

Indian River and Indian River Bay Surface Water and Sediment Assessment

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1.0 INTRODUCTION

US Wind, Inc. (US Wind) proposed to construct an offshore wind project within the Bureau of Ocean Energy management (BOEM) lease area OCS-A-0490. The project is intended to be connected to the local electric grid from the lease area to the Indian River Substation in Delaware. The cables connecting the lease area are proposed to traverse the Indian River Bay, making ultimate landfall at the Indian River Substation. In order to install these cables, dredging may be required in the Indian River and Indian River Bay.

Hill Consulting, Inc. (HCI) conducted a sediment sampling field investigation to collect and analyze environmental sediment and surface water samples along proposed cable routes in the Indian River Bay and Indian River. This investigation was conducted in areas where potential dredging may occur. Field activities were conducted between October 9 and October 12, 2023. Environmental Risk Solutions (ERS) conducted a Human Health Evaluation and Ecological Evaluation of the sediment analytical results.

Dredge materials from this project would be prioritized for beneficial reuse for beach renourishment north of the Indian River Inlet, habitat reconstruction in the Indian River and Indian River Bay, or other projects identified by the United States Army Corps of Engineers, Delaware Department of Natural Resources and Environmental Control (DNREC), and other stakeholders. Dredge material, if needed, would be placed in approved offshore or onshore disposal sites.

The remaining sections of this report present a summary of field activities, an overview of the analytical results and an evaluation of potential environmental risks associated with chemicals detected in the October 2023 sediment samples, as follows:

- Section 2 provides a summary of the methodologies used for collection and analysis of surface water and sediment samples.
- Section 3 presents the results of the surface water analyses and a brief discussion of the findings.
- Section 4 presents the results of the sediment analyses and a brief discussion of the findings.
- Section 5 presents a comparison of the sediment data to applicable human health screening values, as well as a site-specific risk evaluation for chemicals that exceed these screening values.

- Section 6 provides a toxicity evaluation of the sediment data with respect to ecological endpoints.
- Section 7 presents the conclusions of the sediment evaluation.
- Section 8 presents the references cited in the report.

2.0 METHODOLOGIES

The objective of the sediment sampling and analysis associated with the Indian River and Indian River Bay cable installation is to better characterize constituent levels in the sediments in the areas proposed for potential dredging, and to evaluate potential impacts on ecological and/or human health as a result of the proposed dredging activities. In addition to sediment samples, DNREC requested that surface water sampling also be conducted as part of this project. This section provides a summary of the field sampling methods, laboratory analysis methods, and general risk assessment methods used in the evaluation.

2.1 FIELD METHODS

To evaluate the constituent levels in the areas proposed for dredging, sediment cores were collected from a length of the Indian River and Indian River Bay as shown on Figure 1. The sampling was conducted on October 9 through 12, 2023 by Hill Consulting, Inc. and their subcontractor Aqua Survey Inc. (ASI). A total of twenty-three sediment cores were collected to depths ranging from 5.9 feet (ft.) to 11.7 ft. below the mudline to capture the proposed depth of potential dredging. The sediment cores were combined into three composite samples. Composite Area 1 includes sediment cores S-1 through S-12. Composite Area 2 includes sediment cores S-13 through S-18. Composite Area 3 includes sediment cores S-19 through S-23. Table 2-1 provides an overview of the proposed and actual sampling locations and depths. Surface water samples were collected at locations corresponding with the sediment sampling locations and were composited utilizing the same composite areas used for the sediment sampling.

ASI utilized its Manasquan Pontoon Barge and a Vibracore Sampler to collect the sediment samples. A four-inch steel sample barrel was lined with a flexible polyethylene core liner and a cone at the base of the barrel to help retain the collected sample. The steel core was vibrated to a specific depth at each location. The sample core was retrieved and removed from the steel sampling barrel. The sample was logged and a representative portion of the sample was placed into a stainless steel bowl. This procedure was repeated at each sediment location in a particular composite area. The samples were then homogenized in the stainless-steel bowl, using stainless steel utensils. The bowl was kept in a cooler, on ice, from the time the first sediment core was collected until the homogenization process was completed. Following homogenization, the requisite laboratory jars were filled and stored on ice under chain of custody. The samples were packaged and delivered via laboratory courier to Eurofins Environmental Testing Laboratories located in Lancaster, Pennsylvania, for chemical analysis.

Surface water samples were collected at each of the twenty-three sediment sampling locations. In an effort to collect a representative sample, the surface water samples were collected at each location prior to collecting the sediment sample and potentially disturbing the sediments in the vicinity of the surface water sample. A

polyethylene bailer was lowered into the water and a representative sample was collected from the surface of the water to the mudline. The water was poured into a polyethylene carboy and stored on ice. Once all of the samples from a particular composite area were collected, the carboy was gently mixed to homogenize the surface water sample. Following homogenization, the requisite laboratory bottles were filled and stored on ice under chain of custody. The samples were packaged and delivered via laboratory courier to Eurofins Environmental Testing Laboratories located in Lancaster, Pennsylvania, for chemical analysis.

The Daily Status Reports prepared during field activities are provided as Appendix A and Sediment Core Logs are provided as Appendix B.

2.2 LABORATORY METHODS

The chemical parameters for the surface water analysis included inorganics (metals), mercury, organochlorine pesticides, dioxin and furan isomers, polychlorinated biphenyl (PCB) congeners, per- and polyfluoroalkyl substances (PFAS), semi-volatile organics (SVOCs; including alkylated homologs), total phosphorus, total dissolved solids (TDS) and total organic carbon (TOC). The table below provides the analytical methods for each of the compounds.

Parameter	Analytical Method
Inorganics (Metals)	6020B
Mercury	7470A
Organochlorine Pesticides	8081B
Dioxin & Furan Isomers	1613B
PCB Congeners	1668C
Per- and Polyfluoroalkyl Substances	1633
Semi-volatile Organics	8270E SIM
Total Dissolved Solids	2540C
Total Phosphorus	SM 4500P
Total Organic Carbon	SM 5310

The chemical parameters for the bulk sediment analysis included inorganics (metals), mercury, organochlorine pesticides, dioxin and furan isomers, PCB congeners, PFAS, SVOCs (including alkylated homologs), total phosphorus, grain size, and TOC. The table below provides the analytical methods for each of the compounds.

Parameter	Analytical Method
Inorganics (Metals)	6020B
Mercury	7470A
Organochlorine Pesticides	8081B
Dioxin & Furan Isomers	1613B
PCB Congeners	1668C
Per- and Polyfluoroalkyl Substances	1633
Semi-volatile Organics	8270E SIM
Total Phosphorus	EPA 365.1 SM 4500
Grain Size	ASTM D422
Total Organic Carbon	Lloyd Kahn

Sediment concentrations were expressed as dry weights. Sample-specific detection limits varied due to matrix interferences and when non-detects were converted from wet to dry weight. The laboratory analytical report is included as Appendix C.

2.3 GENERAL RISK ASSESSMENT METHODS

Surface water analytical results were compared to the DNREC Hazardous Substance Cleanup Act (HSCA) Ecological Screening Levels for Marine Surface Water – Revised November 2023. This comparison is discussed in Section 3.

Results of bulk chemical analyses of sediment were used to evaluate the potential risk to human health and to ecological receptors. With respect to human health, the laboratory analytical results are evaluated to determine whether the sediment concentrations present the potential for unacceptable risk based on exposure in either the aquatic environment or after being deposited on land. This is done by first comparing the sediment data to screening benchmarks protective of human health under very conservative exposure assumptions. For constituents with concentrations exceeding these benchmarks, a refined exposure evaluation is completed. The human health evaluation is presented in Section 5.

Similarly, the ecological assessment evaluates the potential for adverse effects on ecological receptors associated with constituent levels in sediment from the areas proposed for dredging. For aquatic receptors, this is accomplished through a preliminary comparison of data to available marine sediment screening benchmarks. For selected constituents, equilibrium partitioning calculations are also conducted, and resulting predicted pore water concentrations are compared to marine surface water quality standards. Evaluation of risks to terrestrial receptors due to the beneficial reuse of dredged material as upland surface soil is also conducted. The ecological evaluation is presented in Section 6.

3.0 SURFACE WATER SAMPLING RESULTS AND COMPARISON TO MARINE SURFACE WATER SCREENING LEVELS

This section presents the results of the surface water analyses and a comparison of detected concentrations to the available DNREC (2023a) HSCA Screening Levels for Marine Surface Water. The three Surface Water Composite samples are identified as SW COMP 1, SW COMP 2 and SW COMP 3. The marine surface water values are protective of exposure by ecological receptors. The laboratory analytical report is included as Appendix C.

3.1 ORGANIC CARBON ANALYSIS

The total organic carbon (TOC) content of the Indian River surface water samples ranged from an estimated concentration of 0.53 milligrams per liter (mg/L) to 2.5 mg/L. The TOC result for each composite sample is presented below.

Sample	Total Organic Carbon (mg/L)
SW COMP 1	2.5
SW COMP 2	0.73 J
SW COMP 3	0.53 J

J – Estimated concentration. Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit.

3.2 ANALYTICAL RESULTS - INORGANICS

The complete analytical results for inorganic compounds, including metals and mercury, are presented in Table 3-1 and in the laboratory report (Appendix C). As shown in this report, the majority of inorganic compounds were detected in the surface water samples but were generally detected at concentrations well below DNREC HSCA Screening Levels. Beryllium, cadmium, silver, thallium and zinc were the only inorganics that were non-detect in any of the three samples. Some of the results were qualified “J” by the laboratory (e.g., estimated values) because they were reported at a concentration less than the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL).

Mercury was the only inorganic compound to exceed the DNREC HSCA Screening Level of 0.016 micrograms per liter (µg/L). Mercury exceeded this value at all three locations as presented in the table below.

Sample	Mercury (µg/L)
SW COMP 1	0.088 J
SW COMP 2	0.098 J
SW COMP 3	0.091 J

J – Estimated concentration. Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit.

It may be noted that although the detected concentrations of mercury exceed the HSCA screening level, these concentrations are well below the Delaware marine water quality criteria (WQC) for both chronic and acute exposures (1.8 µg/L and 0.94 µg/L, respectively; DNREC, 2023b).

Total phosphorus was analyzed in the surface water samples. Total phosphorus as P was not detected above the MDL of 0.050 mg/L in any of the three surface water samples. Total phosphorus as PO₄ (phosphate) was not detected above the MDL of 0.25 mg/L in any of the three surface water samples.

Total Dissolved Solids (TDS) were analyzed in the surface water samples. At each of the three surface water sampling locations the TDS value was above the MDL but below the RL. The estimated values are presented in the table below.

Sample	TDS (mg/L)
SW COMP 1	17 J
SW COMP 2	22 J
SW COMP 3	15 J

J – Estimated concentration. Result is less than the Reporting Limit but greater than or equal to the Method Detection Limit.

3.3 ANALYTICAL RESULTS - ORGANICS

The laboratory analytical report included as Appendix C provides the complete results for SVOCs, organochlorine pesticides, dioxins and furans, PCBs, and PFAS.

3.3.1 Semivolatile Organics

Naphthalene was detected in the Surface Water Composite 1 sample at an estimated concentration of 0.029 µg/L. The detected concentration was below the DNREC HSCA Screening Level for naphthalene of 1.4 µg/L. No other semivolatile organics were detected in any of the surface water samples. The detected semivolatile organic data are presented in Table 3-2.

3.3.2 Organochlorine Pesticides

Aldrin was detected in the Surface Water Composite 1 sample at an estimated concentration of 0.016 µg/L. The detected concentration was below the DNREC HSCA Screening Level for Aldrin of 0.13 µg/L. No other organochlorine pesticides were detected in any of the surface water samples. The detected organochlorine pesticides data are presented in Table 3-3.

3.3.3 Dioxins and Furans

Octachlorodibenzo-p-dioxin (OCDD) was detected in the Surface Water Composite 1 sample at an estimated concentration of 0.000056 µg/L. There is no DNREC HSCA Screening Level for OCDD. No other dioxins or furans were detected in any of the surface water samples. The detected dioxins and furans data are presented in Table 3-3.

3.3.4 Polychlorinated Biphenyls

There are a total of 209 PCB congeners, the majority of which were analyzed in the three composite surface water samples. A total of eight different PCBs were detected with seven PCBs detected in SW Comp 1 and six PCBs detected in each SW Comp 2 and SW Comp 3. The DNREC HSCA Screening level for Total PCBs is 0.03 mg/L. The Total PCB concentrations in the three composite samples were 0.000126 mg/L at SW Comp 1, 0.000107 mg/L at SW Comp 2 and 0.000133 mg/L at SW Comp 3; each of these total PCB concentrations was below the HSCA Screening Level. The detected PCB data are presented in Table 3-3.

3.3.5 Per- and Polyfluoroalkyl Substances

The laboratory analyzed for a total of forty individual PFAS; the complete results are included in Appendix C. A total of nine different PFAS were detected with six PFAs detected at SW Comp 2 and eight PFAS detected at each SW Comp 1 and SW Comp 3. There are no DNREC HSCA Screening Levels for PFAS for Marine Surface Water. The detected PFAS data are presented in Table 3-3.

4.0 SEDIMENT SAMPLING RESULTS

This section presents the results of the sediment analyses and a brief discussion of the findings. The three sediment composite samples are identified as SED COMP 1, SED COMP 2 and SED COMP 3. The laboratory analytical report is included as Appendix C.

4.1 ORGANIC CARBON AND GRAIN SIZE ANALYSIS

The total organic carbon (TOC) content of the Indian River and Indian River Bay sediment samples ranged from 3,800 milligrams per kilogram (mg/kg) (0.38 %) to 16,000 mg/kg (1.6 %). The TOC results are relevant to the equilibrium partitioning calculations used to evaluate potential effects on ecological receptors. The TOC result for each composite sample is presented below.

Sample	Total Organic Carbon (mg/kg)
SED COMP 1	16,000
SED COMP 2	8,700
SED COMP 3	3,800

The results of the grain size analyses indicate that the compositions of the sediment samples ranged from predominantly clay (50%) in SED COMP 1 to predominantly sand (57.7%) in SED COMP 3. Sample SED COMP 2 had a fairly even distribution of all three composition types. The specific grain size content for each composite sample is summarized below; details are included in Appendix C.

Sample	Percent Sand	Percent Silt	Percent Clay
SED COMP 1	9.4	40.6	50
SED COMP 2	25.8	39.8	34.4
SED COMP 3	57.7	13.7	28.6

It may be noted that the grain size data are not used specifically in this sediment risk evaluation; however, grain size can affect sediment permeability, which is the ease with which water and dissolved oxygen can

enter and move through the sediment particles. In addition, a higher amount of interstitial space tends to support a greater number of benthic organisms.

4.2 ANALYTICAL RESULTS - INORGANICS

The complete analytical results for inorganic compounds, including metals and mercury, are presented in the laboratory report (Appendix C). As shown in this report, the majority of inorganic compounds were detected in the sediment samples. Antimony is the only inorganic that was non-detect in all three samples. A small number of results were qualified "J" by the laboratory (e.g., estimated values) because they were reported at a concentration less than the RL but greater than the MDL. In particular, results for mercury, selenium, and silver were either "J" qualified or non-detect in all samples.

In addition to the analysis of metals and mercury, total phosphorus was analyzed in the sediment samples. Results for total phosphorus as P ranged from 230 mg/kg to 490 mg/kg; results for total phosphorus as PO₄ (phosphate) ranged from 690 mg/kg to 1,500 mg/kg. Total phosphorus and phosphates are generally not toxic unless present at very high levels; however, elevated concentrations of phosphorus can lead to water quality issues (e.g., eutrophication). Based on the low inherent toxicity, as well as a comparison of the detected concentrations of total phosphorus to the screening level of 7,800 mg/kg established by DNREC (2023a), no additional evaluation is warranted as part of this sediment evaluation.

4.3 ANALYTICAL RESULTS - ORGANICS

The laboratory analytical report included as Appendix C provides the complete results for SVOCs, pesticides, dioxins and furans, PCBs, and PFAS. It should be noted that there were no organochlorine pesticides detected in any of the sediment samples; therefore, pesticides are not evaluated further in this report.

4.3.1 Semivolatile Organics

Several SVOCs were detected in the sediment samples, predominantly polyaromatic hydrocarbons (PAHs). Concentrations were generally low (i.e., well below 1 mg/kg), and for those constituents with established background threshold values (BTVs), the detected concentrations were below the Delaware BTVs (as presented in DNREC, 2023a). Many results were "J" qualified, and additional data qualifiers were assigned by the laboratory, as outlined in Appendix C. However, all qualified results were considered to be usable for the purposes of this risk evaluation.

4.3.2 Dioxins and Furans

As shown in Appendix C, the dioxins and furans were analyzed as 17 individual compounds. Of these, only two compounds were detected: 1,2,3,4,6,7,8- heptachlorodibenzo-p-dioxin (HpCDD) and octachlorodibenzo-

p-dioxin (OCDD). Furthermore, the concentrations for OCDD in all three samples were qualified "B" because this compound was also detected in the blank sample.

For purposes of the risk evaluation, and consistent with DNREC (2023a) guidance, a total 2,3,7,8-tetrachlorodibenzo-p-dioxin equivalent (2,3,7,8-TCDD Eq.) must be calculated for each sample. The methodology for calculating 2,3,7,8-TCDD Eqs. is based on guidance from USEPA (2008a, 2013) and the World Health Organization (WHO) (Van den Berg et. al., 2006). As discussed in these documents, toxicity equivalency factors (TEFs) are recommended which relate the potency of the various congeners to 2,3,7,8-TCDD. Separate sets of TEFs are available for different receptor groups: humans and mammals, birds, and fish or other aquatic organisms.

To determine the total 2,3,7,8-TCDD Eq. for each sample, the results for individual congeners are multiplied by the congener-specific TEF, and then these results are summed. Congener results that are reported as non-detect are scored as zero. It is noted that a sensitivity analysis is often recommended as part of the total 2,3,7,8-TCDD Eq. concentration calculations. Therefore, a second set of total 2,3,7,8-TCDD Eq. concentrations was calculated which incorporates the non-detect congener results scored at one-half the value of the MDL. These total 2,3,7,8-TCDD Eq. concentrations are considered to be conservative; based on the fact that none of these congeners were detected in any of the three samples, they are considered very unlikely to be present in the sediments.

The TEF values for each receptor group, and the results of the calculation of total 2,3,7,8-TCDD Eq. values for all samples (for both methods of handling non-detects) are presented in Table 4-1 (humans and mammals), Table 4-2 (birds) and Table 4-3 (fish/aquatic organisms). It should be noted that the "B" qualified results for OCDD were conservatively included in the total 2,3,7,8-TCDD Eq. concentrations; however, because OCDD has relatively low toxicity compared to 2,3,7,8-TCDD, the inclusion does not contribute significantly to the totals.

4.3.3 Polychlorinated Biphenyls

There are a total of 209 PCB congeners, the majority of which were analyzed in the three composite sediment samples (refer to Appendix C). Twelve of the 209 congeners are considered to have toxic effects similar to those associated with dioxins; these "dioxin-like PCBs" are typically evaluated differently than standard PCBs (specifically, using TEF as discussed above for TCDD). Of the 209 PCB congeners, only five were detected in the samples: PCB-187, PCB-194, PCB-196, PCB 198/199, and PCB-206. None of these PCB congeners are considered "dioxin-like PCBs" (USEPA, 2013). Thus, for each sediment sample, a total PCB concentration was calculated as the straight sum of the concentrations of detected congeners. Table 4-4 presents the

detected PCB results for each sediment sample, as well as the calculated total PCB concentration. The total PCB concentrations ranged from 0.0108 micrograms per kilogram ($\mu\text{g}/\text{kg}$) to 0.0375 $\mu\text{g}/\text{kg}$.

4.3.4 Per- and Polyfluoroalkyl Substances

The laboratory analyzed for a total of forty individual PFAS; the complete results are included in Appendix C. It may be noted that of all substances, only two compounds were detected: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Each substance was detected in one sample; PFOA was detected in SED COMP 1 at a concentration of 0.000063 $\mu\text{g}/\text{kg}$, and PFOS was detected in SED COMP 2 at a concentration of 0.000052 $\mu\text{g}/\text{kg}$. Both results were "J" qualified, indicating that the concentrations were estimated below the reporting limit.

5.0 HUMAN HEALTH EVALUATION

This section presents a comparison of the sediment data to screening values that are protective of human health. For chemicals that warrant additional evaluation, an assessment of potential exposure and associated risk is also conducted.

5.1 COMPARISON OF SEDIMENT DATA TO SCREENING VALUES

The applicable sediment screening values for human health are the Hazardous Substance Cleanup Act (HSCA) soil screening levels provided by DNREC (November 2023). The soil screening levels are primarily based on the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) for residential soil (November 2023). For some constituents, the screening levels were based on background threshold values (BTVs) for Delaware soils.

For human health, the soil screening levels are considered appropriate for the screening of sediment data, because in the event that the dredged sediments are placed on land, residential use (i.e., unrestricted use) represents the most conservative exposure scenario. For potential human exposure to sediments that are reintroduced into the river/bay, the magnitude of exposure is significantly less than what would occur under a residential soil exposure scenario. Thus, the soil screening levels are considered to be conservative for evaluating potential sediment exposure.

5.1.1 Inorganics and Mercury

Table 5-1 presents a summary of the sediment data for inorganic constituents (including mercury) and the HSCA soil screening levels (DNREC, 2023a). As shown in this table, the concentrations of all inorganics in the three sediment samples were below the available HSCA soil screening levels, with the exception of thallium. The detected concentrations of thallium ranged from 0.089 mg/kg to 0.13 mg/kg in comparison to the HSCA soil screening level of 0.078 mg/kg. Based on this exceedance, thallium has been identified as a chemical of concern (COC) and will be evaluated further using site-specific risk assessment approaches.

Select inorganics do not have HSCA soil screening levels: calcium, magnesium, potassium and sodium. These constituents are essential nutrients and considered to have low inherent toxicity; therefore, no further evaluation is warranted.

5.1.2 Organic Constituents

Tables 5-2 and 5-3 present comparisons of the analytical sediment data for organic constituents to the available HSCA soil screening levels (DNREC, 2023a). The comparison for SVOCs is presented in Table 5-2, and the comparisons for dioxins and furans, PCBs, and PFAS are presented in Table 5-3. As previously

discussed, no pesticides were detected in the analyzed sediment samples; therefore, no comparisons are provided for this constituent group.

As shown in Table 5-2, the concentrations of all SVOCs in the three sediment samples were below the available HSCA soil screening levels. Several SVOCs, particularly the alkylated homologs, do not have HSCA screening values; no comparison could be made for these constituents. However, based on the low detected concentrations, and the fact that other SVOCs were reported at concentrations well below the screening values, these constituents do not warrant further evaluation.

