GP
19EC0029 BD00435-A
Pond 8-22 (8.0-10.0) DTSC
Freed
Pond 8-22
Dioxin
GP
19EC0029 BD00435-B
Pond 8-22 (8.0-10.0) DTSC
Freed
Pond 8-22
Arsenic
GP
(800) 233-8425 www.essvial.com
AUBURN, MAINE MADE IN U.S.A.
FALCON


19EC0029 BD00436-A
Received Date: 9/6/2019
Requestor's Name: Tom Lanphar
Collector Sample ID: POND 8-23 (8-10)DTSC
Location Collected: 90 Redwood Avenue Fort Bragg
SAMPLE ID
2Pond 8-23(8-10
SAMPLED BY
JRM Freed
DATE 9-4-19
TIME 12:10
LOCATION
8-23
PRESERVATIVE
ANALYSIS
As
CLIENT
GP
(800) 233-8425 www.essvial.com
19EC0029 BD00436-B
Received Date: 9/6/2019
Requestor's Name: Tom Lanphar
Collector Sample ID: POND 8-23 (8-10)DTSC
Location Collected: 90 Redwood Avenue Fort Bragg
SAMPLE ID
2Pond 8-23(8-10
DTSC
SAMPLED BY
JRM Freed
DATE 9-4-19
TIME 11:10
LOCATION
8-23
PRESERVATIVE
ANALYSIS
Dioxin
CLIENT
GP
(800) 233-8425 www.essvial.com
19EC0029 BD00437-A
Received Date: 9/6/2019
Requestor's Name: Tom Lanphar
Collector Sample ID: D2-20190904
Location Collected: 90 Redwood Avenue Fort Bragg
SAMPLE ID
D2-20190904
SAMPLED BY
JM Freed
DATE 9/4/19
TIME
LOCATION
PRESERVATIVE
ANALYSIS
Dioxin
CLIENT
GP
(800) 233-8425 www.essvial.com
19EC0029 BD00437-B
Received Date: 9/6/2019
Requestor's Name: Tom Lanphar
Collector Sample ID: D2-20190904
Location Collected: 90 Redwood Avenue Fort Bragg
SAMPLE ID
D2-20190904
SAMPLED BY
JRM Freed
DATE 9/4/19
TIME
LOCATION
PRESERVATIVE
ANALYSIS
As
CLIENT
GP
(800) 233-8425 www.essvial.com
AUBURN, MAINE
MADE IN U.S.A.
FALCON

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Georgia-Pacific Former Mill Site, Fort Bragg
90 Redwood Avenue
Fort Bragg, CA

Tom Lanphar
700 Heinz Ave,
Berkeley, CA 94710

Collector ID	ECL ID
POND 8-20 (5.5-7)DTSC	BD00433
POND 8-21 (11.5-13)DTSC	BD00434
POND 8-22(8-10)DTSC	BD00435
POND 8-23 (8-10)DTSC	BD00436

The results listed within this report pertain only to the samples tested in the laboratory. These results have been reviewed for technical correctness and completeness. This report has been approved for release as verified by the signatures below. This report may be reproduced only in its entirety.

Report Reviewed by:
Kenneth Neely **Date:** 10/2/2019

Report Approved by:
Robert T. Ramage **Date:** 10-2-2019

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

1. Sampling Location: Georgia-Pacific Former Mill Site, Fort Bragg
   Address: 90 Redwood Avenue
   Fort Bragg, CA
2. Requestor' Name: Tom Lanphar
   Address: 700 Heinz Ave,
   Berkeley, CA 94710
3. Sample (s) History:

Date Collected:	9/4/2019		
Date Received:	9/6/2019		
Date Prepared:	9/24/2019	Method:	EPA 3051A
Date Analyzed:	9/27/2019	Method:	EPA 6020A

Date data package was completed: 10/2/2019

Case narrative:

1. Initial calibration and continuing calibration criteria were met? YES
2. Initial and Continuing Calibration blank criteria were met? YES
3. QC parameters were within control limits? YES
4. Sample holding time was met? YES

Any solid samples were reported on a wet-weight basis unless otherwise noted.

Comments:

These results were dry-weight corrected.

Sample Prepared by:

Aleksandr Soin Date: 10/2/2019

Sample Analyzed by:

Aleksandr Soin Date: 10/2/2019

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Acronym Definitions

MB	Method Blank
DF	Dilution Factor
QL	Quantitation Limit; Reporting Limit x Dilution Factor
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
PS	Post Spike
Q	Qualifier Flag
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leaching Procedure
mg/kg	Milligrams per Kilogram or parts per million
mg/L	Milligrams per Liter or parts per million
µg/kg	Micrograms per Kilogram or parts per billion
µg/L	Micrograms per Liter or parts per billion

Qualifier Definitions

ND	Not Detected; value at a level below the quantitation limit
J	Estimated value
>LR	Greater than the linear range of the instrument
NC	Not calculated
DO	Compound diluted out
B	Analyte found in MB
B1	Analyte found in MB. Analyte concentration in the sample is greater than 10x the concentration found in MB
M	Spike Recovery below control limits
P	Post Spike Recovery below control limits
M2	Spike recovery above control limits
P2	Post Spike recovery above control limits
R	%RPD exceeded control limits
D	Absolute Difference between results exceeded the control limits
d	>40% difference between columns
H	Holding Time exceeded and Estimated value
W	Unexpected value. MB result should be 100% for Dry Solids% test

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Requestor Sample ID: POND 8-20 (5.5-7)DTSC
ECL Sample ID: BD00433
Sample Matrix: sediment
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

Sample Result

Analyte	Result	Qualifier Flags	Units	DF	QL	Prepared	Batch ID	Analysis Date
Arsenic	2.57		mg/kg	1.00	0.138	09/24/19	19B0073	09/27/19

Requestor Sample ID: POND 8-21 (11.5-13)DTSC
ECL Sample ID: BD00434
Sample Matrix: sediment
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

Sample Result

Analyte	Result	Qualifier Flags	Units	DF	QL	Prepared	Batch ID	Analysis Date
Arsenic	2.31		mg/kg	1.00	0.246	09/24/19	19B0073	09/27/19