Table 5-3 presents a comparison of the total 2,3,7,8-TCDD Eq. concentration in each sample to the HSCA soil screening level for 2,3,7,8-TCDD. As discussed in Section 4.3.2, the total 2,3,7,8-TCDD Eq. concentrations were calculated two ways: one where the non-detect compounds were excluded from the total, and the second where non-detects were conservatively included in the total at concentrations equal to one-half the MDL. The concentrations for all three samples using both methods were below the screening level of 0.0048 $\mu\text{g}/\text{kg}$.

Table 5-3 also presents a comparison of the total PCB concentrations in each sample to the HSCA soil screening level of 230 $\mu\text{g}/\text{kg}$. The sediment concentrations ranged from 0.0108 $\mu\text{g}/\text{kg}$ to 0.0375 $\mu\text{g}/\text{kg}$; all concentrations were well below the screening level.

PCBs have been shown to bioaccumulate in fish and other aquatic life. PCBs are the primary risk driver for fish consumption advisories in Delaware. The potential for PCBs in sediments to contribute to bioaccumulation in the Indian River area was therefore evaluated by comparing the total PCB concentrations in the sediment samples to a bioaccumulation-based sediment quality criterion (BBSQC). A BBSQC was calculated by Greene (1997) for sediments of the Delaware Estuary using measured values for fraction organic carbon, average lipid content of estuarine and marine fish species, and a default biota-to-sediment accumulation factor. The resulting site-specific BBSQC is 33.2 $\mu\text{g}/\text{kg}$, which is based on the most sensitive endpoint (non-carcinogenic effects on children). As shown in Table 5-3, none of the total PCB results exceeded the BBSQC, indicating that there is negligible potential for adverse effects on human health as a result of fish consumption.

Finally, the concentrations of PFAS in each sediment sample were compared to available HSCA soil screening levels. Table 5-3 summarizes the data only for those substances that were detected and/or which have available screening levels in the November 2023 table. The data are presented for eight different substances; only two of these PFAS were detected in the sediment samples: PFOA and PFOS. For all substances, the detected concentrations and detection limits were well below the screening levels.

In summary, none of the concentrations of organic constituents in sediment exceeded applicable human health screening levels. As such, exposure to the concentrations of SVOCs, dioxins, PCBs and PFAS in sediments are unlikely to result in adverse effects to human health.

5.2 SUPPLEMENTAL HUMAN HEALTH RISK EVALUATION

This section presents an evaluation of the potential human health risk associated with exposure to thallium (the only identified COC) in dredged sediment that is either reused as upland surface soil, or reintroduced into the river/bay. The human health risk evaluation was completed using the USEPA's Risk Assessment Information System (RAIS) risk calculator for selected receptor scenarios, as follows:

- Residential Adult and Child - Soil Exposure
- Recreational Adult and Child - Soil/Sediment Exposure
- Excavation Worker - Soil Exposure

Each of these receptors was assumed to contact COC in the dredged sediment via incidental ingestion, dermal contact, and inhalation pathways; however, it should be noted that only the ingestion pathway could be quantified. This is because (1) thallium does not have inhalation toxicity criteria; and (2) no dermal absorption value is available with which to estimate an absorbed dose. All chemical-specific values and receptor-specific exposure assumptions were based on the RAIS default values. The representative concentration of thallium was based on the maximum concentration detected in the three composite samples (0.13 mg/kg).

The RAIS calculator generates total noncancer hazard indices (HIs) and potential cancer risks for each receptor group. These results are compared to the DNREC target benchmarks of a total HI of 1 and a cumulative cancer risk of 1E-5. USEPA presents a target HI of 1 and a target risk range of 1E-6 to 1E-4. For thallium, carcinogenic toxicity criteria are not available; therefore, only the noncancer endpoint is evaluated.

Appendix D presents the detailed RAIS files (including all input assumptions and results) for each receptor group. These results are also summarized in Table 5-4 and in the bullets below:

- For the residential adult and child exposed to thallium in soil, the HI values are 0.0156 and 0.166, respectively. The age-adjusted total HI was calculated to be 0.0503.
- For the recreational adult and child exposed to thallium in soil or sediment, the HI values are 0.00334 and 0.0356, respectively. The age-adjusted total HI was calculated to be 0.0108.

- For the excavation worker exposed to thallium in soil, the HI value is 0.000735.

The calculated HIs for each receptor group are below the benchmark of 1, indicating negligible potential for adverse effects due to exposure to thallium in soil or sediment.

5.3 SUMMARY OF HUMAN HEALTH SEDIMENT EVALUATION

The results of the human health evaluation of potential exposure to constituents in sediment of the Indian River Bay indicates that there is negligible potential for adverse effects. With only one exception, the concentrations of all detected constituents were below available HSCA soil screening levels. Thallium was detected at concentrations exceeding the soil screening level and was identified as a COC for additional evaluation. The quantitative risk evaluation for thallium indicated that even using the most conservative, default exposure assumptions, the potential for adverse effects is below the threshold established by both DNREC and USEPA. No further evaluation is warranted to address potential human health risk.

6.0 ECOLOGICAL EVALUATION

This section presents a toxicity evaluation of the sediment data with respect to ecological endpoints. As mentioned in Section 2.3, the ecological assessment evaluates the potential for adverse effects on benthic aquatic life associated with the dewatering of dredged sediments and its subsequent reintroduction into Indian River surface waters. Evaluation of risks due to the beneficial reuse of dredged material as upland surface soil is also conducted.

6.1 EFFECTS ON AQUATIC RECEPTORS

DNREC (2023a) provides HSCA screening levels for ecological exposure to sediment and surface water. Values are available for both freshwater and marine environments; for the Indian River and Indian River Bay, marine values are applicable. The HSCA screening levels were derived from the USEPA (2006) Region III Biological Technical Assistance Group (BTAG) Screening Benchmarks for sediment and surface water, or when more conservative, the Delaware Surface Water Quality Criteria (WQC). It should be emphasized that these values are for screening purposes; a concentration that exceeds a screening level does not necessarily mean that it is associated with an adverse effect. Exceedances of screening levels should be further evaluated along with multiple lines of evidence to determine whether an effect is likely.

For all constituent groups, the first step of the ecological evaluation is to compare the sediment data to available HSCA screening values for marine sediments. However, for many of the constituents analyzed in the sediment samples, HSCA sediment screening levels were not available. Therefore, the potential for adverse ecological effects on benthic aquatic receptors was also evaluated through the use of equilibrium partitioning calculations. Specifically, chemical-specific partitioning coefficients, along with sample-specific organic carbon data, are applied to the sediment data in order to predict pore water concentrations. The resulting predicted pore water concentrations are then compared to the marine surface water values published in the HSCA screening levels table (DNREC, 2023a). For select constituents, additional sources of sediment or surface water benchmarks have been included in this report; these approaches are discussed in detail in the following subsections.

6.1.1 Inorganics & Mercury

Table 6-1 presents a summary of the sediment data for inorganic constituents (including mercury) and the available HSCA marine sediment screening levels (DNREC, 2023a). Screening levels were available for arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver and zinc. As shown in Table 6-1, the sediment concentrations of each of these inorganics in all three samples were below the available HSCA screening levels.

As previously discussed, some inorganics are essential nutrients and considered to have low inherent toxicity to aquatic receptors. These include calcium, iron, magnesium, potassium and sodium. No screening values are available for these inorganics, and no further evaluation is warranted.

To further address the inorganics, particularly those without sediment screening levels, potential toxicity was evaluated using the equilibrium partitioning approach, as described by USEPA (2008b). First, the total dissolved concentration of each metal in the sediment pore water was estimated by dividing the bulk metal concentration by the sediment-to-pore water partition coefficient (K_d) as presented in Table 4 of USEPA (2005a). Table 6-2 presents the sediment concentrations, the log K_d values, and the calculated pore water concentrations for each inorganic. Non-detect sediment results are evaluated at their MDL. It should be noted that sediment-to-pore water K_d values were not available for aluminum or manganese; therefore, pore water concentrations could not be calculated for these two inorganics.

The calculated pore water concentrations were then compared to the applicable marine surface water screening levels. Table 6-3 presents the three sets of applicable marine surface water standards: HSCA screening levels (DNREC, 2023a), which are based on USEPA (2006) Region 3 BTAG values, and the Delaware marine WQC for both chronic and acute exposures (DNREC, 2023b). Several inorganics did not have a surface water value from either source; in these cases, no additional evaluation was conducted.

A ratio of the pore water concentration to each set of screening levels was calculated; these values represent “toxic units”, where ratios greater than 1 indicate concentrations in excess of the criteria. As shown in Table 6-3, all predicted pore water concentrations are below the marine screening levels with the exception of arsenic: the pore water concentrations predicted for SED COMP 1 and SED COMP 2 exceeded the HSCA screening level of 12.5 $\mu\text{g/L}$. However, it should be emphasized that these pore water concentrations are *conservative predictions*, and further, all predicted arsenic concentrations were below the Delaware WQC for both chronic and acute exposures. This, combined with the fact that all concentrations of arsenic in the sediment samples were below the HSCA marine sediment screening level, indicates that exposure to arsenic by aquatic receptors is unlikely to result in adverse effects.

In addition to calculating individual toxic units, the ratios for the divalent metals (cadmium, copper, lead, nickel, silver and zinc) were summed to calculate an interstitial water benchmark unit (IWBU), as described in USEPA (2005b). An IWBU was calculated for each sample using each set of screening levels. IWBU values greater than 1 suggest the potential for increased risk of impact to benthic aquatic life. As shown in Table 6-3, the IWBU values for the three sediment samples are below 1 when applying the Delaware chronic and acute WQC. When applying the HSCA surface water values, the IWBU values for SED COMP 1 and SED COMP 2 slightly exceed 1. When considering the weight of evidence, it is considered unlikely that exposure to divalent metals would result in adverse effects. This conclusion is based on the following: (1) none of these metals were

detected in sediments at concentrations exceeding their HSCA sediment screening level; (2) the pore water concentrations are predicted in a very conservative manner, not taking into consideration the additional partitioning that will occur between organic carbon-bound metal and total metal species in pore water solution; and (3) the significant discrepancy between the results for cadmium, one of the primary contributors to the total IWBU values. Specifically, regarding cadmium, the chronic values presented by USEPA BTAG (0.12 $\mu\text{g/L}$) and Delaware (7.9 $\mu\text{g/L}$); when using the Delaware WQC, all IWBU results are below 1.

The conclusion for the evaluation of inorganics (including mercury) in sediment is that there is negligible potential for adverse effects on aquatic ecological receptors, either before, during or after dredging.

6.1.2 SVOCs

Table 6-4 presents a comparison of the analytical sediment data for SVOCs to the available HSCA marine sediment screening levels (DNREC, 2023a). As shown in this table, the concentrations of all SVOCs in the three sediment samples were below the available HSCA sediment screening levels, with the exception of 2-methylnaphthalene and naphthalene in sample SED COMP 1. However, this initial comparison is very generic, because it does not take into account the site-specific organic carbon content of the sediment (which significantly affects the potential toxicity of SVOCs) and the associated equilibrium partitioning. Furthermore, several SVOCs, particularly the alkylated homologs, do not have HSCA screening values. Therefore, to more thoroughly address the SVOCs, potential toxicity was evaluated through a comparison of organic carbon-normalized concentrations to Equilibrium-partitioning Sediment Benchmarks (ESBs) that are based on the narcosis mode of action (Burgess et. al. 2013).

The first step of this evaluation is to calculate organic carbon-normalized concentrations of each SVOC in the sediment samples. This was completed by dividing the sediment concentration ($\mu\text{g/kg}$) by the sample-specific fraction organic carbon (F_{OC} ; provided in Appendix C) and adjusting for units to result in a sediment concentration expressed as micrograms per gram organic carbon ($\mu\text{g/g oc}$). Table 6-5 presents the measured sediment concentrations, the F_{OC} for each sample, and the calculated organic carbon-normalized concentrations of each SVOC.

Next, the normalized sediment concentrations were compared to the narcosis ESB values (obtained from Table 1 of Burgess et. al. 2013) to calculate a toxic unit. As noted above, toxic units greater than 1 indicate exceedances of the ESB and the potential for adverse effects. As shown in Table 6-5, none of the sediment samples had SVOCs exceeding the narcosis ESBs. Further, none of the summed toxic units for the samples exceeded 1. Therefore, potential toxicity to aquatic life from SVOCs in Indian River sediments is not expected. Since aquatic life toxicity is not expected in the pore water prior to dredging, it is also not expected in the water column during or after dredging.

6.1.3 Dioxins and Furans

Table 6-6 presents a comparison of the total 2,3,7,8-TCDD Eq. concentration in each sample to the marine sediment screening levels. As discussed in Section 4.3.2, the total 2,3,7,8-TCDD Eq. concentrations for each sample were calculated for different receptor groups. The applicable receptor group for the ecological sediment comparison is fish/aquatic receptors; these concentrations were calculated in Table 4-3. Further, the total 2,3,7,8-TCDD Eq. concentrations were calculated two ways: one where the non-detect compounds were excluded from the total, and the second where non-detects were conservatively included in the total at concentrations equal to one-half the MDL. The concentrations for aquatic receptors for all three samples, using both calculation methods, are included in the comparison.

Also presented in Table 6-6 are the ecological sediment screening levels for 2,3,7,8-TCDD. DNREC (2023a) does not present a value for marine sediments; however, the National Oceanic and Atmospheric Administration (NOAA) has published Screening Quick Reference Tables (Buchman, 2008) which present threshold effect levels (TELs) and probable effect levels (PELs) for 2,3,7,8-TCDD in marine sediments. These values are 0.00085 $\mu\text{g}/\text{kg}$ and 0.0215 $\mu\text{g}/\text{kg}$ respectively and are based on Canadian sediment quality guidelines for the protection of aquatic life. Comparing the calculated total 2,3,7,8-TCDD Eq. concentrations to the screening values indicates that when assuming non-detects equal 0, no sediment concentrations exceed either the TEL or the PEL. When assuming non-detects equal a concentration of one-half the MDL, the concentrations fall within the range of the TEL and PEL. These results suggest that adverse impacts on ecological receptors would not be anticipated at the population level.

To provide an additional line of evidence regarding acceptable concentrations of dioxins, a review of recent primary literature was conducted. One study on dioxin-like compounds, specifically for marine sediments, has been recently published in the journal *Environmental Toxicology and Chemistry* (Manning and Batley, 2023). This source presents a sediment quality guideline value (SQGV) of 0.07 $\mu\text{g}/\text{kg}$. Because this study specifically considered dioxins in a marine environment, it is considered appropriate for comparison to the site sediment data. The total 2,3,7,8-TCDD Eq. concentrations in all three samples were below the SQGV.

It should be noted that equilibrium partitioning was not conducted for dioxins in sediment, because DNREC (2023a) does not provide a marine surface water screening level against which a calculated pore water concentration might be compared.

Because none of the calculated total 2,3,7,8-TCDD Eq. concentrations in sediments exceed the PEL or the marine SQGV, even when it is assumed that the non-detect dioxin congeners may be present in the sediments, it is concluded that there is negligible potential for adverse effects on aquatic ecological receptors due to exposure to dioxins in the sediment.

6.1.4 PCBs

Table 6-6 presents a comparison of the total PCB concentrations in each sample to the HSCA marine sediment screening level of 40 $\mu\text{g}/\text{kg}$ (DNREC,2023a). All sediment concentrations were well below this screening level.

Further evaluation for PCBs was completed by calculating organic carbon-normalized concentrations, similar to the approach described in Section 6.1.2 for SVOCs. For each sediment sample, the concentration (in $\mu\text{g}/\text{kg}$) was divided by the sample-specific F_{OC} value, and adjusted for units to result in a sediment concentration in units of $\mu\text{g}/\text{g oc}$. Table 6-7 presents the total PCB sediment concentrations, the F_{OC} for each sample, and the calculated organic carbon-normalized concentrations.

Next, pore water concentrations are calculated by dividing the carbon-normalized sediment concentrations by the organic carbon-water partition coefficient (K_{OC}). The chemical-specific K_{OC} value for total PCBs was obtained from the USEPA (2023) Chemical Specific Parameters Table. The resulting pore water concentrations for total PCBs in each sample are presented in Table 6-7. The calculated concentrations of total PCBs in pore water were then compared to the HSCA marine surface water screening level of 0.03 $\mu\text{g}/\text{L}$. As shown in Table 6-7, all predicted pore water concentrations were well below the screening level.

Based on the direct comparison of sediment data to the HSCA screening level, as well as consideration of equilibrium partitioning to pore water, and subsequent comparison to the HSCA marine surface water screening level, adverse effects on ecological receptors are not anticipated due to exposure to PCBs in sediments.

6.1.5 PFAS

As previously discussed, the only PFAS substances that were detected in the sediment samples were PFOA and PFOS, each detected once in different sediment samples. Both results were “J” qualified, indicating that the concentrations were estimated below the reporting limit.

Currently, DNREC does not provide ecological screening values for PFAS constituents in marine sediment or surface water. As such, a quantitative assessment of potential risk to aquatic receptors cannot be made at this time. However, due to the infrequency of detected substances and the “J” qualified results, PFAS impacts are not considered to be significant in the Indian River sediments, and adverse effects are considered to be unlikely.

6.2 EFFECTS ON UPLAND RECEPTORS

This section presents an evaluation of potential risks to terrestrial ecological receptors due to the beneficial reuse of dredged material as upland surface soil. This evaluation is performed by first comparing the concentrations detected in the sediment samples to the HSCA ecological surface soil screening levels. As previously discussed, the HSCA values are appropriate as a preliminary screening tool; a concentration that exceeds a screening level does not necessarily mean that it is associated with an adverse effect. Exceedances of screening levels should be further evaluated along with multiple lines of evidence to determine whether an effect is likely.

6.2.1 Inorganics & Mercury

Table 6-8 presents the sediment data for inorganic constituents and the available HSCA ecological surface soil screening levels (DNREC, 2023a). Screening levels were available for several of the inorganics. Additionally, this table presents BTVs for those inorganics which have values included in the HSCA Screening Level Table Guidance. As shown in Table 6-8, the sediment concentrations of all inorganic compounds with available HSCA screening levels or BTVs are below these values, with the exception of mercury, selenium, and zinc. These constituents are evaluated further below.

- Mercury – Although the maximum concentration of mercury (0.025 mg/kg) exceeds the HSCA ecological soil screening level of 0.0005 mg/kg, this screening value is considered to be extremely conservative. USEPA (2018) Region 4 provides ecological soil screening values for a variety of terrestrial receptor groups. The screening levels for plants (0.3 mg/kg), invertebrates (0.05 mg/kg), mammals (1.7 mg/kg) and birds (0.013 mg/kg) are all orders of magnitude higher than the HSCA soil screening level. Based on the comparison to receptor group-specific screening values, exposure to mercury is unlikely to result in adverse effects. Only the avian value is slightly exceeded, and for many avian receptors, exposure to localized soil concentrations is minimized due to seasonal migration and a large home range. Further, although a BTV is not listed in the HSCA Screening Level Table, the source document for Delaware background concentrations indicates that mercury was detected in background sites at concentrations up to 0.092 mg/kg (DNREC, 2012).
- Selenium – Although the maximum concentration of selenium (0.27 mg/kg) slightly exceeds the HSCA ecological soil screening level of 0.2 mg/kg, this concentration is below the USEPA (2007a) ecological soil screening levels (EcoSSLs) for plants (0.52 mg/kg), invertebrates (4.1 mg/kg), mammals (0.63 mg/kg) and birds (1.2 mg/kg). Based on the comparison to receptor group-specific EcoSSLs, exposure to selenium is unlikely to result in adverse effects.

- Zinc – Although the maximum concentration of zinc (39 mg/kg) exceeds the HSCA ecological soil screening level of 8.5 mg/kg, this concentration is below the USEPA (2007b) EcoSSLs for plants (160 mg/kg), invertebrates (120 mg/kg), mammals (79 mg/kg) and birds (46 mg/kg). Based on the comparison to receptor group-specific EcoSSLs, exposure to zinc is unlikely to result in adverse effects.

The weight of evidence indicates that concentrations of inorganics detected in sediment samples would not result in adverse effects on terrestrial ecological receptors, if the dredged sediment were to be placed on land.

6.2.2 SVOCs

Table 6-9 presents a comparison of the analytical sediment data for SVOCs to the available HSCA ecological surface soil screening levels (DNREC, 2023a). Screening levels were only available for acenaphthene and fluorene. This table also presents BTVs for those inorganics which have values included in the HSCA Screening Level Table Guidance: benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. As shown in this table, the concentrations of the SVOCs in the sediment samples were below the available HSCA ecological surface soil screening levels or BTVs.

Because several SVOCs do not have HSCA screening values, additional evaluation of the PAHs was completed by calculating the concentrations of total low-molecular-weight (LMW) and total high-molecular weight (HMW) PAHs in each sample. These totals were compared to the USEPA (2007c) EcoSSLs for LMW and HMW PAHs: 29,000 µg/kg and 1,100 µg/kg, respectively. Table 6-9 indicates that the calculated total LMW and HMW PAH concentrations are well below their respective EcoSSL values.

Based on these comparisons, adverse effects on terrestrial receptors from SVOCs in dredged sediments that are placed on land is not expected.

6.2.3 Dioxins and Furans

Table 6-10 presents a comparison of the total 2,3,7,8-TCDD Eq. concentration in each sample to the marine sediment screening levels. As discussed in Section 4.3.2, the total 2,3,7,8-TCDD Eq. concentrations for each sample were calculated for different receptor groups. The applicable receptor groups for the surface soil comparison are mammals and birds; these concentrations were calculated in Tables 4-1 and 4-2, respectively. Further, the total 2,3,7,8-TCDD Eq. concentrations were calculated two ways: one where the non-detect compounds were excluded from the total, and the second where non-detects were conservatively included in the total at concentrations equal to one-half the MDL. The concentrations for both terrestrial receptor groups for all three samples, using both calculation methods, are included in the comparison.

Also presented in Table 6-10 are the ecological surface soil screening levels for 2,3,7,8-TCDD. DNREC (2023a) presents a value of 0.003 $\mu\text{g}/\text{kg}$, which is based on a soil screening value for mammals (Efroymsen et al, 1997). This source also provides a soil screening value for avian receptors; the value is 0.016 $\mu\text{g}/\text{kg}$. Both screening values are presented in Table 6-10 and are compared with the calculated total 2,3,7,8-TCDD Eq. concentrations. As shown in this table, when assuming non-detects equal 0, no sediment concentrations exceed the screening value for mammal or birds. When assuming non-detects equal a concentration of one-half the MDL, the concentrations are below the screening value for birds, but slightly exceed the screening value for mammals.

As previously discussed, it is very conservative to assume that all non-detect dioxin congeners are present at concentrations equal to one-half their detection limits. None of these congeners were detected in any of the sediment samples and based on the confidence in the laboratory data (e.g., no dilution of samples; no analytical or quality issues were noted for the dioxin results), it is unlikely they are actually present. Therefore, the calculated total 2,3,7,8-TCDD Eq. concentrations assuming non-detects equal 0 are considered to better represent the sediment samples. Because these concentrations do not exceed the soil screening levels for mammals or birds, it is concluded that there is negligible potential for adverse effects on terrestrial ecological receptors due to exposure to dioxins in dredged sediments that are placed on land.

6.2.4 PCBs

Table 6-10 presents a comparison of the total PCB concentrations in each sediment sample to the HSCA ecological surface soil screening level (DNREC, 2023a). All sediment concentrations were well below the screening level of 40,000 $\mu\text{g}/\text{kg}$. Based on this comparison, adverse effects on terrestrial receptors are not anticipated due to exposure to PCBs in dredged sediments that are placed on land.

6.2.5 PFAS

As previously discussed, the only PFAS substances that were detected in the sediment samples were PFOA and PFOS, each detected once in different sediment samples. Both results were “J” qualified, indicating that the concentrations were estimated below the reporting limit.

Currently, DNREC does not provide ecological screening values for PFAS constituents in surface soil. As such, a quantitative assessment of potential risk to terrestrial receptors cannot be made at this time. However, due to the infrequency of detected substances and the “J” qualified results, along with the fact that PFAS constituents were detected below human health soil screening levels, impacts are not considered to be significant, and adverse ecological effects are considered to be unlikely.

7.0 SUMMARY AND CONCLUSIONS

This report presented an evaluation of surface water and sediment samples collected from the Indian River and Indian River Bay. The evaluation was conducted to characterize constituent levels in the surface water and sediments from areas proposed for potential dredging, and to evaluate potential impacts on ecological and/or human health as a result of the proposed dredging activities. Analytical surface water data were compared to DNREC HSCA Screening Levels for Marine Surface Water. Analytical sediment data from three composite samples were compared to appropriate screening levels to determine the potential for adverse effects on human health and ecological receptors.

The only surface water DNREC HSCA Screening Level that was exceeded was for mercury, at all three surface water sampling locations. Although the HSCA screening level was exceeded, the concentrations in all three surface water samples were below the Delaware chronic and acute WQC.

The human health evaluation compared concentrations of inorganics, SVOCs, dioxins and furans, PCBs, and PFAS to the HSCA soil screening values. No pesticides were detected in the sediment samples; therefore, no further evaluation was warranted. In the absence of human health screening values for sediment, the soil screening levels are considered to be appropriate for evaluating potential human exposure whether the material remains as sediment or is deposited on land as surface soil. The results of this comparison indicated that thallium was the only constituent detected at concentrations above its soil screening level. Thallium was further evaluated using the RAIS risk calculator for selected receptor scenarios (residential, occupational and recreational). The quantitative risk evaluation for thallium indicated that even using the most conservative, default exposure assumptions, the potential for adverse effects is below the threshold established by both DNREC and USEPA. The results of the human health evaluation indicate that constituent levels in sediments within the proposed dredging area would not be associated with unacceptable risk to human health.

For the ecological evaluation of sediment samples, effects on both aquatic and terrestrial receptors were considered. For aquatic receptors, this was accomplished through a preliminary comparison of data to available HSCA marine sediment screening levels. For selected constituents, equilibrium partitioning calculations were also conducted, and resulting predicted pore water concentrations are compared to marine surface water quality standards. The results for the individual constituent groups are summarized below.

- Sediment data for metals and mercury showed no exceedances of the available HSCA marine sediment screening values. Potential toxicity to benthic aquatic organisms was also evaluated using equilibrium partitioning to predict pore water concentrations. The calculated pore water concentrations were below available HSCA marine surface water screening levels for all inorganics except arsenic. Additional lines of evidence were presented which indicate that exposure to arsenic

by aquatic receptors is unlikely to result in adverse effects (e.g., the pore water concentrations are *conservative predictions*; and all predicted arsenic concentrations were below the Delaware WQC for both chronic and acute exposures). In addition, IWBU values were calculated for each sample to evaluate potential toxicity associated with the divalent metals. Although the IWBU slightly exceeded 1 when calculated using the HSCA screening levels, the results for all samples were below 1 when using the Delaware chronic and acute WQC.

- Sediment data for SVOCs were first compared to HSCA screening levels for marine sediment. Concentrations of 2-methylnaphthanthene and naphthalene in one sample exceeded the screening levels. Potential toxicity of SVOCs was evaluated further through a comparison of organic carbon-normalized concentrations to narcosis ESBs. None of the sediment samples had concentrations of SVOCs exceeding the ESBs. Further, none of the summed toxic units for the samples exceeded 1. Therefore, potential toxicity to aquatic life from SVOCs in Indian River sediments is not expected.
- Total 2,3,7,8-TCDD Eq. concentrations for each sample were calculated for aquatic receptor groups. Because DNREC does not provide marine screening levels for dioxins, the concentrations were compared to screening values presented by NOAA and from the primary literature. Based on these comparisons, there is negligible potential for adverse effects on aquatic ecological receptors due to exposure to dioxins in the sediment.
- Total PCB concentrations did not exceed the HSCA marine sediment screening level. Additionally, predicted porewater concentrations were less than the marine surface water screening value. Based on these comparisons, adverse effects on ecological receptors are not anticipated due to exposure to PCBs in sediments.
- DNREC does not provide screening values for PFAS in marine sediment or surface water. However, due to the infrequency of detected substances and the “J” qualified results, PFAS impacts are not considered to be significant in the Indian River sediments, and adverse effects are unlikely.

Evaluation of risks to terrestrial ecological receptors was completed through a comparison of sediment data to HSCA ecological surface soil screening levels and additional benchmarks specific to terrestrial receptor groups (plants, invertebrates, mammals and birds). The weight of evidence indicates that there is negligible potential for adverse effects on terrestrial ecological receptors due to exposure to constituents in dredged sediments that are placed on land.

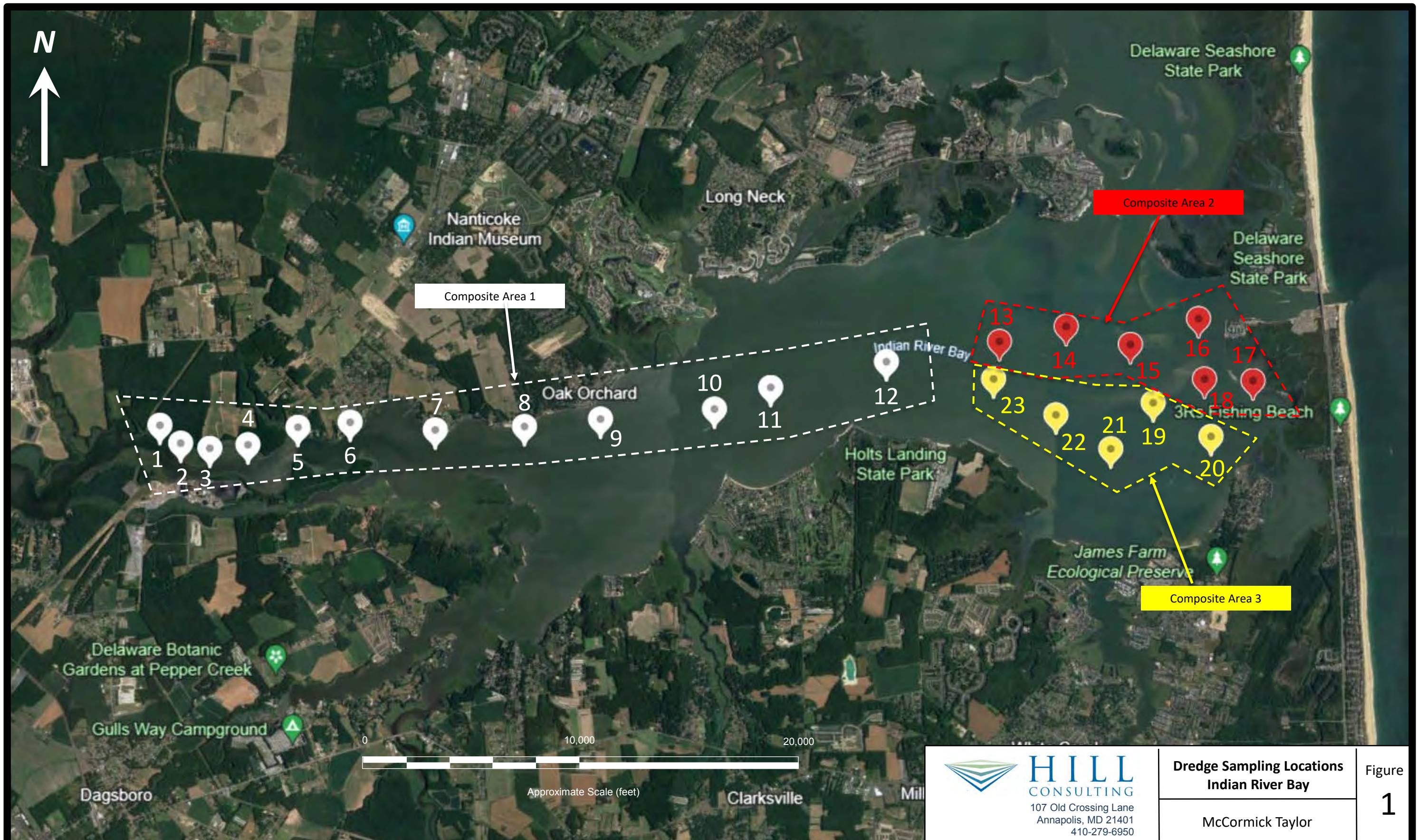
The conclusion of this evaluation is that for all chemical groups analyzed in the Indian River surface water and sediments, as well as all potential human and ecological exposure scenarios, there is negligible potential for adverse effects associated with potential dredging activities.

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FIGURE



 HILL CONSULTING 107 Old Crossing Lane Annapolis, MD 21401 410-279-6950	Dredge Sampling Locations Indian River Bay	Figure 1
	McCormick Taylor	

TABLES

Table 2-1
Sediment Sampling Locations and Depths
Conducted the Week of October 9, 2023
Indian River Bay, Delaware

Label	Proposed ¹		Actual ¹		Anticipated Water Depth in Ft. ²	Actual Water Depth in Ft. ³	Proposed Sample core depth in Ft. ⁴	Actual Recovery in Ft.	Notes
	Northing	Easting	Northing	Easting					
S1	4271360.6706	479173.1237	4271362.3	479174.0	12.5	11.2	6.6	11.0	
S2	4271123.2897	479449.1480	4271127.1	479446.2	4.3	5.8	6.6	10.5	
S3	4271057.0439	479835.5820	4271060.6	479833.6	8.7	10.6	7.1	9.1	
S4	4271106.7283	480332.4258	4271105.3	480332.5	6.3	8.6	9.4	11.1	
S5	4271333.0682	480994.8841	4271334.1	480994.4	6.1	7.6	9.7	13.3	
S6	4271399.3140	481679.4244	4271398.9	481677.6	9.9	12.7	5.8	11.6	
S7	4271294.4248	482800.0831	4271297.7	482798.5	5.8	8.3	9.9	10.0	
S8	4271338.5887	483975.9467	4271340.4	483972.4	4.3	5.8	11.4	12.1	
S9	4271437.9574	484975.1547	4271437.0	484973.2	4.1	6.0	11.7	13.8	
S10	4271567.1993	486470.5884	4271566.2	486472.7	6.0	9.0	9.8	11.9	
S11	4271848.7165	487215.6565	4271848.7	487213.6	5.1	8.3	10.7	10.7	
S12	4272181.2984	488740.1888	4272183.9	488736.5	6.7	9.3	9.1	14.0	
S13	4272445.8823	490221.8584	4272446.8	490223.7	5.1	7.6	5.9	7.8	
S14	4272641.6743	491100.2768	4272643.0	491101.8	11.6	18.3	5.9	6.5	
S15	4272403.5489	491946.9452	4272405.6	491946.2	13.1	16.7	5.9	8.0	
S16	4272742.2162	492841.2386	4272743.0	492843.2	13.1	17.0	5.9	6.0	
S17	4271932.5896	493555.6151	4271929.2	493558.6	1.9	4.8	5.9	3.5	Refusal Encountered at 5.2 ft.
S18	4271953.7563	492915.3221	4271951.2	492920.9	13.5	14.7	5.9	8.0	
S19	4271641.5473	492248.5708	4271641.2	492245.6	6.0	9.6	5.9	6.4	
S20	4271202.3381	493005.2806	4271199.1	493004.9	2.4	5.6	5.9	6.8	
S21	4271038.2961	491687.6530	4271039.4	491686.8	3.6	7.0	5.9	6.2	
S22	4271482.7970	490962.6932	4271484.9	490962.6	4.8	8.4	5.9	5.9	
S23	4271953.7563	490147.7749	4271956.7	490145.6	6.4	10.3	5.9	7.2	

Notes:

- 1 - NAD83 Zone 18N
- 2 - Hudson 2022, MLLW
- 3 - Depth measured at time of sample collection from water surface to mudline
- 4 - Depth below mudline

TABLE 3-1
COMPARISON OF MEASURED SURFACE WATER DATA TO HSCA SCREENING LEVELS - INORGANICS
Indian River Bay, Delaware

Constituent	HSCA Surface Water Screening Level ¹ (µg/L)	Measured Surface Water Concentrations* (µg/L)		
		SW COMP 1	SW COMP 2	SW COMP 3
Aluminum	NV	780	190	320
Antimony	500	0.20	0.20	0.20
Arsenic	12.5	2.7	2.2	2.3
Barium	NV	35	11	9.6
Beryllium	NV	0.12	0.12	0.12
Cadmium	0.12	0.15	0.15	0.15
Calcium	NA	260,000	340,000	370,000
Chromium	57.5	1.5	0.55	0.60
Cobalt	NV	0.55	0.16	0.16
Copper	3.1	1.3	0.93	0.84
Iron	NA	730	210	320
Lead	8.1	0.87	0.22	0.31
Magnesium	NA	770,000	1,100,000	1,000,000
Manganese	NV	34	8.5	8.5
Mercury	0.016	0.088	0.098	0.091
Nickel	8.2	0.45	0.40	0.40
Potassium	NA	240,000	320,000	340,000
Selenium	71	0.28	0.28	0.28
Silver	0.23	0.10	0.10	0.10
Sodium	NA	6,800,000	8,600,000	8,800,000
Thallium	21.3	0.13	0.13	0.13
Vanadium	NV	3.3	2.3	2.6
Zinc	81	4.0	4.0	4.0

Notes:

* Non-detect surface water concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC) Hazardous Substance Cleanup Act (HSCA) marine surface water screening levels from November 2023.

NV - No Value available for this constituent.

NA - Not Applicable; constituent is an essential nutrient and is considered to have low toxicity.

Exceedances of the screening levels are shaded and in bold font.

**TABLE 3-2
COMPARISON OF MEASURED SURFACE WATER DATA TO HSCA SCREENING LEVELS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Surface Water Screening Level ¹ (µg/L)	Measured Surface Water Concentrations* (µg/L)		
		SW COMP 1	SW COMP 2	SW COMP 3
2-Methylnaphthalene	4.2	0.028	0.029	0.029
Acenaphthene	6.6	0.0094	0.0096	0.0096
Acenaphthylene	NV	0.0094	0.0096	0.0096
Anthracene	0.18	0.0094	0.0096	0.0096
Benzo[a]anthracene	NV	0.0094	0.0096	0.0096
Benzo[a]pyrene	NV	0.0094	0.0096	0.0096
Benzo[b]fluoranthene	NV	0.038	0.038	0.038
Benzo[e]pyrene	NV	0.0094	0.0096	0.0096
Benzo[g,h,i]perylene	NV	0.028	0.029	0.029
Benzo[k]fluoranthene	NV	0.0094	0.0096	0.0096
C1-Benzo(a)anthracenes/Chrysenes	NV	0.0094	0.0096	0.0096
C1-Fluoranthenes/pyrene	NV	0.0094	0.0096	0.0096
C1-Fluorenes	NV	0.0094	0.0096	0.0096
C1-Naphthalenes	NV	0.028	0.029	0.029
C1-Phenanthrenes/Anthracenes	NV	0.028	0.029	0.029
C1-Benzo(a)anthracenes/Chrysenes	NV	0.0094	0.0096	0.0096
C2-Fluoranthenes/Pyrene	NV	0.0094	0.0096	0.0096
C2-Fluorenes	NV	0.0094	0.0096	0.0096
C2-Naphthalenes	NV	0.028	0.029	0.029
C2-Phenanthrenes/Anthracenes	NV	0.028	0.029	0.029
C3-Benzo(a)Anthracenes/Chrysenes	NV	0.0094	0.0096	0.0096
C3-Fluoranthenes/Pyrene	NV	0.0094	0.0096	0.0096
C3-Fluorenes	NV	0.0094	0.0096	0.0096
C3-Naphthalenes	NV	0.028	0.029	0.029
C3-Phenanthrenes/Anthracenes	NV	0.028	0.029	0.029
C4-Benzo(a)anthracenes/Chrysenes	NV	0.0094	0.0096	0.0096
C4-Naphthalenes	NV	0.028	0.029	0.029
C4-Phenanthrenes/Anthracenes	NV	0.028	0.029	0.029
Chrysene	NV	0.0094	0.0096	0.0096
Dibenz(a,h)anthracene	NV	0.0094	0.0096	0.0096
Dibenzofuran	65	0.0094	0.0096	0.0096
Fluoranthene	1.6	0.0094	0.0096	0.0096
Fluorene	2.5	0.0094	0.0096	0.0096
Indeno[1,2,3-cd]pyrene	NV	0.038	0.038	0.038
Naphthalene	1.4	0.029	0.029	0.029
Perylene	NV	0.019	0.019	0.019
Phenanthrene	1.5	0.028	0.029	0.029
Pyrene	0.24	0.019	0.019	0.019

Notes:

* Non-detect surface water concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC)

Hazardous Substance Cleanup Act (HSCA) marine surface water screening levels from November 2023.

NV - No Value available for this constituent.

**TABLE 3-3
COMPARISON OF DETECTED SURFACE WATER DATA TO HSCA SCREENING LEVELS: DIOXINS/FURANS, PCBs, ORGANOCHLORIDE PESTICIDES & PFAS
Indian River Bay, Delaware**

Detected Constituent	HSCA Surface Water Screening Level ¹ (µg/L)	Measured Surface Water Concentrations* (µg/L)		
		SW COMP 1	SW COMP 2	SW COMP 3
Dioxins & Furans				
OCDD	NV	0.000056	<i>0.000034</i>	<i>0.000034</i>
Polychlorinated Biphenyls (PCBs)				
PCB-153/168	NV	0.000018	<i>0.000017</i>	<i>0.000017</i>
PCB-180/193	NV	0.000021	0.000018	0.000025
PCB-187	NV	0.000019	0.000015	0.000020
PCB-194	NV	0.000016	0.000016	0.000017
PCB-198/199	NV	0.000026	0.000029	0.000031
PCB-203	NV	<i>0.000012</i>	0.000012	0.000016
PCB-206	NV	0.000016	0.000017	0.000024
PCB-66	NV	0.000010	<i>0.000010</i>	<i>0.000010</i>
Total PCBs	0.03	0.000126	0.000107	0.000133
Per- and Polyfluoroalkyl Substances (PFAS)				
Perfluorobutanoic acid (PFBA)	NV	0.0022	0.0021	0.0022
Perfluoropentanoic acid	NV	0.0022	0.00099	0.0012
Perfluorohexanoic acid (PFHxA)	NV	0.0017	0.0012	0.0014
Perfluoroheptanoic acid	NV	0.00098	<i>0.00046</i>	0.00062
Perfluorooctanoic acid (PFOA)	NV	0.0023	0.0016	0.0012
Perfluorononanoic acid (PFNA)	NV	<i>0.00044</i>	0.00068	0.00076
Perfluorobutanesulfonic acid (PFBS)	NV	0.0013	0.0016	0.0017
Perfluorohexanesulfonic acid (PFHxS)	NV	0.00065	<i>0.00050</i>	<i>0.00049</i>
Perfluorooctanesulfonic acid (PFOS)	NV	0.00093	<i>0.00044</i>	0.00058
Organochloride Pesticides				
Aldrin	0.13	0.016	<i>0.0021</i>	<i>0.0020</i>

Notes:

* Non-detect surface water concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the DNREC-HSCA marine surface water screening levels from November 2023.

NV - No Value available for this constituent.

**TABLE 4-1
CALCULATION OF TOTAL 2,3,7,8-TCDD CONCENTRATIONS IN SEDIMENT SAMPLES - HUMANS AND MAMMALS
Indian River Bay, Delaware**

Congener	Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.025	0.014	0.019
1,2,3,4,6,7,8-HpCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8,9-HpCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,6,7,8-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,6,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8-PeCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8-PeCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8,9-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8,9-HxCDF	< 0.0039	< 0.0029	< 0.0028
2,3,4,6,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
2,3,4,7,8-PeCDF	< 0.0039	< 0.0029	< 0.0028
2,3,7,8-TCDD	< 0.00039	< 0.00029	< 0.00028
2,3,7,8-TCDF	< 0.00039	< 0.00029	< 0.00028
OCDD	0.3	0.12	0.23
OCDF	< 0.0039	< 0.0029	< 0.0028

Congener	Toxicity Equivalency Factor (TEF)*	Non-detect Concentrations Scored as 0		
		Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.01	0.00025	0.00014	0.00019
1,2,3,4,6,7,8-HpCDF	0.01	0	0	0
1,2,3,4,7,8-HxCDD	0.1	0	0	0
1,2,3,4,7,8-HxCDF	0.1	0	0	0
1,2,3,4,7,8,9-HpCDF	0.01	0	0	0
1,2,3,6,7,8-HxCDD	0.1	0	0	0
1,2,3,6,7,8-HxCDF	0.1	0	0	0
1,2,3,7,8-PeCDD	1	0	0	0
1,2,3,7,8-PeCDF	0.03	0	0	0
1,2,3,7,8,9-HxCDD	0.1	0	0	0
1,2,3,7,8,9-HxCDF	0.1	0	0	0
2,3,4,6,7,8-HxCDF	0.1	0	0	0
2,3,4,7,8-PeCDF	0.3	0	0	0
2,3,7,8-TCDD	1	0	0	0
2,3,7,8-TCDF	0.1	0	0	0
OCDD	0.0003	0.00009	0.000036	0.000069
OCDF	0.0003	0	0	0
Total 2,3,7,8-TCDD Eq. concentration		0.00034	0.00018	0.00026

**TABLE 4-1
CALCULATION OF TOTAL 2,3,7,8-TCDD CONCENTRATIONS IN SEDIMENT SAMPLES - HUMANS AND MAMMALS
Indian River Bay, Delaware**

Congener	Toxicity Equivalency Factor (TEF)*	Non-detect Concentrations Scored as 1/2 MDL		
		Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.01	0.00025	0.00014	0.00019
1,2,3,4,6,7,8-HpCDF	0.01	0.0000195	0.0000145	0.000014
1,2,3,4,7,8-HxCDD	0.1	0.000195	0.000145	0.00014
1,2,3,4,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
1,2,3,4,7,8,9-HpCDF	0.01	0.0000195	0.0000145	0.000014
1,2,3,6,7,8-HxCDD	0.1	0.000195	0.000145	0.00014
1,2,3,6,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
1,2,3,7,8-PeCDD	1	0.00195	0.00145	0.0014
1,2,3,7,8-PeCDF	0.03	0.0000585	0.0000435	0.000042
1,2,3,7,8,9-HxCDD	0.1	0.000195	0.000145	0.00014
1,2,3,7,8,9-HxCDF	0.1	0.000195	0.000145	0.00014
2,3,4,6,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
2,3,4,7,8-PeCDF	0.3	0.000585	0.000435	0.00042
2,3,7,8-TCDD	1	0.000195	0.000145	0.00014
2,3,7,8-TCDF	0.1	0.0000195	0.0000145	0.000014
OCDD	0.0003	0.00009	0.000036	0.000069
OCDF	0.0003	5.85E-07	4.35E-07	0.0000042
Total 2,3,7,8-TCDD Eq. concentration		0.0046	0.0033	0.0033

Notes:

* Toxicity Equivalency Factors (TEF) were obtained from Attachment A of USEPA (2013) and Table 2 of USEPA (2008a).