Requestor Sample ID: POND 8-22(8-10)DTSC
ECL Sample ID: BD00435
Sample Matrix: sediment
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

Sample Result

Analyte	Result	Qualifier Flags	Units	DF	QL	Prepared	Batch ID	Analysis Date
Arsenic	2.48		mg/kg	1.00	0.238	09/24/19	19B0073	09/27/19

Requestor Sample ID: POND 8-23 (8-10)DTSC
ECL Sample ID: BD00436
Sample Matrix: sediment
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

Sample Result

Analyte	Result	Qualifier Flags	Units	DF	QL	Prepared	Batch ID	Analysis Date
Arsenic	5.37		mg/kg	3.00	1.10	09/24/19	19B0073	09/27/19

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

ECL Sample ID: **BD00766** **Preparation Method:** **EPA 3051A**
Sample Matrix: **Aqueous** **Analysis Method:** **EPA 6020A**

Method Blank

Analyte	Result	Qualifier Flags	Units	DF	QL	Prepared	Batch ID	Analysis Date
Arsenic	ND		mg/kg	1.00	0.0750	09/24/19	19B0073	09/27/19

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

ECL Sample ID: BD00767
Sample Matrix: Aqueous

Preparation Date: 09/24/2019
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

			Lab Control Sample					Lab Control Sample Duplicate							Control Limits	
Analyte	Units	Batch ID	Spike Added	Result	Recovery %	Qualifier Flags	Analysis Date	Spike Added	Result	Recovery %	Qualifier Flags	Analysis Date	RPD %	Qualifier Flags	Recovery %	RPD %
Arsenic	mg/kg	19B0073	125	115	92		09/27/19	125	114	91		09/27/19	1		80-120	0-20

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Sample Requestor ID: POND 8-21 (11.5-13)DTSC
ECL Sample ID: BD00434
Matrix: sediment

Preparation Date: 09/24/2019
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

				Matrix Spike					Matrix Spike Duplicate							Control Limits	
Analyte	Units	Batch ID	Sample Result	Spike Added	Result	Recovery %	Qualifier Flags	Analysis Date	Spike Added	Result	Recovery %	Qualifier Flags	Analysis Date	RPD %	Qualifier Flags	Recovery %	RPD %
Arsenic	mg/kg	19B0073	0.801	119	116	97		09/27/19	123	121	98		09/27/19	4		75-125	0-20

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 100, Berkeley, CA 94710
Telephone: (510) 540-2122

ANALYTICAL LABORATORY REPORT - METALS (SOLIDS)

Authorization No.: 19EC0029 Sample Location: Georgia-Pacific Former Mill Site, Fort Bragg

Requestor Sample ID: POND 8-20 (5.5-7)DTSC
ECL Sample ID: BD00433
Sample Matrix: sediment

Preparation Date: 09/24/2019
Preparation Method: EPA 3051A
Analysis Method: EPA 6020A

Sample Duplicate Results

Analyte	Units	Batch ID	Sample Results	Duplicate Results	RPD %	Qualifier Flags	Analysis Date	Control Limits
Arsenic	mg/kg	19B0073	1.34	1.29	4		09/27/19	0-20

State of California
California Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

ENVIRONMENTAL CHEMISTRY LABORATORY
SAMPLE ANALYSIS REQUEST

1. Authorization Number	ECL No.:	2. Page
19EC0029	BD00433 To BD00437	1 of 1

3. Requestor: (to Receive Results)
a. Name: Tom Lanphar
b. Address: 700 Heinz Ave, (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: 510-540-3776 (area code first) d. Fax: (area code first)
e. Email: tom.lanphar @dtsc.ca.gov

4. Project Name (if applicable): Georgia-Pacific Fort Bragg

5.TAT Level: 3

6. Sampling Information:
a. Date/Time Sampled: 09/04/19 (mm/dd/yy)
10:20am (#:## AM/PM)
b. Location: EPA ID No.
Site: Georgia-Pacific Former Mill Site, Fort Bragg
Address: 90 Redwood Avenue (street number)
Fort Bragg, CA (city, state, zip)
GPS-Lat: 39.44117 GPS-Long: -123.809907
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit: SMRP-Cleanup Program(Berkeley)
b. Project ID: DTSC200402-00
c. Activity ID: 11018
d. MPC: NA
e. County: 23--Mendocino

8. Samples:

a.ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	Pond 8-20 (5.5-7)DTSC	BD00433	sediment	4 oz clear glass jar	~~2~~ 6	FM 9/13/19
2	Pond 8-21 (11.5-13)DTSC	BD00434	sediment	4 oz clear glass jar	~~2~~ 3	FM 9/13/19
3	Pond 8-22(8-10)DTSC	BD00435	sediment	4 oz clear glass jar	2	
4	Pond 8-23 (8-10)DTSC	BD00436	sediment	4 oz clear glass jar	2	
5	D220190904	BD00437	sediment	4 oz clear glass jar	2	FM 9/13/19
6						
7						
8						
9						

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
Metals-Mass Spec Individual Metals	1-4	Dioxins/Furans by HRGC/HRMS(ECL880-M)	1-4
Other Metals:			

c. TCLP Analysis	d. Other Analysis	
	% dry solid	1-4
	Hold (No analysis) FM 9/13/19	5

e. Comments for Multiphasic Samples/Analysis Priority: metals scan for arsenic

10. Analysis Objective: Site Characterization

11. Detection Limit Requirements:
see emails from Tom Lanphar to Xavier Montalvan

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials _____
Date _____

ECL

13. ECL Lab Remarks:

14. Chain of Custody:

	Name	Title	Signature	Inclusive Dates of Custody
a.				to
b.				to
c.				to
d.				to
e.				to
f.				to
g.				to

FIELD

LAB

COC

INSTRUCTIONS:

(1) If this is your first time to use this form, for Excel 2016, set your Excel security to **"Disable all macros with notification"** by checking File-->Options-->Trust Center-->Trust Center Settings...-->Macro Settings then click OK. This is a one-time setting. Reopen the file and select **Enable Content** to allow the macro to run.
(2) Every time when you open the form, please always click **Enable Content** button.
(3) Each page can hold nine samples. If there are >9 samples in one batch, please enter the total number of pages in Item 2, Page1, marked with RED color, then press Enter. Check 'Instructions' and 'Analysis List' sheets for more information.
(4) Please email this E-SAR to **'SLoff@dtsc.ca.gov'** for Berkeley samples, or **'Lmc@dtsc.ca.gov'** for Pasadena samples. If your computer has the access to DTSC Intranet and has Outlook installed, click the button at the bottom to send this SAR to ECL.

ENVIRONMENTAL CHEMISTRY LABORATORY
SAMPLE ANALYSIS REQUEST

1. Authorization Number: 19EC-29-0029

ECL No.: BD00437 **To** BD00437

2. Page 1 of 1

3. Requestor: (to Receive Results) a. Name: Tom Lanphar
b. Address: 700 Heinz Ave, (street number)
Berkeley, CA 94710 (city, state, zip)
c. Phone: 510-540-3776 (area code first) d. Fax: (area code first)
e. Email: tom.lanphar @dtsc.ca.gov

4. Project Name (if applicable): Georgia-Pacific Fort Bragg

5.TAT Level: 2 3

6. Sampling Information: a. Date/Time Sampled: (mm/dd/yy) (#:## AM/PM)
b. Location: EPA ID No.
Site: Georgia-Pacific Former Mill Site, Fort Bragg
Address: 90 Redwood Avenue (street number)
Fort Bragg, CA (city, state, zip)
GPS-Lat: 39.44117 GPS-Long: -123.809907
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit
b. Project ID DTSC200402-00
c. Activity ID 11018
d. MPC
e. County 23--Mendocino

8. Samples:

	a.ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	Pond 8-20			Sediment	4oz glass clear	2	
2	Pond 8-21			"	"	"	
3	Pond 8-22			"	"	"	
4	Pond 8-23			"	"	"	
5							
6							
7							
8							
9							

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
arsenic total	Pond 8-20 (6.5-7.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-20 DTSC
arsenic total	Pond 8-21 (11.5-13.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-21 DTSC
arsenic total	Pond 8-23 (8.0-10.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-23 DTSC
arsenic total	Pond 8-22 (8.0-10.0)	Dioxins/Furans by HRGC/HRMS(ECL880-N	Pond 8-22 DTSC
	all cond w/ DTSC		
Other Metals			
c. TCLP Analysis		**d. Other Analysis**	

e. Comments for Multiphasic Samples/Analysis Priority:

10. Analysis Objective: Site Characterization

11. Detection Limit Requirements:

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials
Date

13. ECL Lab Remarks:

FIELD

EC LAB

14. Chain of Custody:

Name	Title	Signature	Inclusive Dates of Custody		
a. Alice Robinson	Staff Engineer	[signature]	9-3-19 9:00a	to	9-5-19 10:35a
b. Tom Leaph	Sr. Env. Scient.	[signature]	9-5-19	to	9-6-19 7:29
c. Karlaina Griffin	environmental scientist	[signature]	9/6/19	to	
d.				to	
e.				to	
f.				to	
g.				to	

07.0146.00_rev 0_12/29/2017_Approved by Quality Management Officer

Make Photocopies for Your File

COC

* SLoff@dtsc.ca.gov for Berkeley samples, or Lmc@dtsc.ca.gov for Pasadena samples.

State of California
Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

AUTHORIZATION REQUEST FORM (ARF)

Part A: Requestor's information

Requestor's Name: Thomas Lanphar Email: tom.lanphar@dtsc.ca.gov Phone: 5105403776

Back-up Requestor: Kim Walsh Email: Kimberly.Walsh@dtsc.ca.gov Phone: 5105403773

☐ SUPPLEMENTAL (Check if Supplemental Requested)

Site Name: Georgia-Pacific Former Mill Site, Fort Bragg

Expected Sample Arrival Date: 9/6/2019

Turnaround Time (TAT): *Rush ☐ *Level 1 ☐ 2 ☐ 3 ☒ *Unit chief's approval required(for Rush or TAT Level = 1):

Project ID: DTSC200402-00 Activity ID: 11018 MPC:

Part B: Project Objective(s) or QAPP (Questions? ECL Point of Contact: ECL Sample Management Officer at SMOFF@dtsc.ca.gov, (510) 540-3111)

Project Objective: DTSC is collecting split samples at Georgia-Pacific Mill Site in Fort Bragg during sampling of sediment at three ponds. Chemicals of Concern are arsenic and dioxin/furans.

Special Informtion: PM, Tom Lanphar will bring samples to Berkeley ECL on Friday morning 9/6/2019. Sampling Plan methods are: Metals by EPA Method 6020 and Dioxins/furans by EPA Method 8290A. Also Moisture.

Part C: Analysis Information

Analysis Name	Test Code	Matrix	Number of Samples	Comments
%Dry Solid	ECL03.0001.00	sediment	4	
Dioxins/Furans by HRGC/HRMS	EPA 1613	sediment	4	
Hold (No Analysis)		sediment	1	
Metals--Mass Spec Individual Metals	EPA 6020A	sediment	4	Arsenic

Part D: (By SMO - ECL)

Authorization Number (AN): 19EC0029

Lab to Receive Sample(s): Environmental Chemistry Lab--Berkeley
700 Heinz Ave, Suite 150, Berkeley, CA 94710
Attn: Xavier Montalvan (510) 540-3111

Sample Management Officer (SMO): Francisco Montalvan

ARF Approval Date: 9/5/2019 (mm/dd/yy) Expiration Date: 9/20/2019 (mm/dd/yy)

ARF Revision Date: 9/13/2019 (mm/dd/yy) ARF Revised by: Francisco Montalvan

Turnaround Time (TAT): * Rush for public health and safety or emergency, *Level 1 = 15 days, 2 = 30 days, 3 = 45 days.
NA--Not Applicable

07.0145.00_rev 1_9/10/2018_Approved by Quality Management Officer

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite #150, Berkeley, CA 94710
Phone: (510) 540-3111 smoff@dtsc.ca.gov