**TABLE 4-2
CALCULATION OF TOTAL 2,3,7,8-TCDD CONCENTRATIONS IN SEDIMENT SAMPLES - BIRDS
Indian River Bay, Delaware**

Congener	Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.025	0.014	0.019
1,2,3,4,6,7,8-HpCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8,9-HpCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,6,7,8-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,6,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8-PeCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8-PeCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8,9-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8,9-HxCDF	< 0.0039	< 0.0029	< 0.0028
2,3,4,6,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
2,3,4,7,8-PeCDF	< 0.0039	< 0.0029	< 0.0028
2,3,7,8-TCDD	< 0.00039	< 0.00029	< 0.00028
2,3,7,8-TCDF	< 0.00039	< 0.00029	< 0.00028
OCDD	0.3	0.12	0.23
OCDF	< 0.0039	< 0.0029	< 0.0028

Congener	Toxicity Equivalency Factor (TEF)*	Non-detect Concentrations Scored as 0		
		Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.001	0.000025	0.000014	0.000019
1,2,3,4,6,7,8-HpCDF	0.01	0	0	0
1,2,3,4,7,8-HxCDD	0.05	0	0	0
1,2,3,4,7,8-HxCDF	0.1	0	0	0
1,2,3,4,7,8,9-HpCDF	0.01	0	0	0
1,2,3,6,7,8-HxCDD	0.01	0	0	0
1,2,3,6,7,8-HxCDF	0.1	0	0	0
1,2,3,7,8-PeCDD	1	0	0	0
1,2,3,7,8-PeCDF	0.1	0	0	0
1,2,3,7,8,9-HxCDD	0.1	0	0	0
1,2,3,7,8,9-HxCDF	0.1	0	0	0
2,3,4,6,7,8-HxCDF	0.1	0	0	0
2,3,4,7,8-PeCDF	1	0	0	0
2,3,7,8-TCDD	1	0	0	0
2,3,7,8-TCDF	0.1	0	0	0
OCDD	0.0001	0.00003	0.000012	0.000023
OCDF	0.0001	0	0	0
Total 2,3,7,8-TCDD Eq. concentration		0.000055	0.000026	0.000042

**TABLE 4-2
CALCULATION OF TOTAL 2,3,7,8-TCDD CONCENTRATIONS IN SEDIMENT SAMPLES - BIRDS
Indian River Bay, Delaware**

Congener	Toxicity Equivalency Factor (TEF)*	Non-detect Concentrations Scored as 1/2 MDL		
		Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.001	0.000025	0.000014	0.000019
1,2,3,4,6,7,8-HpCDF	0.01	0.0000195	0.0000145	0.000014
1,2,3,4,7,8-HxCDD	0.05	0.0000975	0.0000725	0.00007
1,2,3,4,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
1,2,3,4,7,8,9-HpCDF	0.01	0.0000195	0.0000145	0.000014
1,2,3,6,7,8-HxCDD	0.01	0.0000195	0.0000145	0.000014
1,2,3,6,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
1,2,3,7,8-PeCDD	1	0.00195	0.00145	0.0014
1,2,3,7,8-PeCDF	0.1	0.000195	0.000145	0.00014
1,2,3,7,8,9-HxCDD	0.1	0.000195	0.000145	0.00014
1,2,3,7,8,9-HxCDF	0.1	0.000195	0.000145	0.00014
2,3,4,6,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
2,3,4,7,8-PeCDF	1	0.00195	0.00145	0.0014
2,3,7,8-TCDD	1	0.000195	0.000145	0.00014
2,3,7,8-TCDF	0.1	0.0000195	0.0000145	0.000014
OCDD	0.0001	0.00003	0.000012	0.000023
OCDF	0.0001	1.95E-07	1.45E-07	0.00000014
Total 2,3,7,8-TCDD Eq. concentration		0.0055	0.0041	0.0039

Notes:

* Toxicity Equivalency Factors (TEF) were obtained from Table 2 of USEPA (2008a).

**TABLE 4-3
CALCULATION OF TOTAL 2,3,7,8-TCDD CONCENTRATIONS IN SEDIMENT SAMPLES - AQUATIC RECEPTORS
Indian River Bay, Delaware**

Congener	Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.025	0.014	0.019
1,2,3,4,6,7,8-HpCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,4,7,8,9-HpCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,6,7,8-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,6,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8-PeCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8-PeCDF	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8,9-HxCDD	< 0.0039	< 0.0029	< 0.0028
1,2,3,7,8,9-HxCDF	< 0.0039	< 0.0029	< 0.0028
2,3,4,6,7,8-HxCDF	< 0.0039	< 0.0029	< 0.0028
2,3,4,7,8-PeCDF	< 0.0039	< 0.0029	< 0.0028
2,3,7,8-TCDD	< 0.00039	< 0.00029	< 0.00028
2,3,7,8-TCDF	< 0.00039	< 0.00029	< 0.00028
OCDD	0.3	0.12	0.23
OCDF	< 0.0039	< 0.0029	< 0.0028

Congener	Toxicity Equivalency Factor (TEF)*	Non-detect Concentrations Scored as 0		
		Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.001	0.000025	0.000014	0.000019
1,2,3,4,6,7,8-HpCDF	0.1	0	0	0
1,2,3,4,7,8-HxCDD	0.5	0	0	0
1,2,3,4,7,8-HxCDF	0.1	0	0	0
1,2,3,4,7,8,9-HpCDF	0.01	0	0	0
1,2,3,6,7,8-HxCDD	0.01	0	0	0
1,2,3,6,7,8-HxCDF	0.1	0	0	0
1,2,3,7,8-PeCDD	1	0	0	0
1,2,3,7,8-PeCDF	0.05	0	0	0
1,2,3,7,8,9-HxCDD	0.01	0	0	0
1,2,3,7,8,9-HxCDF	0.1	0	0	0
2,3,4,6,7,8-HxCDF	0.1	0	0	0
2,3,4,7,8-PeCDF	0.5	0	0	0
2,3,7,8-TCDD	1	0	0	0
2,3,7,8-TCDF	0.05	0	0	0
OCDD	0.0001	0.00003	0.000012	0.000023
OCDF	0.0001	0	0	0
Total 2,3,7,8-TCDD Eq. concentration		0.000055	0.000026	0.000042

**TABLE 4-3
CALCULATION OF TOTAL 2,3,7,8-TCDD CONCENTRATIONS IN SEDIMENT SAMPLES - AQUATIC RECEPTORS
Indian River Bay, Delaware**

Congener	Toxicity Equivalency Factor (TEF)*	Non-detect Concentrations Scored as 1/2 MDL		
		Sed COMP-1 (ug/kg)	Sed COMP-2 (ug/kg)	Sed COMP-3 (ug/kg)
1,2,3,4,6,7,8-HpCDD	0.001	0.000025	0.000014	0.000019
1,2,3,4,6,7,8-HpCDF	0.1	0.000195	0.000145	0.00014
1,2,3,4,7,8-HxCDD	0.5	0.000975	0.000725	0.0007
1,2,3,4,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
1,2,3,4,7,8,9-HpCDF	0.01	0.0000195	0.0000145	0.000014
1,2,3,6,7,8-HxCDD	0.01	0.0000195	0.0000145	0.000014
1,2,3,6,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
1,2,3,7,8-PeCDD	1	0.00195	0.00145	0.0014
1,2,3,7,8-PeCDF	0.05	0.0000975	0.0000725	0.00007
1,2,3,7,8,9-HxCDD	0.01	0.0000195	0.0000145	0.000014
1,2,3,7,8,9-HxCDF	0.1	0.000195	0.000145	0.00014
2,3,4,6,7,8-HxCDF	0.1	0.000195	0.000145	0.00014
2,3,4,7,8-PeCDF	0.5	0.000975	0.000725	0.0007
2,3,7,8-TCDD	1	0.000195	0.000145	0.00014
2,3,7,8-TCDF	0.05	9.75E-06	0.00000725	0.000007
OCDD	0.0001	0.00003	0.000012	0.000023
OCDF	0.0001	1.95E-07	1.45E-07	0.00000014
Total 2,3,7,8-TCDD Eq. concentration		0.0053	0.0039	0.0038

Notes:

* Toxicity Equivalency Factors (TEF) were obtained from Table 2 of USEPA (2008a).

TABLE 4-4
CALCULATION OF TOTAL PCB CONCENTRATIONS IN SEDIMENT SAMPLES
Indian River Bay, Delaware

PCB Congener *	SED COMP 1 (ug/kg)	SED COMP 2 (ug/kg)	SED COMP 3 (ug/kg)
PCB-187	0.0066	ND	ND
PCB-194	0.0081	0.0065	ND
PCB-196	0.0041	ND	ND
PCB-198/199	0.012	0.0075	0.0066
PCB-206	0.0067	0.0057	0.0042
Total PCBs **	0.0375	0.0197	0.0108

Notes:

* Only the results for detected PCB congeners are presented in this table. Complete results are presented in the laboratory report (Appendix C).

** None of the detected PCB congeners are considered to be dioxin-like. Thus, total PCBs are calculated as the straight sum of detected results. Refer to Section 4.3.3.

ND - Not Detected

**TABLE 5-1
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA SOIL SCREENING LEVELS - INORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Soil Screening Level ¹ (mg/kg)	Measured Sediment Concentrations* (mg/kg)		
		SED COMP 1	SED COMP 2	SED COMP 3
Aluminum	51,200	11,000	13,000	6,900
Antimony	3.1	<i>0.063</i>	<i>0.062</i>	<i>0.063</i>
Arsenic	11	4.6	5.9	2.7
Barium	1,500	41	31	16
Beryllium	16	0.58	0.54	0.26
Cadmium	0.71	0.1	0.071	0.059
Calcium	NA	1,500	2,200	1,400
Chromium	214	24	28	13
Cobalt	34	5.1	6.1	2.8
Copper	310	5.2	5.6	3.1
Iron	74,767	15,000	16,000	8,100
Lead	400	6.3	5.5	3.1
Magnesium	NA	4,000	5,200	2,200
Manganese	2,100	120	160	69
Mercury	1.1	0.021	<i>0.018</i>	0.025
Nickel	150	12	15	6.9
Potassium	NA	2,000	2,800	1,200
Selenium	39	0.27	0.2	0.12
Silver	39	0.034	<i>0.031</i>	<i>0.032</i>
Sodium	NA	3,700	4,200	2,100
Thallium	0.078	0.11	0.13	0.089
Vanadium	134	25	31	15
Zinc	2,300	39	39	19

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC) Hazardous Substance Cleanup Act (HSCA) soil screening levels from November 2023.

NA - Not Applicable; constituent is an essential nutrient and is considered to have low toxicity.

Exceedances of the screening levels are shaded and in bold font.

**TABLE 5-2
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA SOIL SCREENING LEVELS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Soil Screening Level ¹ (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
		SED COMP 1	SED COMP 2	SED COMP 3
2-Methylnaphthalene	24,000	70	3.5	2.6
Acenaphthene	360,000	1.4	2.4	1.3
Acenaphthylene	NV	<i>0.68</i>	1.7	<i>0.46</i>
Anthracene	1,800,000	0.97	5.1	2.4
Benzo[a]anthracene	1,100	4.2	5.4	1.4
Benzo[a]pyrene	240	2.3	1.9	1.4
Benzo[b]fluoranthene	1,100	5	3.7	1.5
Benzo[e]pyrene	570	5	<i>1</i>	<i>0.92</i>
Benzo[g,h,i]perylene	NV	1.6	<i>1</i>	<i>0.92</i>
Benzo[k]fluoranthene	11,000	3.4	3.6	1.2
C1-Benzo(a)anthracenes/Chrysenes	NV	1.4	<i>1</i>	3.4
C1-Fluoranthenes/pyrene	NV	11	<i>1</i>	7.2
C1-Fluorenes	NV	1.4	<i>1</i>	<i>0.92</i>
C1-Naphthalenes	NV	80	3.8	3.3
C1-Phenanthrenes/Anthracenes	NV	49	6.3	9
C1-Benzo(a)anthracenes/Chrysenes	NV	1.4	<i>1</i>	<i>0.92</i>
C2-Fluoranthenes/Pyrene	NV	1.4	<i>1</i>	11
C2-Fluorenes	NV	1.4	<i>1</i>	<i>0.92</i>
C2-Naphthalenes	NV	85	60	38
C2-Phenanthrenes/Anthracenes	NV	32	<i>1</i>	13
C3-Benzo(a)Anthracenes/Chrysenes	NV	1.4	<i>1</i>	<i>0.92</i>
C3-Fluoranthenes/Pyrene	NV	1.4	<i>1</i>	<i>0.92</i>
C3-Fluorenes	NV	1.4	<i>1</i>	<i>0.92</i>
C3-Naphthalenes	NV	2.7	2	1.8
C3-Phenanthrenes/Anthracenes	NV	23	<i>1</i>	16
C4-Benzo(a)anthracenes/Chrysenes	NV	1.4	<i>1</i>	<i>0.92</i>
C4-Naphthalenes	NV	2.7	2	1.8
C4-Phenanthrenes/Anthracenes	NV	1.4	<i>1</i>	<i>0.92</i>
Chrysene	110,000	9.2	6	8.7
Dibenz(a,h)anthracene	170	1.4	<i>1</i>	<i>0.92</i>
Dibenzofuran	7,800	47	5.4	2.5
Fluoranthene	240,000	9.4	8.3	4.6
Fluorene	240,000	3.2	5.7	2.8
Indeno[1,2,3-cd]pyrene	1,300	1.4	1.3	<i>0.92</i>
Naphthalene	2,000	50	5.1	3.5
Perylene	540	32	75	42
Phenanthrene	180,000	71	7.7	6.2
Pyrene	180,000	7.7	6.8	4.9

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC) Hazardous Substance Cleanup Act (HSCA) soil screening levels from November 2023.

NV - No value available for this constituent.

**TABLE 5-3
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA SOIL SCREENING LEVELS - DIOXINS & FURANS, TOTAL PCBs, AND PFAS
Indian River Bay, Delaware**

Constituent	HSCA Soil Screening Level ¹ (ug/kg)	Bioaccumulation-based Sediment Quality Criterion (BBSQC) for PCBs (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
			SED COMP 1	SED COMP 2	SED COMP 3
Dioxins & Furans²					
Total 2,3,7,8-TCDD Equivalent (ND = 0)	0.0048	--	0.00034	0.00018	0.00026
Total 2,3,7,8-TCDD Equivalent (ND = 1/2 MDL)	0.0048	--	0.0046	0.0033	0.0033
Polychlorinated Biphenyls (PCBs)					
Total PCBs ³	230	33.2	0.0375	0.0197	0.0108
Per- and Polyfluoroalkyl Substances (PFAS)⁴					
Perfluorobutanoic acid (PFBA)	7800	--	<i>0.00012</i>	<i>0.0001</i>	<i>0.0001</i>
Perfluorohexanoic acid (PFHxA)	3200	--	<i>0.000069</i>	<i>0.000059</i>	<i>0.000059</i>
Perfluorooctanoic acid (PFOA)	19	--	0.000063	<i>0.000051</i>	<i>0.000051</i>
Perfluorononanoic acid (PFNA)	19	--	<i>0.000058</i>	<i>0.00005</i>	<i>0.00005</i>
Perfluorobutanesulfonic acid (PFBS)	1900	--	<i>0.000058</i>	<i>0.00005</i>	<i>0.00005</i>
Perfluorohexanesulfonic acid (PFHxS)	130	--	<i>0.000058</i>	<i>0.00005</i>	<i>0.00005</i>
Perfluorooctanesulfonic acid (PFOS)	13	--	<i>0.00006</i>	0.000052	<i>0.000051</i>
Hexafluoropropylene oxide dimer acid (HFPO-DA)	23	--	<i>0.00006</i>	<i>0.000051</i>	<i>0.000051</i>

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC) Hazardous Substance Cleanup Act (HSCA) soil screening levels from November 2023.

² Total 2,3,7,8-TCDD Equivalent concentrations are calculated in Table 4-1.

³ Total PCB concentrations are calculated in Table 4-4.

⁴ The Per- and Polyfluoroalkyl Substances (PFAS) listed in this table are those which were detected and/or which have screening levels.

TABLE 5-4
SUMMARY OF HUMAN HEALTH RISK CALCULATIONS
Indian River Bay, Delaware

Exposure Scenario	Receptor	Total Hazard Index	Potential Cancer Risk
Residential Exposure: Soil	Adult Resident	0.0156	NA
	Child Resident	0.166	NA
	Age-Adjusted total	0.0503	NA
Recreational Exposure: Soil/Sediment	Adult Resident	0.00334	NA
	Child Resident	0.0356	NA
	Age-Adjusted total	0.0108	NA
Worker Exposure: Soil	Excavation Worker (Adult)	0.000735	NA

Notes:

NA - Not applicable; carcinogenic toxicity criteria are not available for thallium; only the noncancer endpoint is evaluated.

**TABLE 6-1
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA ECOLOGICAL SCREENING LEVELS - INORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Ecological Marine Sediment Screening Level ¹ (mg/kg)	Measured Sediment Concentrations* (mg/kg)		
		SED COMP 1	SED COMP 2	SED COMP 3
Aluminum	NV	11000	13000	6900
Antimony	NV	<i>0.063</i>	<i>0.062</i>	<i>0.063</i>
Arsenic	7.24	4.6	5.9	2.7
Barium	NV	41	31	16
Beryllium	NV	0.58	0.54	0.26
Cadmium	0.68	0.1	0.071	0.059
Calcium	NA	1500	2200	1400
Chromium	52.3	24	28	13
Cobalt	NV	5.1	6.1	2.8
Copper	18.7	5.2	5.6	3.1
Iron	NA	15000	16000	8100
Lead	30.2	6.3	5.5	3.1
Magnesium	NA	4000	5200	2200
Manganese	NV	120	160	69
Mercury	0.13	0.021	<i>0.018</i>	0.025
Nickel	15.9	12	15	6.9
Potassium	NA	2000	2800	1200
Selenium	NV	0.27	0.2	0.12
Silver	0.73	0.034	<i>0.031</i>	<i>0.032</i>
Sodium	NA	3700	4200	2100
Thallium	NV	0.11	0.13	0.089
Vanadium	NV	25	31	15
Zinc	124	39	39	19

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC)

Hazardous Substance Cleanup Act (HSCA) screening levels from November 2023.

NA - Not applicable; constituent is an essential nutrient and is considered to have low toxicity.

NV - No value available for this constituent.

**TABLE 6-2
CALCULATION OF PORE WATER CONCENTRATIONS - INORGANICS
Indian River Bay, Delaware**

Constituent	Measured Sediment Concentrations* (mg/kg)			Sediment/ Water Partition Coefficient ¹ (log Kd) (L/kg)	Calculated Pore Water Concentration ² (ug/L)		
	SED COMP 1	SED COMP 2	SED COMP 3		SED COMP 1	SED COMP 2	SED COMP 3
Aluminum	11000	13000	6900	NV	--	--	--
Antimony	<i>0.063</i>	<i>0.062</i>	<i>0.063</i>	3.6	0.016	0.016	0.016
Arsenic	4.6	5.9	2.7	2.4	18.3	23.5	10.7
Barium	41	31	16	2.5	130	98.0	50.6
Beryllium	0.58	0.54	0.26	2.8	0.92	0.86	0.41
Cadmium	0.1	0.071	0.059	3.3	0.050	0.036	0.030
Calcium	1500	2200	1400	NA	NA	NA	NA
Chromium	24	28	13	4.9	0.30	0.35	0.16
Cobalt	5.1	6.1	2.8	3.1	4.05	4.85	2.22
Copper	5.2	5.6	3.1	3.5	1.64	1.77	0.98
Iron	15000	16000	8100	NA	NA	NA	NA
Lead	6.3	5.5	3.1	4.6	0.16	0.14	0.078
Magnesium	4000	5200	2200	NA	NA	NA	NA
Manganese	120	160	69	NV	--	--	--
Mercury	0.021	<i>0.018</i>	0.025	4.9	0.00026	0.00023	0.00031
Nickel	12	15	6.9	3.9	1.51	1.89	0.87
Potassium	2000	2800	1200	NA	NA	NA	NA
Selenium	0.27	0.2	0.12	3.6	0.068	0.050	0.030
Silver	0.034	<i>0.031</i>	<i>0.032</i>	3.6	0.0085	0.0078	0.0080
Sodium	3700	4200	2100	NA	NA	NA	NA
Thallium	0.11	0.13	0.089	1.3	5.51	6.52	4.46
Vanadium	25	31	15	2.1	199	246	119
Zinc	39	39	19	4.1	3.10	3.10	1.51

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

NA - Not applicable; constituent is an essential nutrient and is considered to have low toxicity.

NV - No value available for this constituent.

"--" Pore water concentration could not be calculated.