SAMPLE RECEIPT CHECKLIST

Authorization Number: 19EC0029
ECL No.: BD00433 - BD00437

Date Received: 9/10/19
Time Received: 3:29 am/pm

Sample Checklist Criteria: Part I	Yes	No
1. Sample Analysis Request (SAR) received with the sample(s)?	✓	
2. Sample received with proper preservation and information?	✓	
3. Chain of Custody complete? Names printed? Signed and Dated?	✓	
4. Sample(s) received in a cooler/ice chest with ice/blue ice?	✓	
5. Temperature of sample within ≤ 6 °C? Observed Temp: 5.0 °C	✓	
6. Confirm prioritization list of Test Methods with requestor?	✓	
Sample Checklist Criteria: Part II		
7. Custody seal present and intact?		✓
8. Sample condition acceptable (intact and no damage)?	✓	
9. Container size as noted on SAR?	✓	
10. Do the number of samples on SAR and the number of samples on ARF agree? Are they within 20% range?	✓	
11. Aqueous and liquid samples in 40 mL VOA vials and no head space?	N/A	
12. Is there sufficient sample amount/volume for all analyses? (see SOP on Environmental Sample Receipt, Handling and CoC)	✓	
13. Do sample labels agree with SAR?	See note	✓
14. Are sample labels legible?	✓	See note
15. Are samples received in proper containers? (see SOP on Environmental Sample Receipt, Handling and CoC)	✓	
16. If received by FedEx or UPS is Air bill/packing sip signed and dated?	N/A	
17. If supplemental analysis is requested, is it specified in Section 12 of SAR?	↓	
18. Did the Requestor initial & date Section 12 of SAR?	↓	

Non-acceptable discrepancies mentioned above were communicated to Requestor/Transporter:
In Person:___ Date:_____ By Phone:___ Date:_____ By Email: ✓ Date: 9/13/2019

Comments:
- Custody seal on cooler.
- Wet ice melted and some sample labels are slightly smudged, but still legible.
- Sample BD00436 label does not match SAR. Emailed requestor and sample should be as is on SAR. Attached email to COC.

Name: Francisco Montalvan Signature: [signature] Date: 9/13/19

Supervisor's Approval (if any corrective action taken): _____ Date:_____

Department of Toxics Substances Control
Environmental Chemistry Laboratory
700 Heinz Avenue, Suite 150, Berkeley, CA 94710
Phone: (510) 540-3111 Fax: (510) 540-3615

ECL SAMPLE RECEIPT

Printed on: 9/13/2019 1:42:31 PM

Authorization No.: 19EC0029
Requestor: Tom Lanphar
Date Collected: 9/4/2019
Date Lab Received: 9/6/2019

Sampling Site.: Georgia-Pacific Former Mill Site, Fort Bragg
90 Redwood Avenue
Fort Bragg, CA

ECL No.	Collector's No.	Sample Matrix	Container type	Container Size	Approximate Amount Revd	Custody Seal	Seal Location	Sample Condition	Action Taken
BD00433	POND 8-20 (5.5-7)DTSC	sediment	Clear Glass Jar	6(4 oz)	989.3 g	Absent	N/A	Acceptable	None
BD00434	POND 8-21 (11.5-13)DTSC	sediment	Clear Glass Jar	3(4 oz)	448.6 g	Absent	N/A	Acceptable	None
BD00435	POND 8-22(8-10)DTSC	sediment	Clear Glass Jar	2(4 oz)	299.1 g	Absent	N/A	Acceptable	None
BD00436	POND 8-23 (8-10)DTSC	sediment	Clear Glass Jar	2(4 oz)	253.6 g	Absent	N/A	Acceptable	None
BD00437	D2-20190904	sediment	Clear Glass Jar	2(4 oz)	253.2 g	Absent	N/A	Acceptable	None

Comments:

Sample(s) processed by: Francisco Montalvan Signature: [signature] Date: 9/13/19

Supervisor's approval (if any action taken): Signature: _____ Date: _____

SMOFF@DTSC

From: SMOFF@DTSC
Sent: Monday, September 16, 2019 7:37 AM
To: Lanphar, Tom@DTSC
Subject: RE: 19EC0029 Sample Labels

Hello Tom,

We will go ahead and keep the name as "Pond 8-23 (8-10) DTSC". We will not alter the original sample label, but our ECL sample labels will show the Sample ID as "Pond 8-23 (8-10) DTSC".

Best,
Xavier

From: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Sent: Friday, September 13, 2019 3:57 PM
To: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Subject: RE: 19EC0029 Sample Labels

We can keep the name Pond 8-23 (8-10)DTSC

Tom Lanphar

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Friday, September 13, 2019 3:17 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: 19EC0029 Sample Labels

Hello Tom,

Logging in your samples I noticed that the samples you indicated as "Pond 8-23 (8-10) DTSC" on the SAR have a different Sample ID on the labels. The labels have "2Pond 8-23 (8-10) DTSC". I need to get a confirmation on which Sample ID you would like for us to use, so I can make the necessary updates and have this email confirmation on file. We can keep the name as "Pond 8-23 (8-10) DTSC" as long as we have this email where you state that "Pond 8-23 (8-10) DTSC" is "2Pond 8-23 (8-10) DTSC". If you would like the sample to be "2Pond 8-23 (8-10) DTSC", then I would need to make updates to the SAR to reflect the correct name.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Thursday, September 5, 2019 8:22 AM
To: SMOFF@DTSC
Subject: RE: Georgia-Pacific ARF

Xavier,

Georgia-Pacific's consultant, Kennedy-Jenks sent the following information regarding the methods and detection limits for the arsenic samples. I'm still planning to bring the samples in tomorrow morning.

In an effort to maintain consistency between laboratory quality assurance/quality control (QA/QC) protocols and subsequent data quality, the following information governing the commercial laboratory for this project (TestAmerica) is provided. The field team provided a sample, field duplicate, and matrix spike (MS)/matrix spike duplicate (MSD) for you.