¹ Sediment/water partitioning coefficient (log Kd) value is the mean value from Table 4 of USEPA (2005a)

² The porewater concentration is calculated as the sediment concentration divided by log Kd, and multiplied by 1,000 to convert units

**TABLE 6-3
COMPARISON OF PORE WATER CONCENTRATIONS TO SURFACE WATER BENCHMARKS - INORGANICS
Indian River Bay, Delaware**

Constituent	Calculated Pore Water Concentration (ug/L)			HSCA Surface Water Screening Level Marine ¹ (ug/L)	Delaware WQC Marine Chronic ² (ug/L)	Delaware WQC Marine Acute ² (ug/L)	Toxic Units - HSCA Values			Toxic Units - DE WQC Chronic			Toxic Units - DE WQC Acute		
	SED COMP 1	SED COMP 2	SED COMP 3				SED COMP 1	SED COMP 2	SED COMP 3	SED COMP 1	SED COMP 2	SED COMP 3	SED COMP 1	SED COMP 2	SED COMP 3
Aluminum	--	--	--	NV	NV	NV	--	--	--	--	--	--	--	--	--
Antimony	0.0158	0.0156	0.0158	500	NV	NV	0.000032	0.000031	0.000032	--	--	--	--	--	--
Arsenic	18.3	23.5	10.7	12.5	36	69	1.47	1.88	0.86	0.51	0.65	0.30	0.27	0.34	0.16
Barium	130	98.0	50.6	NV	NV	NV	--	--	--	--	--	--	--	--	--
Beryllium	0.92	0.86	0.41	NV	NV	NV	--	--	--	--	--	--	--	--	--
Cadmium	0.050	0.036	0.030	0.12	7.9	33	0.42	0.30	0.25	0.0063	0.0045	0.0037	0.0015	0.0011	0.00090
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	0.30	0.35	0.16	57.5	NV	NV	0.0053	0.0061	0.0028	--	--	--	--	--	--
Cobalt	4.05	4.85	2.22	NV	NV	NV	--	--	--	--	--	--	--	--	--
Copper	1.64	1.77	0.98	3.1	3.1	4.8	0.530	0.57	0.316	0.53	0.57	0.32	0.34	0.37	0.20
Iron	NA	NA	NA	NA	NV	NV	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.16	0.14	0.078	8.1	8.1	210	0.020	0.017	0.0096	0.020	0.017	0.010	0.00075	0.00066	0.00037
Magnesium	NA	NA	NA	NV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	--	--	--	NV	NV	NV	--	--	--	--	--	--	--	--	--
Mercury	0.00026	0.00023	0.00031	0.016	0.94	1.8	0.017	0.014	0.020	0.00028	0.00024	0.00033	0.00015	0.00013	0.00017
Nickel	1.51	1.89	0.87	8.2	8.2	74.0	0.18	0.23	0.106	0.18	0.23	0.11	0.020	0.026	0.012
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.068	0.050	0.030	71	71	290	0.00096	0.00071	0.00042	0.00096	0.00071	0.00042	0.00023	0.00017	0.00010
Silver	0.0085	0.0078	0.0080	0.23	NV	1.9	0.037	0.034	0.035	--	--	--	0.0045	0.0041	0.0042
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	5.51	6.52	4.46	21.3	NV	NV	0.26	0.31	0.21	--	--	--	--	--	--
Vanadium	199	246	119	NV	NV	NV	--	--	--	--	--	--	--	--	--
Zinc	3.10	3.10	1.51	81	81	90	0.038	0.038	0.0186	0.038	0.038	0.019	0.034	0.034	0.017

IWBU =	1.2	1.2	0.7	0.8	0.9	0.5	0.4	0.4	0.2
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Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the HSCA marine sediment screening levels from November 2023.

² Delaware water quality criteria (WQC) are obtained from Table 1 of the Title 7 Delaware Administrative Code 7401, found at <https://regulations.delaware.gov/AdminCode/title7/5000/7400/7401.shtml>.

NA - Not applicable; constituent is an essential nutrient and is considered to have low toxicity.

NV - No value available for this constituent.

"--" Value could not be calculated.

Exceedances of the screening levels are shaded and in bold font.

IWBU - Interstitial water benchmark unit; represents the sum of toxic units for the divalent metals (cadmium, copper, lead, nickel, silver and zinc).

**TABLE 6-4
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA SEDIMENT SCREENING LEVELS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Ecological Marine Sediment Screening Level ¹ (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
		SED COMP 1	SED COMP 2	SED COMP 3
2-Methylnaphthalene	20.2	70	3.5	2.6
Acenaphthene	6.71	1.4	2.4	1.3
Acenaphthylene	NV	0.68	1.7	0.46
Anthracene	46.9	0.97	5.1	2.4
Benzo[a]anthracene	74.8	4.2	5.4	1.4
Benzo[a]pyrene	88.8	2.3	1.9	1.4
Benzo[b]fluoranthene	NV	5	3.7	1.5
Benzo[e]pyrene	NV	5	1	0.92
Benzo[g,h,i]perylene	NV	1.6	1	0.92
Benzo[k]fluoranthene	NV	3.4	3.6	1.2
C1-Benzo(a)anthracenes/Chrysenes	NV	1.4	1	3.4
C1-Fluoranthenes/pyrene	NV	11	1	7.2
C1-Fluorenes	NV	1.4	1	0.92
C1-Naphthalenes	NV	80	3.8	3.3
C1-Phenanthrenes/Anthracenes	NV	49	6.3	9
C1-Benzo(a)anthracenes/Chrysenes	NV	1.4	1	0.92
C2-Fluoranthenes/Pyrene	NV	1.4	1	11
C2-Fluorenes	NV	1.4	1	0.92
C2-Naphthalenes	NV	85	60	38
C2-Phenanthrenes/Anthracenes	NV	32	1	13
C3-Benzo(a)Anthracenes/Chrysenes	NV	1.4	1	0.92
C3-Fluoranthenes/Pyrene	NV	1.4	1	0.92
C3-Fluorenes	NV	1.4	1	0.92
C3-Naphthalenes	NV	2.7	2	1.8
C3-Phenanthrenes/Anthracenes	NV	23	1	16
C4-Benzo(a)anthracenes/Chrysenes	NV	1.4	1	0.92
C4-Naphthalenes	NV	2.7	2	1.8
C4-Phenanthrenes/Anthracenes	NV	1.4	1	0.92
Chrysene	108	9.2	6	8.7

TABLE 6-4
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA SEDIMENT SCREENING LEVELS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware

Constituent	HSCA Ecological Marine Sediment Screening Level ¹ (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
		SED COMP 1	SED COMP 2	SED COMP 3
Dibenz(a,h)anthracene	6.22	<i>1.4</i>	<i>1</i>	<i>0.92</i>
Dibenzofuran	7300	47	5.4	2.5
Fluoranthene	113	9.4	8.3	4.6
Fluorene	21.2	3.2	5.7	2.8
Indeno[1,2,3-cd]pyrene	NV	<i>1.4</i>	1.3	<i>0.92</i>
Naphthalene	34.6	50	5.1	3.5
Perylene	NV	32	75	42
Phenanthrene	86.7	71	7.7	6.2
Pyrene	153	7.7	6.8	4.9

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC) Hazardous Substance Cleanup Act (HSCA) screening levels from November 2023.

NV - No value available for this constituent.

Exceedances of the sediment screening levels are shaded and in bold font.

**TABLE 6-5
COMPARISON OF ORGANIC CARBON-NORMALIZED CONCENTRATIONS TO SEDIMENT BENCHMARKS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	Measured Sediment Concentrations* (ug/kg)			Organic Carbon Normalized SVOC Concentration ¹ (ug/g oc)			Narcosis Equilibrium partitioning Sediment Benchmark (ESB) ² (ug/g oc)	Ratio of Sample Concentration to OC-Normalized SQB		
				SED COMP 1 FOC =	SED COMP 2 FOC =	SED COMP 3 FOC =		SED COMP 1	SED COMP 2	SED COMP 3
	SED COMP 1	SED COMP 2	SED COMP 3	0.016	0.0087	0.0038		SED COMP 1	SED COMP 2	SED COMP 3
2-Methylnaphthalene	70	3.5	2.6	4.3750	0.4023	0.6842	NV	—	—	—
Acenaphthene	1.4	2.4	1.3	0.0875	0.2759	0.3421	491	0.000178	0.000562	0.000697
Acenaphthylene	0.68	1.7	0.46	0.0425	0.1954	0.1211	452	0.000094	0.000432	0.000268
Anthracene	0.97	5.1	2.4	0.0606	0.5862	0.6316	594	0.000102	0.000987	0.001063
Benzo[a]anthracene	4.2	5.4	1.4	0.2625	0.6207	0.3684	841	0.000312	0.000738	0.000438
Benzo[a]pyrene	2.3	1.9	1.4	0.1438	0.2184	0.3684	965	0.000149	0.000226	0.000382
Benzo[b]fluoranthene	5	3.7	1.5	0.3125	0.4253	0.3947	979	0.000319	0.000434	0.000403
Benzo[e]pyrene	5	1	0.92	0.3125	0.1149	0.2421	967	0.000323	0.000119	0.000250
Benzo[g,h,i]perylene	1.6	1	0.92	0.1000	0.1149	0.2421	1095	0.000091	0.000105	0.000221
Benzo[k]fluoranthene	3.4	3.6	1.2	0.2125	0.4138	0.3158	981	0.000217	0.000422	0.000322
C1-Benzo(a)anthracenes/Chrysenes	1.4	1	3.4	0.0875	0.1149	0.8947	929	0.000094	0.000124	0.000963
C1-Fluoranthenes/pyrene	11	1	7.2	0.6875	0.1149	1.8947	770	0.000893	0.000149	0.002461
C1-Fluorenes	1.4	1	0.92	0.0875	0.1149	0.2421	611	0.000143	0.000188	0.000396
C1-Naphthalenes	80	3.8	3.3	5.0000	0.4368	0.8684	444	0.011261	0.000984	0.001956
C1-Phenanthrenes/Anthracenes	49	6.3	9	3.0625	0.7241	2.3684	670	0.004571	0.001081	0.003535
C1-Benzo(a)anthracenes/Chrysenes	1.4	1	0.92	0.0875	0.1149	0.2421	1008	0.000087	0.000114	0.000240
C2-Fluoranthenes/Pyrene	1.4	1	11	0.0875	0.1149	2.8947	NV	—	—	—
C2-Fluorenes	1.4	1	0.92	0.0875	0.1149	0.2421	686	0.000128	0.000168	0.000353
C2-Naphthalenes	85	60	38	5.3125	6.8966	10.0000	510	0.010417	0.013523	0.019608
C2-Phenanthrenes/Anthracenes	32	1	13	2.0000	0.1149	3.4211	746	0.002681	0.000154	0.004586
C3-Benzo(a)Anthracenes/Chrysenes	1.4	1	0.92	0.0875	0.1149	0.2421	1112	0.000079	0.000103	0.000218
C3-Fluoranthenes/Pyrene	1.4	1	0.92	0.0875	0.1149	0.2421	NV	—	—	—
C3-Fluorenes	1.4	1	0.92	0.0875	0.1149	0.2421	769	0.000114	0.000149	0.000315
C3-Naphthalenes	2.7	2	1.8	0.1688	0.2299	0.4737	581	0.000290	0.000396	0.000815
C3-Phenanthrenes/Anthracenes	23	1	16	1.4375	0.1149	4.2105	829	0.001734	0.000139	0.005079
C4-Benzo(a)anthracenes/Chrysenes	1.4	1	0.92	0.0875	0.1149	0.2421	1214	0.000072	0.000095	0.000199
C4-Naphthalenes	2.7	2	1.8	0.1688	0.2299	0.4737	657	0.000257	0.000350	0.000721
C4-Phenanthrenes/Anthracenes	1.4	1	0.92	0.0875	0.1149	0.2421	913	0.000096	0.000126	0.000265
Chrysene	9.2	6	8.7	0.5750	0.6897	2.2895	844	0.000681	0.000817	0.002713
Dibenz(a,h)anthracene	1.4	1	0.92	0.0875	0.1149	0.2421	1123	0.000078	0.000102	0.000216
Dibenzofuran	47	5.4	2.5	2.9375	0.6207	0.6579	1700	0.001728	0.000365	0.000387

**TABLE 6-5
COMPARISON OF ORGANIC CARBON-NORMALIZED CONCENTRATIONS TO SEDIMENT BENCHMARKS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	Measured Sediment Concentrations* (ug/kg)			Organic Carbon Normalized SVOC Concentration ¹ (ug/g oc)			Narcosis Equilibrium partitioning Sediment Benchmark (ESB) ² (ug/g oc)	Ratio of Sample Concentration to OC-Normalized SQB		
				SED COMP 1 FOC =	SED COMP 2 FOC =	SED COMP 3 FOC =		SED COMP 1	SED COMP 2	SED COMP 3
	SED COMP 1	SED COMP 2	SED COMP 3	0.016	0.0087	0.0038		SED COMP 1	SED COMP 2	SED COMP 3
Fluoranthene	9.4	8.3	4.6	0.5875	0.9540	1.2105	707	0.000831	0.001349	0.001712
Fluorene	3.2	5.7	2.8	0.2000	0.6552	0.7368	538	0.000372	0.001218	0.001370
Indeno[1,2,3-cd]pyrene	1.4	1.3	0.92	0.0875	0.1494	0.2421	1115	0.000078	0.000134	0.000217
Naphthalene	50	5.1	3.5	3.1250	0.5862	0.9211	385	0.008117	0.001523	0.002392
Perylene	32	75	42	2.0000	8.6207	11.0526	967	0.002068	0.008915	0.011430
Phenanthrene	71	7.7	6.2	4.4375	0.8851	1.6316	596	0.007445	0.001485	0.002738
Pyrene	7.7	6.8	4.9	0.4813	0.7816	1.2895	697	0.000690	0.001121	0.001850

Notes:

* Non-detect concentrations are presented in italics at a value equal to the method detection limit.

¹ Organic carbon normalized concentrations are the concentration divided by the fraction organic carbon, and divided by 1,000 to convert units.

² Narcosis ESB from Table 1 of Burgess, et al. (2013).

SUM OF TOXIC UNITS	0.057	0.039	0.071
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TABLE 6-6
COMPARISON OF MEASURED SEDIMENT DATA TO MARINE SEDIMENT SCREENING LEVELS - DIOXINS & FURANS, TOTAL PCBs, AND PFAS
Indian River Bay, Delaware

Constituent	Marine Sediment Screening Levels (ug/kg)	Source of Screening Value	Measured Sediment Concentrations* (ug/kg)		
			SED COMP 1	SED COMP 2	SED COMP 3
Dioxins & Furans ²					
Total 2,3,7,8-TCDD Equivalent (ND = 0)	0.00085 / 0.0215	NOAA TEL and PEL (Buchman, 2008)	0.000055	0.000026	0.000042
Total 2,3,7,8-TCDD Equivalent (ND = 1/2 MDL)	0.00085 / 0.0215	NOAA TEL and PEL (Buchman, 2008)	0.0053	0.0039	0.0038
Polychlorinated Biphenyls (PCBs)					
Total PCBs ³	40	DNREC (2023a)	0.0375	0.0197	0.0108
Per- and Polyfluoroalkyl Substances (PFAS) ⁴					
Perfluorooctanoic acid (PFOA)	NV	--	0.000063	<i>0.000051</i>	<i>0.000051</i>
Perfluorooctanesulfonic acid (PFOS)	NV	--	<i>0.00006</i>	0.000052	<i>0.000051</i>

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the DNREC Hazardous Substance Cleanup Act (HSCA) screening levels from November 2023.

² Total 2,3,7,8-TCDD Equivalent concentrations are calculated in Table 4-3 (for aquatic receptors).

³ Total PCB concentrations are calculated as the sum of all detected congeners (refer to Appendix C for laboratory report).

⁴ The Per- and Polyfluoroalkyl Substances (PFAS) listed in this table are those which were detected and/or which have screening levels.

NV - No value available for this constituent.

TABLE 6-7
CALCULATION OF ORGANIC CARBON-NORMALIZED SEDIMENT CONCENTRATIONS AND PORE WATER CONCENTRATIONS
AND COMPARISON TO MARINE SURFACE WATER BENCHMARKS - PCBs
Indian River Bay, Delaware

Sample ID	Measured Total PCB Concentration (ug/kg)	Fraction Organic Carbon (kg oc/kg sed)	Organic Carbon Normalized PCB Concentration ¹ (ug/g oc)	K _{OC} (L/kg)	Calculated PCB Concentration in Porewater ² (ug/L)	HSCA Screening Level for Total PCBs: Ecological Surface Water Marine (ug/L)	Ratio of Total PCBs in Pore Water to HSCA Surface Water Screening Level
SED COMP 1	0.0375	0.016	0.00234	78100	3.00E-05	0.03	0.0010
SED COMP 2	0.0197	0.0087	0.00226	78100	2.90E-05	0.03	0.00097
SED COMP 3	0.0108	0.0038	0.00284	78100	3.64E-05	0.03	0.0012

Notes:

¹ Organic carbon normalized concentrations are the concentration divided by the fraction organic carbon, and divided by 1,000 to convert units.

² The porewater concentration is calculated as the oc-normalized PCB concentration divided by K_{OC}.

**TABLE 6-8
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA ECOLOGICAL SOIL SCREENING LEVELS - INORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Ecological Surface Soil Screening Level ¹ (mg/kg)	Background Threshold Value (mg/kg)	Measured Sediment Concentrations* (mg/kg)		
			SED COMP 1	SED COMP 2	SED COMP 3
Aluminum	NV	51,200	11000	13000	6900
Antimony	5.0	--	<i>0.063</i>	<i>0.062</i>	<i>0.063</i>
Arsenic	10	11	4.6	5.9	2.7
Barium	283	--	41	31	16
Beryllium	10	--	0.58	0.54	0.26
Cadmium	3	--	0.1	0.071	0.059
Calcium	NA	--	1500	2200	1400
Chromium	0.4	214	24	28	13
Cobalt	20	34	5.1	6.1	2.8
Copper	50	--	5.2	5.6	3.1
Iron	NA	74,767	15000	16000	8100
Lead	41	--	6.3	5.5	3.1
Magnesium	NA	--	4000	5200	2200
Manganese	NV	2,100	120	160	69
Mercury	0.0005	--	0.021	<i>0.018</i>	0.025
Nickel	30	--	12	15	6.9
Potassium	NA	--	2000	2800	1200
Selenium	0.2	--	0.27	0.2	0.12
Silver	2	--	0.034	<i>0.031</i>	<i>0.032</i>
Sodium	NA	--	3700	4200	2100
Thallium	1	--	0.11	0.13	0.089
Vanadium	2	134	25	31	15
Zinc	8.5	--	39	39	19

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the Delaware Department Natural Resources and Environmental Control (DNREC) Hazardous Substance Cleanup Act (HSCA) screening levels from November 2023.

NA - Not applicable; constituent is an essential nutrient and is considered to have low toxicity.

ND - Not detected; this constituent was not present above detection limits in natural Delaware soils (DNREC, 2012).

NV - No value available for this constituent.

Exceedances of the screening levels/BTVs are shaded and in bold font.

**TABLE 6-9
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA ECOLOGICAL SOIL SCREENING LEVELS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Ecological Surface Soil Screening Level ¹ (ug/kg)	Background Threshold Value (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
			SED COMP 1	SED COMP 2	SED COMP 3
2-Methylnaphthalene	NV	--	70	3.5	2.6
Acenaphthene	20,000	--	1.4	2.4	1.3
Acenaphthylene	NV	--	0.68	1.7	0.46
Anthracene	NV	--	0.97	5.1	2.4
Benzo[a]anthracene	NV	--	4.2	5.4	1.4
Benzo[a]pyrene	NV	240	2.3	1.9	1.4
Benzo[b]fluoranthene	NV	--	5	3.7	1.5
Benzo[e]pyrene	NV	--	5	1	0.92
Benzo[g,h,i]perylene	NV	--	1.6	1	0.92
Benzo[k]fluoranthene	NV	--	3.4	3.6	1.2
C1-Benzo(a)anthracenes/Chrysenes	NV	--	1.4	1	3.4
C1-Fluoranthenes/pyrene	NV	--	11	1	7.2
C1-Fluorenes	NV	--	1.4	1	0.92
C1-Naphthalenes	NV	--	80	3.8	3.3
C1-Phenanthrenes/Anthracenes	NV	--	49	6.3	9
C1-Benzo(a)anthracenes/Chrysenes	NV	--	1.4	1	0.92
C2-Fluoranthenes/Pyrene	NV	--	1.4	1	11
C2-Fluorenes	NV	--	1.4	1	0.92
C2-Naphthalenes	NV	--	85	60	38
C2-Phenanthrenes/Anthracenes	NV	--	32	1	13
C3-Benzo(a)Anthracenes/Chrysenes	NV	--	1.4	1	0.92
C3-Fluoranthenes/Pyrene	NV	--	1.4	1	0.92
C3-Fluorenes	NV	--	1.4	1	0.92
C3-Naphthalenes	NV	--	2.7	2	1.8
C3-Phenanthrenes/Anthracenes	NV	--	23	1	16
C4-Benzo(a)anthracenes/Chrysenes	NV	--	1.4	1	0.92
C4-Naphthalenes	NV	--	2.7	2	1.8
C4-Phenanthrenes/Anthracenes	NV	--	1.4	1	0.92
Chrysene	NV	--	9.2	6	8.7
Dibenz(a,h)anthracene	NV	170	1.4	1	0.92

**TABLE 6-9
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA ECOLOGICAL SOIL SCREENING LEVELS - SEMIVOLATILE ORGANICS
Indian River Bay, Delaware**

Constituent	HSCA Ecological Surface Soil Screening Level ¹ (ug/kg)	Background Threshold Value (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
			SED COMP 1	SED COMP 2	SED COMP 3
Dibenzofuran	NV	--	47	5.4	2.5
Fluoranthene	NV	--	9.4	8.3	4.6
Fluorene	30,000	--	3.2	5.7	2.8
Indeno[1,2,3-cd]pyrene	NV	1,300	1.4	1.3	0.92
Naphthalene	NV	--	50	5.1	3.5
Perylene	NV	--	32	75	42
Phenanthrene	NV	--	71	7.7	6.2
Pyrene	NV	--	7.7	6.8	4.9
Low Molecular Weight PAHs ²	29,000	--	197	31.2	19.3
High Molecular Weight PAHs ²	1,100	--	79.2	111	68.2

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the DNREC Hazardous Substance Cleanup Act (HSCA) screening levels from November 2023, unless otherwise noted.

² Concentrations for low- and high-molecular weight PAHs are the sum of both detected and non-detect PAHs (non-detect included at full MDL); screening values are the USEPA (2007c) EcoSSLs.

NV - No value available for this constituent.