Arsenic concentrations in sediment are to be analyzed by USEPA Method 6020 (https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf). The following parameters apply to arsenic analysis by Method 6020, as presented in the project's Quality Assurance Project Plan (QAPP):

- Practical quantification limit (PQL): 0.5 milligrams per kilogram (mg/kg)
- Applicable accuracy criterion: 74-120 percent recovery (%R) for surrogate recovery ranges
- Precision criteria (relative percent difference [RPD]): 30%

TestAmerica's method detection limit (MDL) for arsenic analysis by Method 6020 is 0.25 mg/kg and their reporting limit (RL) is 0.50 mg/kg. Actual laboratory reporting limits will vary depending upon the sample matrix, sample volume or mass analyzed, and sample dilution factors, if any. Analytical results will be reported to the MDL, and values between the MDL and PQL will be qualified with a "J." The laboratory performing the analysis must be certified pursuant to Health and Safety Code section 25198. Sediment samples analyzed by Method 6020 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 28 days.

Field duplicates and MS/MSD aid in field and laboratory quality control. The purpose of field duplicate collection is to allow calculation of combined sampling and analytical precision. When a sample and a duplicate are taken, both results should be reported, and duplicate sample results will be averaged for use in data evaluations. Surrogate and MS are added to assess the accuracy of the sample analysis, in terms of the spike recovery. MS/MSD pairs are analyzed to provide analytical data on the precision of laboratory measurements.

Additionally, the laboratory will generate and analyze a minimum of one method blank per sample batch for each analysis. While field blanks (such as equipment and trip blanks) are used to assess the combination of field, storage, and laboratory contamination, the laboratory method blank isolates any contamination that may have originated from the laboratory. Results of all laboratory QA/QC analysis is provided with the laboratory report.

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Wednesday, September 4, 2019 11:50 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: Georgia-Pacific ARF

Hi Tom,

I wanted to get this out to you so you could get back to me. For the Metals EPA 6020 method, we need to know what Threshold Limits you are trying to reach, or the Reporting Limits you need for the method. The 6020 method is more sensitive, so it is used to reach lower levels, but if you're looking at standard levels for Arsenic, then 6010 should be able to capture what you need. Let us know these limits and we can determine if we can accept it at Berkeley or would possibly need to contract it out.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Friday, September 6, 2019 11:09 AM
To: SMOFF@DTSC
Subject: FW: arsenic detection
Attachments: Table 3-2_excerpt(dioxin).pdf

Xavier,
Here is more information on the dioxin analysis that GP is running. I'll bring in the samples at about 1:30.

Tom

From: Rachel Morgan <RachelMorgan@kennedyjenks.com>
Sent: Thursday, September 5, 2019 9:55 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Cc: 'Massengill, Dave G.' <DGMassen@GAPAC.com>; Jeremie Maehr <JeremieMaehr@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: RE: arsenic detection

Hi Tom,

I am following up with the dioxin analysis information. Dioxin concentrations in sediment are to be analyzed by USEPA Method 8290 (https://www.epa.gov/sites/production/files/2016-01/documents/sw846method8290a.pdf). The parameters in the attached table apply to dioxin analysis by Method 8290, as presented in the project's Quality Assurance Project Plan (QAPP).

TestAmerica's method detection limits for dioxin and furan congeners analyzed by Method 8290 are approximately 0.05 picograms per gram (pg/g) and their reporting limits generally range from 1 to 5 pg/g. Sediment samples analyzed by Method 8290 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 30 days.

Thanks,

Rachel Morgan, EIT | Staff Engineer
303 Second Street, Suite 300 South
San Francisco, CA 94107
P: 415.243.2150 | Direct: 415.243.2441
Service Is Our Legacy | EST 1919 | KENNEDYJENKS.COM

From: Rachel Morgan
Sent: Wednesday, September 04, 2019 4:53 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Cc: 'Massengill, Dave G.' <DGMassen@GAPAC.com>; Jeremie Maehr <JeremieMaehr@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: RE: arsenic detection

Hi Tom,

In an effort to maintain consistency between laboratory quality assurance/quality control (QA/QC) protocols and subsequent data quality, the following information governing the commercial laboratory for this project (TestAmerica) is provided. The field team provided a sample, field duplicate, and matrix spike (MS)/matrix spike duplicate (MSD) for you.

Arsenic concentrations in sediment are to be analyzed by USEPA Method 6020 (https://www.epa.gov/sites/production/files/2015-07/documents/epa-6020a.pdf). The following parameters apply to arsenic analysis by Method 6020, as presented in the project's Quality Assurance Project Plan (QAPP):

- Practical quantification limit (PQL): 0.5 milligrams per kilogram (mg/kg)
- Applicable accuracy criterion: 74-120 percent recovery (%R) for surrogate recovery ranges
- Precision criteria (relative percent difference [RPD]): 30%

TestAmerica's method detection limit (MDL) for arsenic analysis by Method 6020 is 0.25 mg/kg and their reporting limit (RL) is 0.50 mg/kg. Actual laboratory reporting limits will vary depending upon the sample matrix, sample volume or mass analyzed, and sample dilution factors, if any. Analytical results will be reported to the MDL, and values between the MDL and PQL will be qualified with a "J." The laboratory performing the analysis must be certified pursuant to Health and Safety Code section 25198. Sediment samples analyzed by Method 6020 are to be stored at 4 degrees Celsius in a wide mouth glass jar and analyzed within 28 days.

Field duplicates and MS/MSD aid in field and laboratory quality control. The purpose of field duplicate collection is to allow calculation of combined sampling and analytical precision. When a sample and a duplicate are taken, both results should be reported, and duplicate sample results will be averaged for use in data evaluations. Surrogate and MS are added to assess the accuracy of the sample analysis, in terms of the spike recovery. MS/MSD pairs are analyzed to provide analytical data on the precision of laboratory measurements.

Additionally, the laboratory will generate and analyze a minimum of one method blank per sample batch for each analysis. While field blanks (such as equipment and trip blanks) are used to assess the combination of field, storage, and laboratory contamination, the laboratory method blank isolates any contamination that may have originated from the laboratory. Results of all laboratory QA/QC analysis is provided with the laboratory report.

Please let us know if you have any additional questions.

Kennedy Jenks

Rachel Morgan, EIT | Staff Engineer
303 Second Street, Suite 300 South
San Francisco, CA 94107
P: 415.243.2150 | Direct: 415.243.2441
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From: Jeremie Maehr <JeremieMaehr@kennedyjenks.com>
Sent: Wednesday, September 4, 2019 2:18 PM
To: Rachel Morgan <RachelMorgan@kennedyjenks.com>; Deonne Knill <DeonneKnill@KennedyJenks.com>; Alice Robinson <AliceRobinson@kennedyjenks.com>
Subject: Fwd: arsenic detection

Sent from my iPhone

Begin forwarded message:

> **From:** "Lanphar, Tom@DTSC" <Tom.Lanphar@dtsc.ca.gov>
> **Date:** September 4, 2019 at 1:42:58 PM PDT
> **To:** "JeremieMaehr@kennedyjenks.com" <JeremieMaehr@kennedyjenks.com>
> **Subject: arsenic detection**
>
> What is your detection limits for arsenic? DTSC lab wants to know.
>
> Tom

Reported Analytes in Sediment Matrix Samples with Analytical Methods, PQLs, and Accuracy and Precision Limits

Dioxins and Furans						
2,3,7,8-TCDD	1746-01-6	USEPA 8290	pg/g	0.50	50-150	25
1,2,3,7,8-PeCDD	40321-76-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8-HxCDD	39227-28-6	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,6,7,8-HxCDD	57653-85-7	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,7,8,9-HxCDD	19408-74-3	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,6,7,8-HpCDD	35822-46-9	USEPA 8290	pg/g	2.50	50-150	25
OCDD	3268-87-9	USEPA 8290	pg/g	5.00	50-150	25
2,3,7,8-TCDF	51207-31-9	USEPA 8290	pg/g	0.50	50-150	25
1,2,3,7,8-PeCDF	57117-41-6	USEPA 8290	pg/g	2.50	50-150	25
2,3,4,7,8-PeCDF	57117-31-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8-HxCDF	70648-26-9	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,6,7,8-HxCDF	57117-44-9	USEPA 8290	pg/g	2.50	50-150	25
2,3,4,6,7,8-HxCDF	60851-34-5	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,7,8,9-HxCDF	72918-21-9	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,6,7,8-HpCDF	67562-39-4	USEPA 8290	pg/g	2.50	50-150	25
1,2,3,4,7,8,9-HpCDF	55673-89-7	USEPA 8290	pg/g	2.50	50-150	25
OCDF	39001-02-0	USEPA 8290	pg/g	5.00	50-150	25

Notes:

%R = percent recovery

CAS No. = Chemical Abstract Service number

pg/g = picograms per gram

PQL = Practical Quantitation Limit

RPD = relative percent difference

a. PQLs were obtained from the laboratory who planned to perform the analysis when the QAPP was written.

b. Not all compounds require surrogate spike recovery analysis. Representative compounds are selected that can account for all compounds in the suite of analysis for that particular method. Those surrogate recovery ranges are listed.

c. This is an excerpt from Table 3-2 of the project's Quality Assurance Project Plan (QAPP; September 2007).

SMOFF@DTSC

From: Lanphar, Tom@DTSC
Sent: Thursday, September 12, 2019 9:55 AM
To: SMOFF@DTSC
Subject: RE: Update to 19EC0029

Xavier,
Thank you for the message. I agree with the updates stated in the message.

Tom Lanphar

From: SMOFF@DTSC <SMoff@dtsc.ca.gov>
Sent: Thursday, September 12, 2019 9:50 AM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: RE: Update to 19EC0029

Hello Tom,

Please confirm the updates stated in the message below.

Best,
Xavier

From: SMOFF@DTSC
Sent: Wednesday, September 11, 2019 2:17 PM
To: Lanphar, Tom@DTSC <Tom.Lanphar@dtsc.ca.gov>
Subject: Update to 19EC0029

Hello Tom,

Per our conversation, we will be updating the SAR for 19EC0029 to reflect the extra sample containers that were delivered to ECL. For Sample "Pond 8-20 (5.5-7) DTSC" we will be updating the Number of Containers from 2 to 6. Also, for Sample "Pond 8-21 (11.5-13) DTSC" we will be updating the Number of Containers from 2 to 3. Along with updating those Number of Containers, we will be adding in Sample "D2-20190904" with 2 containers for "Hold (No Analysis)". That way we can have those samples in our system for proper disposal later. Please confirm that you approve of these updates.

Best,
Xavier
(510) 540-2189

For any questions regarding ARFs, SARs, or samples please contact the ECL sample management office at:
Phone number: (510) 540-3111
Email: Smoff@dtsc.ca.gov

REMINDER! Do not forget to send your **eSAR** when submitting samples. (Link)

Chain of Custody Record

327922

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TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Deanna Mihill	Site Contact: Alice Robinson	Date: 9-5-19	COC No:
Company Name: Georgia-Pacific	Tel/Fax: 503-423-4617	Lab Contact: Ashleigh Sakmar	Carrier: Hand deliver	1 of 1 COCs
Address: 421 SW 6th Ave, Suite 600	Analysis Turnaround Time			Sampler: Robinson / Freed
City/State/Zip: Portland, OR 97204	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 503-423-4048	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Fort Bragg Sediment Sampling	☐ 1 week			
Site: G-P Fort Bragg Mill Site	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Arsenic by 6020	Dioxins by 8290A	Moisture	Sample Specific Notes:
Pond 8-20 (5.5-7.0) DTSC	10:20	9-4-19	G	S	6		X	1	1	1	
Pond 8-21 (11.5-13.0) DTSC	13:15	↓	↓	↓	2						
Pond 8-23 (8.0-10.0) DTSC	16:10	↓	↓	↓	2						
Pond 8-22 (8.0-10.0) DTSC	18:10	↓	↓	↓	2						
D2-20190904	—	↓	↓	↓	2						