**TABLE 6-10
COMPARISON OF MEASURED SEDIMENT DATA TO HSCA ECOLOGICAL SOIL SCREENING LEVELS -
DIOXINS & FURANS, TOTAL PCBs, AND PFAS
Indian River Bay, Delaware**

Constituent	HSCA Ecological Surface Soil Screening Level ¹ (ug/kg)	Measured Sediment Concentrations* (ug/kg)		
		SED COMP 1	SED COMP 2	SED COMP 3
Dioxins & Furans ²				
Total 2,3,7,8-TCDD Equivalent - Mammals (ND = 0)	0.003	0.00034	0.00018	0.00026
Total 2,3,7,8-TCDD Equivalent - Birds (ND = 0)	0.016 ⁽⁵⁾	0.000055	0.000026	0.000042
Total 2,3,7,8-TCDD Equivalent - Mammals (ND = 1/2 MDL)	0.003	0.0046	0.0033	0.0033
Total 2,3,7,8-TCDD Equivalent - Birds (ND = 1/2 MDL)	0.016 ⁽⁵⁾	0.0055	0.0041	0.0039
Polychlorinated Biphenyls (PCBs)				
Total PCBs ³	40,000	0.0375	0.0197	0.0108
Per- and Polyfluoroalkyl Substances (PFAS) ⁴				
Perfluorooctanoic acid (PFOA)	NV	0.000063	<i>0.000051</i>	<i>0.000051</i>
Perfluorooctanesulfonic acid (PFOS)	NV	<i>0.00006</i>	0.000052	<i>0.000051</i>

Notes:

* Non-detect sediment concentrations are presented in italics at a value equal to the method detection limit.

¹ Screening values are the DNREC Hazardous Substance Cleanup Act (HSCA) screening levels from November 2023, unless otherwise noted.

² Total 2,3,7,8-TCDD Equivalent concentrations are calculated in Table 4-1 (for mammals) and Table 4-2 (for birds).

³ Total PCB concentrations are calculated as the sum of all detected congeners (refer to Appendix C for laboratory report).

⁴ The Per- and Polyfluoroalkyl Substances (PFAS) listed in this table are those which were detected and/or which have screening levels.

⁵ Soil screening value for 2,3,7,8-TCDD for birds is from Table 6 of Efroymson et al (1997).

NV - No value available for this constituent.

Exceedances of the screening levels are shaded and in bold font.



APPENDIX A
DAILY REPORT STATUS



AQUA SURVEY, INC.

469 Point Breeze Road, Flemington, NJ 08822 908-788-8700 info@aquasurvey.com

DAILY PROGRESS REPORT

Job: 43-136 Indian River Bay - Delaware

Date: October 8, 2023

Client: Hill Consulting

Crew:

Boat: Manasquan

Weather summary:

Sunny 60's

Event Log for today (Time= Local approximate)

Activity Completed	Start	End	Comments
Prepare for Mobilization			

Anticipated Schedule for Following Day

Job Plan	Comments
Mobilize to SITE. H+S Meeting and Launch vessel. Begin Vibracoring.	

Health and Safety

H&S Issues Encountered	Action Taken
None	N/A

Captain (Will Reasoner):

Consultant (D. Rolf Hill):

[Signature]



AQUA SURVEY, INC.

469 Point Breeze Road, Flemington, NJ 08822 908-788-8700 info@aquasurvey.com

DAILY PROGRESS REPORT

Job: 43-136 Indian River Bay - Delaware

Date: October 9, 2023

Client: Hill Consulting

Crew:

Boat: Manasquan

Weather summary: Sunny 60^s, Wind 10-15 kts

Event Log for today (Time= Local approximate)

Activity Completed	Start	End	Comments
Launch Vessel Complete S-8, S-9	1045	1630	

Anticipated Schedule for Following Day

Job Plan	Comments
Continue on Composite Area 1 (S-1 through S-12)	

Health and Safety

H&S Issues Encountered	Action Taken
None	

Captain (Will Reasoner): [Signature]

Consultant (D. Rolf Hill): [Signature]



AQUA SURVEY, INC.

469 Point Breeze Road, Flemington, NJ 08822 908-788-8700 info@aquasurvey.com

DAILY PROGRESS REPORT

Job: 43-136 Indian River Bay - Delaware

Date: October 10, 2023

Client: Hill Consulting

Crew:

Boat: Manasquan

Weather summary: Sunny 60^s - 70^s

Event Log for today (Time= Local approximate)

Activity Completed	Start	End	Comments
Finish Composite Area 1	0700	1415	

Anticipated Schedule for Following Day

Job Plan	Comments
Sample Composite Area 2.	

Health and Safety

H&S Issues Encountered	Action Taken
None	N/A

Captain (Will Reasoner): [Signature]

Consultant (D. Rolf Hill): [Signature]



D. Rolf Hill <drolfhill@gmail.com>

IRB Daily Update

D. Rolf Hill <drolfhill@gmail.com>

Tue, Oct 10, 2023 at 3:58 PM

To: "Morrow, Ben" <BMorrow@mccormicktaylor.com>

Cc: Tom Dolce <dolce@aquasurvey.com>, "Welling, Megan A." <MAWelling@mccormicktaylor.com>, "Pacifico, Molly L." <mlpacifico@mccormicktaylor.com>, Willard Reasoner <reasoner@aquasurvey.com>, t.sumner@uswindinc.com, b.cooper@uswindinc.com, l.jodziewicz@uswindinc.com, m.dunmyer@uswindinc.com

All-

Please find attached our Daily Overview for today.

Additionally I have attached photographs of the following:

- 1 - A photograph of Vibracoring yesterday 10/09/2023
- 2 - A photograph of the barge leaving the dock this morning
- 3 - A photograph of Vibracoring yesterday 10/10/2023
- 4 - A photograph of a typical sediment core
- 5 - An overview screenshot of we launched yesterday
- 6 - A detailed screenshot of where we launched yesterday.

Some additional details are provided below:

Monday 10/09/23

Boat launched from the ramp at 1315.

We decided that we were going to collect a couple cores from Composite Area 1. The thought process was that Composite Area 1 is nearby and the tide (water depth) was not a significant concern. We wanted to get started on a location that was both close and easily accessible, we therefore chose S8.

1416 Sediment sample collected from S8

1510 Sediment sample collected from S9

1610 Boat arrived at Air B&B Dock on Kent Road, Dagsboro, Delaware.

No boat traffic was encountered on this day.

Tuesday 10/10/2023

Our plan for the day was to complete Composite Area 1. Our hope was to complete compositing so that there was less than a 24 hour period from the first core being collected to the last core being collected. The weather and water were calm and tide/water depth were not a significant concern. Our thought process was to start to the east and move west, assuming that if the wind increased we would be starting at a less protected area and moving to a more protected area.

0705 Launch boat from Air B&B

0730 Sediment sample collected from S10

0810 Sediment sample collected from S11

0850 Sediment sample collected from S12

0920 Sediment sample collected from S7

1000 Sediment sample collected from S6

1030 Sediment sample collected from S5

1100 Sediment sample collected from S4

1130 Sediment sample collected from S3

1150 Sediment sample collected from S2

1215 Sediment sample collected from S1

1310 Return to dock at Air B&B

1330 begin compositing soil and water samples from Composite Area 1, which was successfully completed in less than a 24-hour duration

We encountered three boats today. One passed us at a high rate of speed and my recollection is that it was a center-console boat. The other two boats were recreational crabbers in John boats. One of the two boats passed us with only a wave. The other boat had two men on it and asked us what we were doing. I responded with "Collecting sediment samples. How is the crabbing?" The boaters let us know that they were having a very successful day crabbing. They caught nearly two bushels and were on their way home to have crabs a beer. They also informed us that they were catching crabs as large as 10" and throwing back any crabs less than 6". We did not get the name of any of these vessels.

Wednesday 10/11/2023

Our plan is to launch at approximately 0700. High tide is at 0744 and our schedule is to collect sediment cores in the following order:

S-17 (as close to high tide as practical), S18, S16, S15, S14 and S13. We then plan to return to land and composite the surface water and sediment samples from Composite Area 2. Following this we intend to send out our daily report.

Thursday 10/12/2023

Our plan is to launch at approximately 0700. Our schedule is to collect sediment cores in the following order:

S-20 (as close to high tide as practical), S19, S21, S22 and S23. We then plan to return to land and composite the surface water and sediment samples from Composite Area 3. Following this we intend to send out our daily report.

Friday 10/13/2023

Our plan is for Aqua Survey to break down sampling infrastructure on their vessel, load the vessel at the same ramp from which it was launched and depart the Site. It is anticipated that the laboratory will collect all samples from Hill Consulting, Inc. offices.

Best,
D. Rolf Hill
Hill Consulting, Inc.
107 Old Crossing Lane
Annapolis, MD 21401
(410) 279-6950

[Quoted text hidden]

[Quoted text hidden]

Sent from my iPhone

7 attachments



Regional Boat Launch Location.jpeg
767K



Morning Launch 101023.jpeg
2189K



Close up Boat Launch Location.jpeg
606K



Vibracore 101023.jpeg
3689K



Vibracore 100923.jpeg
3490K



Typical Sed Core.jpeg
5875K



AQUA SURVEY, INC.

469 Point Breeze Road, Flemington, NJ 08822 908-788-8700 info@aquasurvey.com

DAILY PROGRESS REPORT

Job: 43-136 Indian River Bay - Delaware

Date: October 11, 2023

Client: Hill Consulting

Crew:

Boat: Manasquan

Weather summary: Sunny 60s + 70s

Event Log for today (Time= Local approximate)

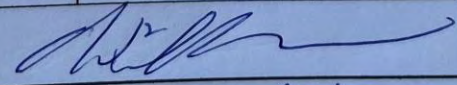
Activity Completed	Start	End	Comments
Completed Composite Area 2	0700	1200	

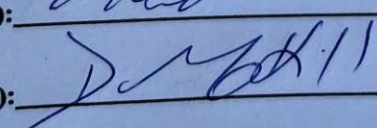
Anticipated Schedule for Following Day

Job Plan	Comments
Start + Complete Composite Area 3	

Health and Safety

H&S Issues Encountered	Action Taken
None	N/A

Captain (Will Reasoner): 

Consultant (D. Rolf Hill): 



D. Rolf Hill <drolfhill@gmail.com>

IRB Daily Update

D. Rolf Hill <drolfhill@gmail.com>

Wed, Oct 11, 2023 at 2:44 PM

To: "Morrow, Ben" <BMorrow@mccormicktaylor.com>

Cc: Tom Dolce <dolce@aquasurvey.com>, "Welling, Megan A." <MAWelling@mccormicktaylor.com>, "Pacifico, Molly L." <mlpacifico@mccormicktaylor.com>, Willard Reasoner <reasoner@aquasurvey.com>, t.sumner@uswindinc.com, b.cooper@uswindinc.com, l.jodziewicz@uswindinc.com, m.dunmyer@uswindinc.com

All-

Please find attached our Daily Overview for today.

Additionally I have attached photographs of the following:

- 1 - A photograph of Vibracoring today 10/11/2023 at S14
- 2 - A photograph of a passing vessel
- 3 - A photograph of a passing vessel
- 4 - A photograph of a passing vessel

Some additional details are provided below:

Wednesday 10/11/2023

Today's activities included beginning and completing Composite Area 2. Additional details are:

0710 Launch from Air B&B

0805 Collect Vibracore Sample from S17

0820 Collect Vibracore Sample from S18

0841 Collect Vibracore sample from S16

0900 Collect Vibracore sample from S15

0933 Collect Vibracore sample from S14

0955 Collect Vibracore sample from S13

1045 Arrive at Air B&B

1130 Began collecting Surface Water and Sediment Composite 2

1200 Sampling was completed and we decided that based upon the tides and distance to Composite Area 3, the logical schedule was to address Composite Area 3 tomorrow morning.

We encountered several boats today. Other than exchanging waves, we had no interaction with any of them. We were not close enough to any of them to identify boat names and or Registration numbers. A few distant photographs are attached. Boat encounters included:

While at S17 we observed a small center console

While moving from S16 to S15 we saw a small walk-around cuddy cabin and a pontoon boat

While at S15 we saw a small center console boat with a blue hull and a second small center console with fisherman fishing

On the way from S13 to the Air B&B we saw what appeared to be a working boat of some sort. They were throwing a green net off the rear of the boat.

Thursday 10/12/2023

Our plan is to launch at approximately 0700. Our schedule is to collect sediment cores in the following order:

S-20 (as close to high tide as practical), S19, S21, S22 and S23. We then plan to return to land and composite the surface water and sediment samples from Composite Area 3. Aqua Survey will begin breaking down boat sampling infrastructure and cleaning boat. Following this we intend to send out our daily report.

Friday 10/13/2023

Our plan is for Aqua Survey to load the vessel near high tide at the same ramp from which it was launched and depart the Site. It is anticipated that the laboratory will collect all samples from Hill Consulting, Inc. offices.

Best,
D. Rolf Hill
Hill Consulting, Inc.
107 Old Crossing Lane
Annapolis, MD 21401
(410) 279-6950

[Quoted text hidden]

5 attachments



101123 Passing Vessel 3.jpeg
1504K



101123 Passing Vessel.jpeg
2410K



101123 Collecting Vibracore S14.jpeg
3400K



101123 Daily Overview.jpeg
4545K



101123 Passing Vessel 2.jpeg
4508K

AQUA SURVEY, INC.

469 Point Breeze Road, Flemington, NJ 08822 908-788-8700 info@aquasurvey.com

DAILY PROGRESS REPORT

Job: 43-136 Indian River Bay - Delaware

Date: October 12, 2023

Client: Hill Consulting

Crew:

Boat: Manasquan

Weather summary: Sunny 60^s + 70^s

Event Log for today (Time= Local approximate)

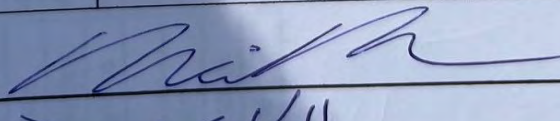
Activity Completed	Start	End	Comments
Complete Composite Area 3	0700	1130	

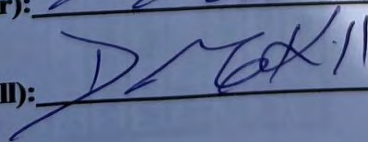
Anticipated Schedule for Following Day

Job Plan	Comments
Demobilize Pontoon Barge. Sample shipment to Laboratory	

Health and Safety

H&S Issues Encountered	Action Taken
None	N/A

Captain (Will Reasoner): 

Consultant (D. Rolf Hill): 



D. Rolf Hill <drolfhill@gmail.com>

IRB Daily Update

D. Rolf Hill <drolfhill@gmail.com>

Thu, Oct 12, 2023 at 3:46 PM

To: "Morrow, Ben" <BMorrow@mccormicktaylor.com>

Cc: Tom Dolce <dolce@aquasurvey.com>, "Welling, Megan A." <MAWelling@mccormicktaylor.com>, "Pacifco, Molly L." <mlpacifco@mccormicktaylor.com>, Willard Reasoner <reasoner@aquasurvey.com>, t.sumner@uswindinc.com, b.cooper@uswindinc.com, l.jodziewicz@uswindinc.com, m.dunmyer@uswindinc.com

All-

Please find attached our Daily Overview for today.

Additionally I have attached photographs of the following:

- 1 - A photograph of the calm conditions leaving the Air B&B for S20
- 2 - A photograph of a passing vessel
- 3 - A photograph of a passing vessel

Some additional details are provided below:

Thursday 10/12/2023

Today's activities included beginning and completing Composite Area 3. Additional details are:

0715 Leave Air B&B Dock
0815 Collect S20 Sediment sample
0840 Collect S19 Sediment sample
0910 Collect S21 Sediment sample
0935 Collect S22 Sediment sample
0950 Collect S23 Sediment sample
1050 Arrive at Air B&B Dock

Collect Composite Sample 3 and PFAs Field Blank.

Aqua Survey began cleaning vessel and breaking down sampling infrastructure.

Friday 10/13/2023

Aqua Survey plans to load the vessel at approximately 0830 at the same ramp from which it was launched and depart the Site. It is anticipated that the laboratory will collect all samples from Hill Consulting, Inc. offices.

Best,
D. Rolf Hill
Hill Consulting, Inc.
107 Old Crossing Lane
Annapolis, MD 21401
(410) 279-6950

[Quoted text hidden]

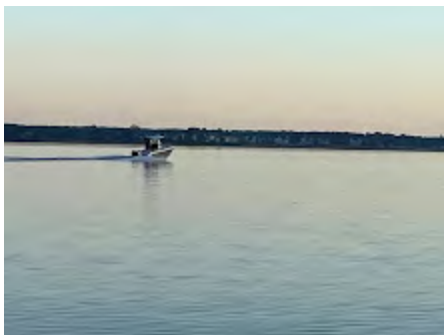
4 attachments



101223 Start of the Day.jpg
476K



101223 Daily Overview.jpg
599K



101223 Passing Vessel 2.jpg
537K



101223 Passing Vessel 1.jpg
600K



APPENDIX B
SEDIMENT CORE LOGS



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 1213	Crew: JP			
Coordinates:	N 4271362.3	E 479174.0	Vessel: Manasquan			
Core # : S1	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		14.5		
Measured Water Depth [MWD] [ft.]: 11.2		Recovered Core Length (ft.):		11.0		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.4		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 4.0' dark grey silt 4.0' - 6.6' dark grey clay				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 60s, light breeze.				3.0"	.25 gal/ft	
				3.5" 8.0"	.33 gal/ft	
Comments: Core to client.				4.0	.50 gal/ft	
				Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard		
				Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other		
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 1152	Crew: JP			
Coordinates:	N 4271127.1	E 479446.2	Vessel: Manasquan			
Core # : S2	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.): 12.0			
Measured Water Depth [MWD] [ft.]: 5.8			Recovered Core Length (ft.): 10.5			
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.5			Sample Length Retained (ft.): -			
			Core Volume Retained (gal.): -			
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 0.5' dark grey silt				
↓		0.5' - 4.0' dark grey silty w/significant root mat				
↓		4.0' - 6.6' dark grey clay w/root mat and woodchips				
↓						
↓						
↓						
↓						
↓						
↓						
↓						
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 60s, light breeze.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
						MLW #td ver 030615



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 1128	Crew: JP			
Coordinates:	N 4271060.6	E 479833.6	Vessel: Manasquan			
Core # : S3	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.): 11.2			
Measured Water Depth [MWD] [ft.]: 10.6			Recovered Core Length (ft.): 9.1			
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.5			Sample Length Retained (ft.): -			
			Core Volume Retained (gal.): -			
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 2.0' dark grey silt 2.0' - 7.1' dark grey silty clay				
↓						
↓						
↓						
↓						
↓						
↓						
↓						
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 1103	Crew: JP			
Coordinates:	N 4271105.3	E 480332.5	Vessel: Manasquan			
Core # : S4	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.): 13.5			
Measured Water Depth [MWD] [ft.]: 8.6			Recovered Core Length (ft.): 11.1			
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.6			Sample Length Retained (ft.): -			
			Core Volume Retained (gal.): -			
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 3.0' dark grey silt				
↓		3.0' - 9.4' dark grey silty clay w/wood chips and root mat				
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 1027	Crew: JP			
Coordinates:	N 4271334.1	E 480994.4	Vessel: Manasquan			
Core # : S5	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.): 15.0			
Measured Water Depth [MWD] [ft.]: 7.6			Recovered Core Length (ft.): 13.3			
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.7			Sample Length Retained (ft.): -			
			Core Volume Retained (gal.): -			
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 5.8' dark grey silt				
↓		5.8' - 9.7' dark grey silty clay				
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: Upper 50s, breezy.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 0921	Crew: JP			
Coordinates:	N 4271297.7	E 482798.5	Vessel: Manasquan			
Core # : S7	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		11.0		
Measured Water Depth [MWD] [ft.]: 8.3		Recovered Core Length (ft.):		10.0		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.8		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 3.8' dark grey silt. 3.8' - 9.9' dark grey silty clay				
↓						
↓						
↓						
↓						
↓						
↓						
↓						
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 50s and light breeze.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/9/23	Time: 1419	Crew: JP			
Coordinates:	N 4271340.4	E 483972.4	Vessel: Manasquan			
Core # : S8	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.): 13.5			
Measured Water Depth [MWD] [ft.]: 5.8			Recovered Core Length (ft.): 12.1			
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.2			Sample Length Retained (ft.): -			
			Core Volume Retained (gal.): -			
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 2.0' brown silt 2.0' - 11.4' brown silt and clay with wood chips throughout				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N			Pushcorer	Slambar
Oil Present	Y	N				
Odor Present	Y	N			Eckman	Ponar: Standard / Petite
Debris Present	Y	N				
Within 10% of Req'd Core Length	Y	N			Box Core	
Photo	Y	N				



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 0735	Crew: JP			
Coordinates:	N 4271566.2	E 486472.7	Vessel: Manasquan			
Core # : S10	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.): 14.0			
Measured Water Depth [MWD] [ft.]: 9.0			Recovered Core Length (ft.): 11.9			
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.8			Sample Length Retained (ft.): -			
			Core Volume Retained (gal.): -			
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 2.0' dark grey silt. 2.0' - 3.4' dark grey silty clay with woodchips 3.4' - 9.8' dark grey silty clay				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 50, 8-12 knts. Breezy					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N			Pushcorer	Slambar
Oil Present	Y	N				
Odor Present	Y	N			Eckman	Ponar: Standard / Petite
Debris Present	Y	N				
Within 10% of Req'd Core Length	Y	N			Box Core	
Photo	Y	N				
						MLW #td ver 030615



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 0802	Crew: JP			
Coordinates:	N 4271848.7	E 487213.6	Vessel: Manasquan			
Core # : S11	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.):		13.0	
Measured Water Depth [MWD] [ft.]: 8.3			Recovered Core Length (ft.):		10.7	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.8			Sample Length Retained (ft.):		-	
			Core Volume Retained (gal.):		-	
			Collected to Project Depth: Y / N			
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 2.5' dark grey silt. 2.5' - 6.8' dark grey silty clay 6.8' - 10.7' dark grey silty clay with woodchips				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 50s and breezy.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N			Pushcorer	Slambar
Oil Present	Y	N				
Odor Present	Y	N				
Debris Present	Y	N			Eckman	Ponar: Standard / Petite
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N			Box Core	
						MLW #td ver 030615