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

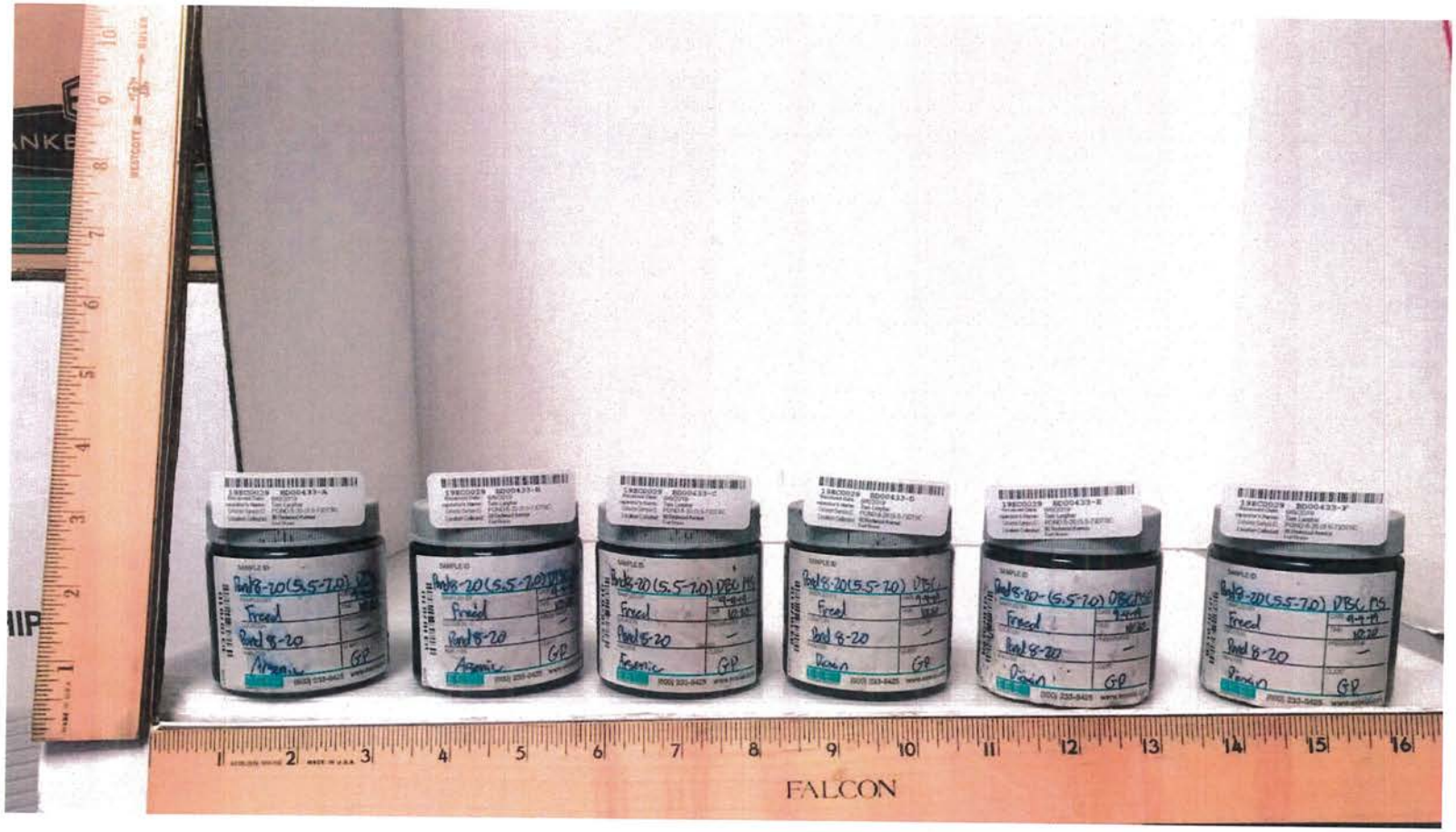
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

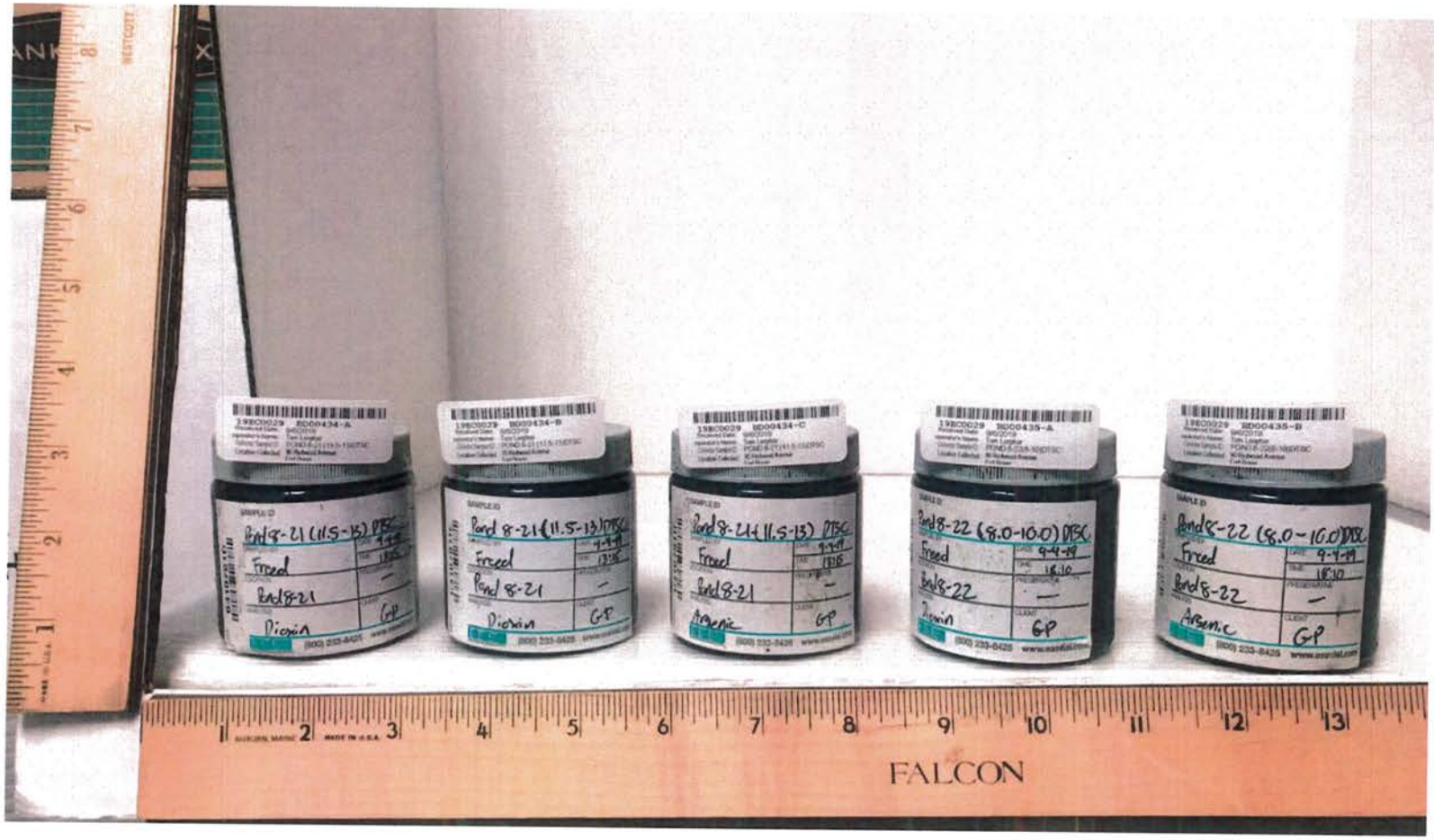
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