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/10/23	Time: 0833	Crew: JP			
Coordinates:	N 4272183.9	E 488736.5	Vessel: Manasquan			
Core # : S12	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.):	15.0		
Measured Water Depth [MWD] [ft.]: 9.3			Recovered Core Length (ft.):	14.0		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 0.8			Sample Length Retained (ft.):	-		
			Core Volume Retained (gal.):	-		
			Collected to Project Depth:	Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 1.8' dark grey silt. 1.8' - 9.1' dark grey clay				
↓						
↓						
↓						
↓						
↓						
↓						
↓						
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 50s and breezy.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer	Slambar		
Odor Present	Y	N				
Debris Present	Y	N	Eckman	Ponar: Standard / Petite		
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/11/23	Time: 0955	Crew: JP			
Coordinates:	N 4272446.8	E 490223.7	Vessel: Manasquan			
Core # : S13	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		8.0		
Measured Water Depth [MWD] [ft.]: 7.6		Recovered Core Length (ft.):		7.8		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 1.7		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 0.9' dark grey silt. Some shells and worms. 0.9' - 1.6' dark grey silt and clay. Some shells. 1.6' - 5.9' dark grey clay				
↓						
↓						
↓						
↓						
↓						
↓						
↓						
↓						
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:				3.0"	.25 gal/ft	
				3.5" 8.0"	.33 gal/ft	
Comments: Core to client.				4.0	.50 gal/ft	
				Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard		
				Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other		
Live Organisms Present	Y	N			Pushcorer	Slambar
Oil Present	Y	N				
Odor Present	Y	N				
Debris Present	Y	N			Eckman	Ponar: Standard / Petite
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N			Box Core	
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/11/23	Time: 0932	Crew: JP			
Coordinates:	N 4272643.0	E 491101.8	Vessel: Manasquan			
Core # : S14	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		6.5		
Measured Water Depth [MWD] [ft.]: 18.3		Recovered Core Length (ft.):		6.5		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 1.9		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 0.4' dark grey very fine sand and silt. Some shells and worms				
↓		0.4' - 5.9' dark grey clay				
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 63 degrees, calm/light breeze. Sunny.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR		
Job#: 43-136	Date: 10/11/23	Time: 0900	Crew: JP				
Coordinates:	N 4272405.6	E 491946.2	Vessel: Manasquan				
Core # : S15	Zone: 18 N	Datum UTM M	Deploy: 1 2 3				
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		8.0	8.0		
Measured Water Depth [MWD] [ft.]: 16.7		Recovered Core Length (ft.):		2.0	8.0		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 2.2		Sample Length Retained (ft.):		-	-		
		Core Volume Retained (gal.):		-	-		
		Collected to Project Depth:		Y / N			
Required Sample Core Length [SCL] [ft.]:							
All Length Measurements are in Decimal Feet							
Sample Interval (ft.)	Sample Id #	Description					
Top		0.0' - 3.5' dark grey clay with roots and woodchips 3.5' - 5.9' dark grey clay					
↓							
Bottom							
# of containers:					Core Volumes		
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume	
Conditions:				3.0"	.25 gal/ft		
				3.5" 8.0"	.33 gal/ft		
Comments: Core to client. 1st deploy lost recovery.				4.0	.50 gal/ft		
				Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard			
				Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other			
Live Organisms Present	Y	N					
Oil Present	Y	N	Pushcorer Slambar				
Odor Present	Y	N					
Debris Present	Y	N	Eckman Ponar: Standard / Petite				
Within 10% of Req'd Core Length	Y	N					
Photo	Y	N	Box Core				
MLW #td ver 030615							



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/11/23	Time: 0841	Crew: JP			
Coordinates:	N 4272743.0	E 492843.2	Vessel: Manasquan			
Core # : S16	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:			Core Penetration Length (ft.):	6.5		
Measured Water Depth [MWD] [ft.]: 17.0			Recovered Core Length (ft.):	6.0		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 2.3			Sample Length Retained (ft.):	-		
			Core Volume Retained (gal.):	-		
			Collected to Project Depth:	Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 1.0' dark grey fine sand 1.0' - 1.7' dark grey silt 1.7' - 3.0' dark grey silt and clay 3.0' - 5.9' dark grey clay				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:				3.0"	.25 gal/ft	
				3.5" 8.0"	.33 gal/ft	
Comments: Core to client. Refusal.				4.0	.50 gal/ft	
				Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard		
				Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other		
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer	Slambar		
Odor Present	Y	N				
Debris Present	Y	N	Eckman	Ponar: Standard / Petite		
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/11/23	Time: 0802	Crew: JP			
Coordinates:	N 4271929.2	E 493558.6	Vessel: Manasquan			
Core # : S17	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		5.2		
Measured Water Depth [MWD] [ft.]: 4.8		Recovered Core Length (ft.):		3.5		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 2.6		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 1.3' dark grey fine sand, trace shells 1.3' - 3.5' light grey fine sand				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 55 degrees, calm/light breeze, partly cloudy.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client. Refusal.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer Slambar			
Odor Present	Y	N				
Debris Present	Y	N	Eckman Ponar: Standard / Petite			
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/12/23	Time: 0834	Crew: JP			
Coordinates:	N 4271641.2	E 492245.6	Vessel: Manasquan			
Core # : S19	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		6.0	6.5	
Measured Water Depth [MWD] [ft.]: 9.6		Recovered Core Length (ft.):		3.2	6.4	
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 2.8		Sample Length Retained (ft.):		-	-	
		Core Volume Retained (gal.):		-	-	
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 1.0' dark grey very fine sand. 1.0' - 2.2' dark grey clay. 2.2' - 5.9' dark grey silt and clay.				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions: 57 degrees, calm/light breeze. Sunny.					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client. Refusal.					4.0	.50 gal/ft
					Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard	
					Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other	
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer	Slambar		
Odor Present	Y	N				
Debris Present	Y	N	Eckman	Ponar: Standard / Petite		
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/12/23	Time: 0901	Crew: JP			
Coordinates:	N 4271039.4	E 491686.8	Vessel: Manasquan			
Core # : S21	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		7.0		
Measured Water Depth [MWD] [ft.]: 7.0		Recovered Core Length (ft.):		6.2		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 2.6		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 1.0' dark grey very fine sand. 1.0' - 2.0' dark grey clayey sand. 2.0' - 5.9' dark grey clay.				
↓						
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:				3.0"	.25 gal/ft	
				3.5" 8.0"	.33 gal/ft	
Comments: Core to client. Refusal.				4.0	.50 gal/ft	
				Liner Type: <input checked="" type="radio"/> Soft <input type="radio"/> Hard		
				Vibracorer: <input checked="" type="radio"/> P3 <input type="radio"/> P5 <input type="radio"/> VT6 <input type="radio"/> Other		
Live Organisms Present	Y	N				
Oil Present	Y	N	Pushcorer	Slambar		
Odor Present	Y	N				
Debris Present	Y	N	Eckman	Ponar: Standard / Petite		
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N	Box Core			
MLW #td ver 030615						



AQUA SURVEY, INC.

SEDIMENT CORE LOG

Client : Hill Consulting, Inc.		Project : Indian River Bay, DE			Logger: WR	
Job#: 43-136	Date: 10/12/23	Time: 0948	Crew: JP			
Coordinates:	N 4271956.7	E 490145.6	Vessel: Manasquan			
Core # : S23	Zone: 18 N	Datum UTM M	Deploy:	1	2	3
Project Depth [PD] [ft] MLLW:		Core Penetration Length (ft.):		8.0		
Measured Water Depth [MWD] [ft.]: 10.3		Recovered Core Length (ft.):		7.2		
Tide Adjust [TA] (+/- ft. from MLLW) [ft.]: 2.1		Sample Length Retained (ft.):		-		
		Core Volume Retained (gal.):		-		
		Collected to Project Depth:		Y / N		
Required Sample Core Length [SCL] [ft.]:						
All Length Measurements are in Decimal Feet						
Sample Interval (ft.)	Sample Id #	Description				
Top		0.0' - 5.9' dark grey clay. Some brown organic matter from 5.3' to 5.9'.				
Bottom						
# of containers:					Core Volumes	
Type of container:	bucket	hardliner	cup	other	Nominal core-barrel diameter	EST. Volume
Conditions:					3.0"	.25 gal/ft
					3.5" 8.0"	.33 gal/ft
Comments: Core to client.					4.0	.50 gal/ft
					Liner Type: Soft Hard	
					Vibracorer: P3 P5 VT6 Other	
Live Organisms Present	Y	N			Pushcorer	Slambar
Oil Present	Y	N				
Odor Present	Y	N				
Debris Present	Y	N			Eckman	Ponar: Standard / Petite
Within 10% of Req'd Core Length	Y	N				
Photo	Y	N			Box Core	
MLW #td ver 030615						



APPENDIX C

LABORATORY ANALYTICAL DATA

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ANALYTICAL REPORT

PREPARED FOR

Attn: Rolf Hill
Hill Consulting, Inc.
107 Old Crossing Lane
Annapolis, Maryland 21401

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JOB DESCRIPTION

IRB

JOB NUMBER

410-147027-1

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Authorized for release by
Amek Carter, Project Manager
Loran.Carter@et.eurofinsus.com
(717)556-7252

Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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Definitions/Glossary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
cn	Refer to Case Narrative for further detail
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1-	Surrogate recovery exceeds control limits, low biased.

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
cn	Refer to Case Narrative for further detail
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.

Dioxin

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
cn	Refer to Case Narrative for further detail
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.

Metals

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)

Eurofins Lancaster Laboratories Environment Testing, LLC

Definitions/Glossary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Case Narrative

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Narrative

Job Narrative 410-147027-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/13/2023 5:37 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.3°C, 1.4°C, 2.3°C and 2.9°C

Receipt Exceptions

All backup containers for water samples received for 1633 PFAS analysis were frozen after receipt.

SED Comp 1 (410-147072-1), SED Comp 2 (410-147072-2), SED Comp 3 (410-147072-3), SW Comp 1 (410-147072-4), SW Comp 2 (410-147072-5), SW Comp 3 (410-147072-6) and Field Blank (410-147072-7)

GC/MS Semi VOA

Method 8270E_SIM_ALK: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 410-432041 and analytical batch 410-432573: Benzo[g,h,i]perylene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8270E_SIM_ALK: The continuing calibration verification (CCV) associated with batch 410-433060 exhibited % difference of > 20% for the following analyte(s): Phenanthrene and Naphthalene. These results are within the laboratory acceptance limits.

Method 8270E_SIM_ALK: The laboratory control sample (LCS) for preparation batch 410-432561 and analytical batch 410-433060 recovered outside control limits for the following analytes: Dibenzofuran, Benzo[g,h,i]perylene, Benzo[e]pyrene, Phenanthrene and Naphthalene. The associated sample(s) was re-prepared within holding time with similar LCS non-conformances. Both sets of data have been reported.

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

Pesticides

Method 8081B: The continuing calibration verification (CCV) associated with batch 410-433050 recovered above the upper control limit for Toxaphene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are: SW Comp 2 (410-147027-5) and SW Comp 3 (410-147027-6).

Method 8081B: Surrogate recovery for the following samples were outside control limits: SED Comp 1 (410-147027-1), SED Comp 2 (410-147027-2), SED Comp 3 (410-147027-3), (410-147027-C-1-A MS) and (410-147027-C-1-B MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B: The software does not display the % Drift data to the whole number as is listed in the method (i.e. limit of 20 %). When the 20.1% drift is evaluated to the whole number, the continuing calibration verification (CCV) passes the method criteria for p,p'-DDT and Endrin aldehyde. SED Comp 1 (410-147027-1), SED Comp 2 (410-147027-2) and SED Comp 3 (410-147027-3).

Method 8081B: The continuing calibration verification (CCV) associated with batch 410-433563 recovered above the upper control limit for

Case Narrative

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Job ID: 410-147027-1 (Continued)

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Toxaphene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are : SED Comp 1 (410-147027-1), SED Comp 2 (410-147027-2) and SED Comp 3 (410-147027-3).

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

PFAS

Method 1633: The recovery for target analyte NMeFOSAA and 3:3 FTCA is outside of QC acceptance limits in the laboratory control spike samples associated with samples: SW Comp 2 (410-147072-5), SW Comp 3 (410-147072-6) and Field Blank (410-147072-7) . Since the result is high and target analyte NMeFOSAA and 3:3 FTCA is not detected in the samples, the data is reported.

Method 1633: The recovery for a target analyte(s) Perfluorononanoic acid in the laboratory control spike samples associated with the following samples: SW Comp 2 (410-147072-5), SW Comp 3 (410-147072-6) and Field Blank (410-147072-7) is outside the QC acceptance limits. The following action was taken: The client was contacted and the data is reported.

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

Dioxin

Method 1668C: The Isotope Dilution Analyte (IDA) recovery associated with the following Quality Control sample is below the method recommended limit: (LCS 410-442274/2-A). The associated native analyte recoveries are within the method recommended limits.

Method 1668C: The continuing calibration verification (CCV) associated with batch 410-443285 recovered above the upper control limit for PCB-135/151, PCB-136, PCB-144 and PCB-150. These limits are considered advisory.

Method 1668C: The continuing calibration verification (CCV) associated with batch 410-444881 recovered outside control limit for PCB-40/71, PCB-51, PCB-64, PCB-83 and PCB-144. These limits are considered advisory.

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

Metals

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

General Chemistry

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

Geotechnical

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

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.97	J	3.4	0.68	ug/Kg	1	✳	8270E SIM	Total/NA
Pyrene	7.7		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Dibenzofuran	47	F1 *- cn	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Benzo[g,h,i]perylene	1.6	J F1 *- cn	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Benzo[e]pyrene	5.0	F1 *- cn	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Perylene	32	F1	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Benzo[b]fluoranthene	5.0		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Fluoranthene	9.4		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Benzo[k]fluoranthene	3.4		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Chrysene	9.2	F1	3.4	0.68	ug/Kg	1	✳	8270E SIM	Total/NA
Benzo[a]pyrene	2.3	J F1	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Benzo[a]anthracene	4.2	F1	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Phenanthrene	71	F1 *- cn	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Fluorene	3.2	J F1	3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
Naphthalene	50	F1 *- cn	4.8	2.7	ug/Kg	1	✳	8270E SIM	Total/NA
2-Methylnaphthalene	70	F1	3.4	2.0	ug/Kg	1	✳	8270E SIM	Total/NA
C1-Fluoranthene/Pyrenes	11		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
C1-Naphthalenes	80		4.8	2.7	ug/Kg	1	✳	8270E SIM	Total/NA
C2-Naphthalenes	85		4.8	2.7	ug/Kg	1	✳	8270E SIM	Total/NA
C1-Phenanthrenes/Anthracenes	49		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
C2-Phenanthrenes/Anthracenes	32		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
C3-Phenanthrenes/Anthracenes	23		3.4	1.4	ug/Kg	1	✳	8270E SIM	Total/NA
1,2,3,4,6,7,8-HpCDD	25		9.8	3.9	ng/Kg	1	✳	1613B	Total/NA
OCDD	300	B	20	3.9	ng/Kg	1	✳	1613B	Total/NA
PCB-187	6.6	J	16	6.1	ng/Kg	1	✳	1668C	Total/NA
PCB-194	8.1	J B	18	8.1	ng/Kg	1	✳	1668C	Total/NA
PCB-196	4.1	J	16	4.0	ng/Kg	1	✳	1668C	Total/NA
PCB-198/199	12	J B	32	8.1	ng/Kg	1	✳	1668C	Total/NA
PCB-206	6.7	J B	16	4.0	ng/Kg	1	✳	1668C	Total/NA
Aluminum	11000	^2	16	7.9	mg/Kg	2		6020B	Total/NA
Arsenic	4.6		0.32	0.11	mg/Kg	2		6020B	Total/NA
Barium	41		0.32	0.15	mg/Kg	2		6020B	Total/NA
Beryllium	0.58		0.079	0.019	mg/Kg	2		6020B	Total/NA
Cadmium	0.10		0.079	0.032	mg/Kg	2		6020B	Total/NA
Calcium	1500		32	16	mg/Kg	2		6020B	Total/NA
Chromium	24		0.32	0.15	mg/Kg	2		6020B	Total/NA
Cobalt	5.1		0.16	0.063	mg/Kg	2		6020B	Total/NA
Copper	5.2		0.32	0.14	mg/Kg	2		6020B	Total/NA
Iron	15000	^2	79	37	mg/Kg	10		6020B	Total/NA
Lead	6.3		0.16	0.060	mg/Kg	2		6020B	Total/NA
Magnesium	4000		7.9	3.9	mg/Kg	2		6020B	Total/NA
Manganese	120		0.32	0.16	mg/Kg	2		6020B	Total/NA
Nickel	12		0.32	0.15	mg/Kg	2		6020B	Total/NA
Potassium	2000		32	13	mg/Kg	2		6020B	Total/NA
Selenium	0.27	J	0.32	0.079	mg/Kg	2		6020B	Total/NA
Silver	0.034	J	0.079	0.032	mg/Kg	2		6020B	Total/NA
Sodium	3700		40	19	mg/Kg	2		6020B	Total/NA
Thallium	0.11		0.079	0.031	mg/Kg	2		6020B	Total/NA
Zinc	39		24	3.2	mg/Kg	2		6020B	Total/NA
Vanadium	25		0.63	0.16	mg/Kg	2		6020B	Total/NA
Mercury	0.021	J	0.057	0.019	mg/Kg	1		7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1 (Continued)

Lab Sample ID: 410-147027-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Phosphorus as P	490		41	20	mg/Kg	1	☼	365.1	Total/NA
Total Phosphorus as PO4	1500		120	62	mg/Kg	1	☼	365.1	Total/NA
Total Organic Carbon	16000		300	100	mg/Kg	1		Lloyd Kahn	Total/NA
50 mm (Sieve Size 2 inch)	100.0				% Finer	1		D422	Total/NA
37.5 mm (Sieve Size 1.5 inch)	100.0				% Finer	1		D422	Total/NA
25 mm (Sieve Size 1 inch)	100.0				% Finer	1		D422	Total/NA
9.5 mm (Sieve Size 0.375 inch)	100.0				% Finer	1		D422	Total/NA
19 mm (Sieve Size 0.75 inch)	100.0				% Finer	1		D422	Total/NA
4.75 mm (Sieve Size #4)	100.0				% Finer	1		D422	Total/NA
2 mm (Sieve Size #10)	100.0				% Finer	1		D422	Total/NA
0.85 mm (Sieve Size #20)	99.8				% Finer	1		D422	Total/NA
0.425 mm (Sieve Size #40)	97.9				% Finer	1		D422	Total/NA
0.25 mm (Sieve Size #60)	95.6				% Finer	1		D422	Total/NA
0.18 mm (Sieve Size #80)	93.2				% Finer	1		D422	Total/NA
0.15 mm (Sieve Size #100)	92.5				% Finer	1		D422	Total/NA
0.075 mm (Sieve Size #200)	90.6				% Finer	1		D422	Total/NA
36.1 um (Hydrometer Reading 1)	69.3				% Finer	1		D422	Total/NA
22.9 um (Hydrometer Reading 2)	62.1				% Finer	1		D422	Total/NA
13.4 um (Hydrometer Reading 3)	57.2				% Finer	1		D422	Total/NA
9.8 um (Hydrometer Reading 4)	54.8				% Finer	1		D422	Total/NA
6.7 um (Hydrometer Reading 5)	50.0				% Finer	1		D422	Total/NA
3.3 um (Hydrometer Reading 6)	40.3				% Finer	1		D422	Total/NA
1.4 um (Hydrometer Reading 7)	35.5				% Finer	1		D422	Total/NA
Clay	50.0				%	1		D422	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Coarse Sand	0.0				%	1		D422	Total/NA
Fine Sand	7.3				%	1		D422	Total/NA
Medium Sand	2.1				%	1		D422	Total/NA
Sand	9.4				%	1		D422	Total/NA
Silt	40.6				%	1		D422	Total/NA

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	5.1		2.5	0.51	ug/Kg	1	☼	8270E SIM	Total/NA
Pyrene	6.8		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Dibenzofuran	5.4	*- cn	2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Indeno[1,2,3-cd]pyrene	1.3	J	2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Perylene	75		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Benzo[b]fluoranthene	3.7		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Fluoranthene	8.3		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Benzo[k]fluoranthene	3.6		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Acenaphthylene	1.7	J	2.5	0.51	ug/Kg	1	☼	8270E SIM	Total/NA
Chrysene	6.0		2.5	0.51	ug/Kg	1	☼	8270E SIM	Total/NA
Benzo[a]pyrene	1.9	J	2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Benzo[a]anthracene	5.4		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Acenaphthene	2.4	J	2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Phenanthrene	7.7	*- cn	2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Fluorene	5.7		2.5	1.0	ug/Kg	1	☼	8270E SIM	Total/NA
Naphthalene	5.1	*- cn	3.6	2.0	ug/Kg	1	☼	8270E SIM	Total/NA
2-Methylnaphthalene	3.5		2.5	1.5	ug/Kg	1	☼	8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2 (Continued)

Lab Sample ID: 410-147027-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C1-Naphthalenes	3.8		3.6	2.0	ug/Kg	1	✳	8270E SIM	Total/NA
C2-Naphthalenes	60		3.6	2.0	ug/Kg	1	✳	8270E SIM	Total/NA
C1-Phenanthrenes/Anthracenes	6.3		2.5	1.0	ug/Kg	1	✳	8270E SIM	Total/NA
1,2,3,4,6,7,8-HpCDD	14		7.3	2.9	ng/Kg	1	✳	1613B	Total/NA
OCDD	120	B	15	2.9	ng/Kg	1	✳	1613B	Total/NA
PCB-194	6.5	J B	14	6.0	ng/Kg	1	✳	1668C	Total/NA
PCB-198/199	7.5	J B	24	6.0	ng/Kg	1	✳	1668C	Total/NA
PCB-206	5.7	J B	12	3.0	ng/Kg	1	✳	1668C	Total/NA
Aluminum	13000	^2	15	7.6	mg/Kg	2		6020B	Total/NA
Arsenic	5.9		0.31	0.10	mg/Kg	2		6020B	Total/NA
Barium	31		0.31	0.14	mg/Kg	2		6020B	Total/NA
Beryllium	0.54		0.077	0.018	mg/Kg	2		6020B	Total/NA
Cadmium	0.071	J	0.077	0.031	mg/Kg	2		6020B	Total/NA
Calcium	2200		31	15	mg/Kg	2		6020B	Total/NA
Chromium	28		0.31	0.15	mg/Kg	2		6020B	Total/NA
Cobalt	6.1		0.15	0.062	mg/Kg	2		6020B	Total/NA
Copper	5.6		0.31	0.14	mg/Kg	2		6020B	Total/NA
Iron	16000	^2	77	35	mg/Kg	10		6020B	Total/NA
Lead	5.5		0.15	0.058	mg/Kg	2		6020B	Total/NA
Magnesium	5200		7.7	3.8	mg/Kg	2		6020B	Total/NA
Manganese	160		0.31	0.15	mg/Kg	2		6020B	Total/NA
Nickel	15		0.31	0.15	mg/Kg	2		6020B	Total/NA
Potassium	2800		31	12	mg/Kg	2		6020B	Total/NA
Selenium	0.20	J	0.31	0.077	mg/Kg	2		6020B	Total/NA
Sodium	4200		38	18	mg/Kg	2		6020B	Total/NA
Thallium	0.13		0.077	0.030	mg/Kg	2		6020B	Total/NA
Zinc	39		23	3.1	mg/Kg	2		6020B	Total/NA
Vanadium	31		0.62	0.15	mg/Kg	2		6020B	Total/NA
Total Phosphorus as P	300		27	14	mg/Kg	1	✳	365.1	Total/NA
Total Phosphorus as PO4	920		83	42	mg/Kg	1	✳	365.1	Total/NA
Total Organic Carbon	8700		300	100	mg/Kg	1		Lloyd Kahn	Total/NA
50 mm (Sieve Size 2 inch)	100.0				% Finer	1		D422	Total/NA
37.5 mm (Sieve Size 1.5 inch)	100.0				% Finer	1		D422	Total/NA
25 mm (Sieve Size 1 inch)	100.0				% Finer	1		D422	Total/NA
9.5 mm (Sieve Size 0.375 inch)	100.0				% Finer	1		D422	Total/NA
19 mm (Sieve Size 0.75 inch)	100.0				% Finer	1		D422	Total/NA
4.75 mm (Sieve Size #4)	100.0				% Finer	1		D422	Total/NA
2 mm (Sieve Size #10)	100.0				% Finer	1		D422	Total/NA
0.85 mm (Sieve Size #20)	99.5				% Finer	1		D422	Total/NA
0.425 mm (Sieve Size #40)	96.4				% Finer	1		D422	Total/NA
0.25 mm (Sieve Size #60)	87.3				% Finer	1		D422	Total/NA
0.18 mm (Sieve Size #80)	82.8				% Finer	1		D422	Total/NA
0.15 mm (Sieve Size #100)	80.3				% Finer	1		D422	Total/NA
0.075 mm (Sieve Size #200)	74.2				% Finer	1		D422	Total/NA
36.1 um (Hydrometer Reading 1)	47.5				% Finer	1		D422	Total/NA
22.9 um (Hydrometer Reading 2)	43.2				% Finer	1		D422	Total/NA
13.4 um (Hydrometer Reading 3)	41.0				% Finer	1		D422	Total/NA
9.8 um (Hydrometer Reading 4)	38.8				% Finer	1		D422	Total/NA
6.7 um (Hydrometer Reading 5)	34.4				% Finer	1		D422	Total/NA
3.3 um (Hydrometer Reading 6)	27.8				% Finer	1		D422	Total/NA
1.4 um (Hydrometer Reading 7)	27.8				% Finer	1		D422	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2 (Continued)