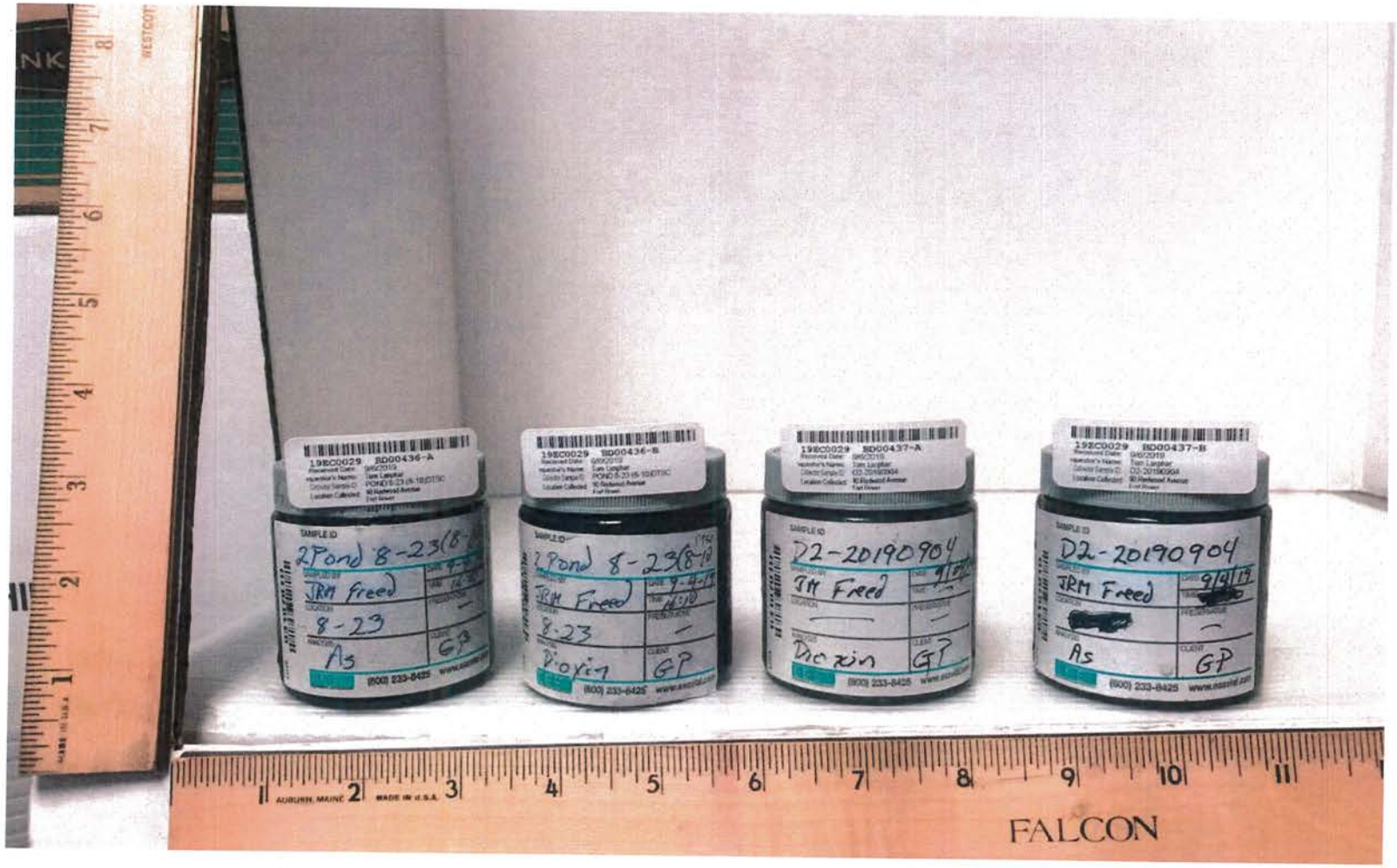
Special Instructions/QC Requirements & Comments:
Composite before analyzing

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

	Company	Date/Time		Company	Date/Time
Relinquished by: Alice Robinson	Kennedy/Jenks	9-5-19 9:35	Received by:	DTSC	9/5/2019; 9:35 am
Relinquished by:	DTSC	9.6.19 3:20	Received by: Kathrina Gipson	DTSC	9/6/19 3:20
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:


FALCON


Pond 8-21 (11.5-13) DISC
Freed
Pond 8-21
Dioxin
GP
Pond 8-21 (11.5-13) DISC
Freed
Pond 8-21
Dioxin
GP
Pond 8-21 (11.5-13) DISC
Freed
Pond 8-21
Arsenic
GP
Pond 8-22 (8.0-10.0) DISC
Freed
Pond 8-22
Dioxin
GP
Pond 8-22 (8.0-16.0) DISC
Freed
Pond 8-22
Arsenic
GP
FALCON


19EC0029 SD00436-A
19EC0029 SD00436-B
19EC0029 SD00437-A
19EC0029 SD00437-B
JRM Freed
8-23
As
Dioxin
D2-20190904
FALCON