Lab Sample ID: 410-147027-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Clay	34.4				%	1		D422	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Coarse Sand	0.0				%	1		D422	Total/NA
Fine Sand	22.2				%	1		D422	Total/NA
Medium Sand	3.6				%	1		D422	Total/NA
Sand	25.8				%	1		D422	Total/NA
Silt	39.8				%	1		D422	Total/NA

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	2.4		2.3	0.46	ug/Kg	1	*	8270E SIM	Total/NA
Pyrene	4.9		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Dibenzofuran	2.5	*- cn	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Perylene	42		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Benzo[b]fluoranthene	1.5	J	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Fluoranthene	4.6		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Benzo[k]fluoranthene	1.2	J	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Chrysene	8.7		2.3	0.46	ug/Kg	1	*	8270E SIM	Total/NA
Benzo[a]pyrene	1.4	J	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Benzo[a]anthracene	1.4	J	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Acenaphthene	1.3	J	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Phenanthrene	6.2	*- cn	2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Fluorene	2.8		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
Naphthalene	3.5	*- cn	3.2	1.8	ug/Kg	1	*	8270E SIM	Total/NA
2-Methylnaphthalene	2.6		2.3	1.4	ug/Kg	1	*	8270E SIM	Total/NA
C1-Benzo(a)anthracenes/Chrysenes	3.4		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
C1-Fluoranthene/Pyrenes	7.2		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
C2-Fluoranthenes/Pyrene	11		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
C1-Naphthalenes	3.3		3.2	1.8	ug/Kg	1	*	8270E SIM	Total/NA
C2-Naphthalenes	38		3.2	1.8	ug/Kg	1	*	8270E SIM	Total/NA
C1-Phenanthrenes/Anthracenes	9.0		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
C2-Phenanthrenes/Anthracenes	13		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
C3-Phenanthrenes/Anthracenes	16		2.3	0.92	ug/Kg	1	*	8270E SIM	Total/NA
1,2,3,4,6,7,8-HpCDD	19		6.9	2.8	ng/Kg	1	*	1613B	Total/NA
OCDD	230	B	14	2.8	ng/Kg	1	*	1613B	Total/NA
PCB-198/199	6.6	J B	21	5.4	ng/Kg	1	*	1668C	Total/NA
PCB-206	4.2	J B	11	2.7	ng/Kg	1	*	1668C	Total/NA
Aluminum	6900		16	7.9	mg/Kg	2		6020B	Total/NA
Arsenic	2.7		0.32	0.11	mg/Kg	2		6020B	Total/NA
Barium	16		0.32	0.15	mg/Kg	2		6020B	Total/NA
Beryllium	0.26		0.079	0.019	mg/Kg	2		6020B	Total/NA
Cadmium	0.059	J	0.079	0.032	mg/Kg	2		6020B	Total/NA
Calcium	1400		32	16	mg/Kg	2		6020B	Total/NA
Chromium	13		0.32	0.15	mg/Kg	2		6020B	Total/NA
Cobalt	2.8		0.16	0.063	mg/Kg	2		6020B	Total/NA
Copper	3.1		0.32	0.14	mg/Kg	2		6020B	Total/NA
Iron	8100		16	7.3	mg/Kg	2		6020B	Total/NA
Lead	3.1		0.16	0.060	mg/Kg	2		6020B	Total/NA
Magnesium	2200		7.9	3.9	mg/Kg	2		6020B	Total/NA
Manganese	69		0.32	0.16	mg/Kg	2		6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3 (Continued)

Lab Sample ID: 410-147027-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	6.9		0.32	0.15	mg/Kg	2		6020B	Total/NA
Potassium	1200		32	13	mg/Kg	2		6020B	Total/NA
Selenium	0.12	J	0.32	0.079	mg/Kg	2		6020B	Total/NA
Sodium	2100		40	19	mg/Kg	2		6020B	Total/NA
Thallium	0.089		0.079	0.031	mg/Kg	2		6020B	Total/NA
Zinc	19	J	24	3.2	mg/Kg	2		6020B	Total/NA
Vanadium	15		0.63	0.16	mg/Kg	2		6020B	Total/NA
Mercury	0.025	J	0.055	0.018	mg/Kg	1		7471B	Total/NA
Total Phosphorus as P	230		23	11	mg/Kg	1	☼	365.1	Total/NA
Total Phosphorus as PO4	690		70	35	mg/Kg	1	☼	365.1	Total/NA
Total Organic Carbon	3800		300	100	mg/Kg	1		Lloyd Kahn	Total/NA
50 mm (Sieve Size 2 inch)	100.0				% Finer	1		D422	Total/NA
37.5 mm (Sieve Size 1.5 inch)	100.0				% Finer	1		D422	Total/NA
25 mm (Sieve Size 1 inch)	100.0				% Finer	1		D422	Total/NA
9.5 mm (Sieve Size 0.375 inch)	100.0				% Finer	1		D422	Total/NA
19 mm (Sieve Size 0.75 inch)	100.0				% Finer	1		D422	Total/NA
4.75 mm (Sieve Size #4)	100.0				% Finer	1		D422	Total/NA
2 mm (Sieve Size #10)	100.0				% Finer	1		D422	Total/NA
0.85 mm (Sieve Size #20)	99.0				% Finer	1		D422	Total/NA
0.425 mm (Sieve Size #40)	90.8				% Finer	1		D422	Total/NA
0.25 mm (Sieve Size #60)	73.5				% Finer	1		D422	Total/NA
0.18 mm (Sieve Size #80)	65.7				% Finer	1		D422	Total/NA
0.15 mm (Sieve Size #100)	59.3				% Finer	1		D422	Total/NA
0.075 mm (Sieve Size #200)	42.3				% Finer	1		D422	Total/NA
36.1 um (Hydrometer Reading 1)	39.4				% Finer	1		D422	Total/NA
22.9 um (Hydrometer Reading 2)	36.7				% Finer	1		D422	Total/NA
13.4 um (Hydrometer Reading 3)	34.0				% Finer	1		D422	Total/NA
9.8 um (Hydrometer Reading 4)	31.3				% Finer	1		D422	Total/NA
6.7 um (Hydrometer Reading 5)	28.6				% Finer	1		D422	Total/NA
3.3 um (Hydrometer Reading 6)	23.3				% Finer	1		D422	Total/NA
1.4 um (Hydrometer Reading 7)	23.3				% Finer	1		D422	Total/NA
Clay	28.6				%	1		D422	Total/NA
Gravel	0.0				%	1		D422	Total/NA
Coarse Sand	0.0				%	1		D422	Total/NA
Fine Sand	48.5				%	1		D422	Total/NA
Medium Sand	9.2				%	1		D422	Total/NA
Sand	57.7				%	1		D422	Total/NA
Silt	13.7				%	1		D422	Total/NA

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.029	J	0.076	0.028	ug/L	1		8270E SIM	Total/NA
Aldrin (1C)	0.016	J	0.020	0.0020	ug/L	1		8081B	Total/NA
OCDD	56	J	100	34	pg/L	1		1613B	Total/NA
PCB-153/168	18	J	150	17	pg/L	1		1668C	Total/NA
PCB-180/193	21	J B	150	18	pg/L	1		1668C	Total/NA
PCB-187	19	J B	75	10	pg/L	1		1668C	Total/NA
PCB-194	16	J B	110	11	pg/L	1		1668C	Total/NA
PCB-198/199	26	J B	220	17	pg/L	1		1668C	Total/NA
PCB-206	16	J B	110	6.5	pg/L	1		1668C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1 (Continued)

Lab Sample ID: 410-147027-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-66	10	J	75	10	pg/L	1		1668C	Total/NA
Aluminum	780		25	12	ug/L	1		6020B	Total Recoverable
Antimony	0.20	J	1.0	0.20	ug/L	1		6020B	Total Recoverable
Arsenic	2.7		2.0	0.68	ug/L	1		6020B	Total Recoverable
Barium	35		2.0	0.75	ug/L	1		6020B	Total Recoverable
Calcium	260000		1200	500	ug/L	10		6020B	Total Recoverable
Chromium	1.5	J	2.0	0.55	ug/L	1		6020B	Total Recoverable
Cobalt	0.55		0.50	0.16	ug/L	1		6020B	Total Recoverable
Copper	1.3		1.0	0.36	ug/L	1		6020B	Total Recoverable
Iron	730		50	20	ug/L	1		6020B	Total Recoverable
Lead	0.87		0.50	0.12	ug/L	1		6020B	Total Recoverable
Magnesium	770000		500	160	ug/L	10		6020B	Total Recoverable
Manganese	34		2.0	0.95	ug/L	1		6020B	Total Recoverable
Nickel	0.45	J	1.0	0.40	ug/L	1		6020B	Total Recoverable
Potassium	240000		2000	650	ug/L	10		6020B	Total Recoverable
Sodium	6800000		20000	9000	ug/L	100		6020B	Total Recoverable
Vanadium	3.3	J	4.0	0.79	ug/L	1		6020B	Total Recoverable
Mercury	0.088	J	0.20	0.079	ug/L	1		7470A	Total/NA
Total Dissolved Solids	17	J	30	12	mg/L	1		2540C - 2015	Total/NA
Total Organic Carbon	2.5		1.0	0.50	mg/L	1		5310 C-2014	Total/NA

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-180/193	18	J B	150	18	pg/L	1		1668C	Total/NA
PCB-187	15	J B	76	10	pg/L	1		1668C	Total/NA
PCB-194	16	J B	110	11	pg/L	1		1668C	Total/NA
PCB-198/199	29	J B	230	17	pg/L	1		1668C	Total/NA
PCB-203	12	J B	110	12	pg/L	1		1668C	Total/NA
PCB-206	17	J B	110	6.6	pg/L	1		1668C	Total/NA
Aluminum	190		25	12	ug/L	1		6020B	Total Recoverable
Arsenic	2.2		2.0	0.68	ug/L	1		6020B	Total Recoverable
Barium	11		2.0	0.75	ug/L	1		6020B	Total Recoverable
Calcium	340000		1200	500	ug/L	10		6020B	Total Recoverable
Copper	0.93	J	1.0	0.36	ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2 (Continued)

Lab Sample ID: 410-147027-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	210		50	20	ug/L	1		6020B	Total Recoverable
Lead	0.22	J	0.50	0.12	ug/L	1		6020B	Total Recoverable
Magnesium	1100000		5000	1600	ug/L	100		6020B	Total Recoverable
Manganese	8.5		2.0	0.95	ug/L	1		6020B	Total Recoverable
Potassium	320000		2000	650	ug/L	10		6020B	Total Recoverable
Sodium	8600000		50000	23000	ug/L	250		6020B	Total Recoverable
Vanadium	2.3	J	4.0	0.79	ug/L	1		6020B	Total Recoverable
Mercury	0.098	J	0.20	0.079	ug/L	1		7470A	Total/NA
Total Dissolved Solids	22	J	30	12	mg/L	1		2540C - 2015	Total/NA
Total Organic Carbon	0.73	J	1.0	0.50	mg/L	1		5310 C-2014	Total/NA

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
PCB-180/193	25	J B	150	18	pg/L	1		1668C	Total/NA
PCB-187	20	J B	75	10	pg/L	1		1668C	Total/NA
PCB-194	17	J B	110	11	pg/L	1		1668C	Total/NA
PCB-198/199	31	J B	220	17	pg/L	1		1668C	Total/NA
PCB-203	16	J B	110	12	pg/L	1		1668C	Total/NA
PCB-206	24	J B	110	6.5	pg/L	1		1668C	Total/NA
Aluminum	320		25	12	ug/L	1		6020B	Total Recoverable
Arsenic	2.3		2.0	0.68	ug/L	1		6020B	Total Recoverable
Barium	9.6		2.0	0.75	ug/L	1		6020B	Total Recoverable
Calcium	370000		1200	500	ug/L	10		6020B	Total Recoverable
Chromium	0.60	J	2.0	0.55	ug/L	1		6020B	Total Recoverable
Cobalt	0.16	J	0.50	0.16	ug/L	1		6020B	Total Recoverable
Copper	0.84	J	1.0	0.36	ug/L	1		6020B	Total Recoverable
Iron	320		50	20	ug/L	1		6020B	Total Recoverable
Lead	0.31	J	0.50	0.12	ug/L	1		6020B	Total Recoverable
Magnesium	1000000		5000	1600	ug/L	100		6020B	Total Recoverable
Manganese	8.5		2.0	0.95	ug/L	1		6020B	Total Recoverable
Potassium	340000		2000	650	ug/L	10		6020B	Total Recoverable
Sodium	8800000		20000	9000	ug/L	100		6020B	Total Recoverable
Vanadium	2.6	J	4.0	0.79	ug/L	1		6020B	Total Recoverable
Mercury	0.091	J	0.20	0.079	ug/L	1		7470A	Total/NA
Total Dissolved Solids	15	J	30	12	mg/L	1		2540C - 2015	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3 (Continued)

Lab Sample ID: 410-147027-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	0.53	J	1.0	0.50	mg/L	1		5310 C-2014	Total/NA

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147072-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	0.063	J I	0.23	0.060	ng/g	1	⊛	1633	Total/NA

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147072-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.052	J	0.20	0.051	ng/g	1	⊛	1633	Total/NA

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147072-3

No Detections.

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147072-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	2.2	J	7.0	1.8	ng/L	1		1633	Total/NA
Perfluoropentanoic acid	2.2	J I	3.5	0.88	ng/L	1		1633	Total/NA
Perfluorohexanoic acid	1.7	J	1.8	0.44	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid	0.98	J	1.8	0.46	ng/L	1		1633	Total/NA
Perfluorooctanoic acid	2.3		1.8	0.56	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid	1.3	J I	1.8	0.26	ng/L	1		1633	Total/NA
Perfluorohexanesulfonic acid	0.65	J	1.8	0.50	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid	0.93	J	1.8	0.44	ng/L	1		1633	Total/NA

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147072-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	2.1	J	7.1	1.8	ng/L	1		1633	Total/NA
Perfluoropentanoic acid	0.99	J	3.5	0.88	ng/L	1		1633	Total/NA
Perfluorohexanoic acid	1.2	J	1.8	0.44	ng/L	1		1633	Total/NA
Perfluorooctanoic acid	1.6	J	1.8	0.57	ng/L	1		1633	Total/NA
Perfluorononanoic acid	0.68	J I *+ cn	1.8	0.44	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid	1.6	J I	1.8	0.26	ng/L	1		1633	Total/NA

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147072-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	2.2	J	6.9	1.7	ng/L	1		1633	Total/NA
Perfluoropentanoic acid	1.2	J	3.5	0.87	ng/L	1		1633	Total/NA
Perfluorohexanoic acid	1.4	J	1.7	0.43	ng/L	1		1633	Total/NA
Perfluoroheptanoic acid	0.62	J	1.7	0.45	ng/L	1		1633	Total/NA
Perfluorooctanoic acid	1.2	J	1.7	0.55	ng/L	1		1633	Total/NA
Perfluorononanoic acid	0.76	J I *+ cn	1.7	0.43	ng/L	1		1633	Total/NA
Perfluorobutanesulfonic acid	1.7	I	1.7	0.26	ng/L	1		1633	Total/NA
Perfluorooctanesulfonic acid	0.58	J	1.7	0.43	ng/L	1		1633	Total/NA

Client Sample ID: Field Blank

Lab Sample ID: 410-147072-7

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	0.97	J	3.4	0.68	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Pyrene	7.7		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Dibenzofuran	47	F1 *- cn	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Benzo[g,h,i]perylene	1.6	J F1 *- cn	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Benzo[e]pyrene	5.0	F1 *- cn	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Indeno[1,2,3-cd]pyrene	ND	F1	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Perylene	32	F1	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Benzo[b]fluoranthene	5.0		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Fluoranthene	9.4		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Benzo[k]fluoranthene	3.4		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Acenaphthylene	ND		3.4	0.68	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Chrysene	9.2	F1	3.4	0.68	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Benzo[a]pyrene	2.3	J F1	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Dibenz(a,h)anthracene	ND	F1	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Benzo[a]anthracene	4.2	F1	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Acenaphthene	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Phenanthrene	71	F1 *- cn	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Fluorene	3.2	J F1	3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
Naphthalene	50	F1 *- cn	4.8	2.7	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
2-Methylnaphthalene	70	F1	3.4	2.0	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C1-Benzo(a)anthracenes/Chrysenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C2-Benzo(a)anthracenes/Chrysenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C4-Benzo(a)anthracenes/Chrysenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C1-Fluoranthene/Pyrenes	11		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C2-Fluoranthenes/Pyrene	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C3-Fluoranthenes/Pyrene	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C1-Fluorenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C2-Fluorenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C3-Fluorenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C1-Naphthalenes	80		4.8	2.7	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C2-Naphthalenes	85		4.8	2.7	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C3-Naphthalenes	ND		4.8	2.7	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C4-Naphthalenes	ND		4.8	2.7	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C1-Phenanthrenes/Anthracenes	49		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C2-Phenanthrenes/Anthracenes	32		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C3-Phenanthrenes/Anthracenes	23		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1
C4-Phenanthrenes/Anthracenes	ND		3.4	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 08:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	71		38 - 120	10/18/23 07:58	10/19/23 08:26	1
1-Methylnaphthalene-d10	70		38 - 96	10/18/23 07:58	10/19/23 08:26	1
Benzo(a)pyrene-d12 (Surr)	58		37 - 123	10/18/23 07:58	10/19/23 08:26	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	ND	F1 cn	0.82	0.36	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
alpha-BHC (1C)	ND	cn	0.82	0.38	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
alpha-Chlordane (1C)	ND	F1 cn	0.82	0.17	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
beta-BHC (1C)	ND	F1 cn	0.99	0.44	ug/Kg		10/19/23 07:57	10/20/23 09:46	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC (1C)	ND	F1 F2 cn	0.99	0.45	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Dieldrin (1C)	ND	F1 cn	1.7	0.33	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Endosulfan I (1C)	ND	F1 cn	0.82	0.22	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Endosulfan II (1C)	ND	cn	2.3	1.1	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Endosulfan sulfate (1C)	ND	F1 cn	1.7	0.39	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Endrin (1C)	ND	F1 cn	1.7	0.68	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Endrin aldehyde (1C)	ND	cn	1.7	0.38	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Endrin ketone (1C)	ND	F1 cn	2.0	0.60	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
gamma-BHC (Lindane) (1C)	ND	F1 cn	0.82	0.21	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
gamma-Chlordane (1C)	ND	F1 cn	0.82	0.25	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Heptachlor (1C)	ND	F1 cn	0.82	0.31	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Heptachlor epoxide (1C)	ND	F1 cn	0.82	0.35	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Methoxychlor (1C)	ND	F1 cn	6.7	2.5	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
Toxaphene (1C)	ND	cn	33	14	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
p,p'-DDD (1C)	ND	F1 cn	1.7	0.79	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
p,p'-DDE (1C)	ND	F1 cn	1.7	0.70	ug/Kg		10/19/23 07:57	10/20/23 09:46	1
p,p'-DDT (1C)	ND	F1 cn	1.7	0.78	ug/Kg		10/19/23 07:57	10/20/23 09:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	27	S1- cn	54 - 143	10/19/23 07:57	10/20/23 09:46	1
DCB Decachlorobiphenyl (Surr) (2C)	27	S1- cn	54 - 143	10/19/23 07:57	10/20/23 09:46	1
Tetrachloro-m-xylene (Surr) (1C)	6	S1- cn	20 - 131	10/19/23 07:57	10/20/23 09:46	1
Tetrachloro-m-xylene (Surr) (2C)	6	S1- cn	20 - 131	10/19/23 07:57	10/20/23 09:46	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	25		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,4,6,7,8-HpCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,4,7,8-HxCDD	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,4,7,8-HxCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,4,7,8,9-HpCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,6,7,8-HxCDD	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,6,7,8-HxCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,7,8-PeCDD	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,7,8-PeCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,7,8,9-HxCDD	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
1,2,3,7,8,9-HxCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
2,3,4,6,7,8-HxCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
2,3,4,7,8-PeCDF	ND		9.8	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
2,3,7,8-TCDD	ND		2.0	0.39	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
2,3,7,8-TCDF	ND		2.0	0.39	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
OCDD	300	B	20	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1
OCDF	ND		20	3.9	ng/Kg	✱	11/15/23 14:25	11/17/23 16:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	49		23 - 140	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,4,6,7,8-HpCDF	39		28 - 143	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,4,7,8-HxCDD	56		32 - 141	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,4,7,8-HxCDF	50		26 - 152	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,4,7,8,9-HpCDF	47		26 - 138	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,6,7,8-HxCDD	56		28 - 130	11/15/23 14:25	11/17/23 16:50	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	49		26 - 123	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,7,8-PeCDD	54		25 - 181	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,7,8-PeCDF	55		24 - 185	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,7,8,9-HxCDD	57		28 - 130	11/15/23 14:25	11/17/23 16:50	1
13C-1,2,3,7,8,9-HxCDF	47		29 - 147	11/15/23 14:25	11/17/23 16:50	1
13C-2,3,4,6,7,8-HxCDF	53		28 - 136	11/15/23 14:25	11/17/23 16:50	1
13C-2,3,4,7,8-PeCDF	55		21 - 178	11/15/23 14:25	11/17/23 16:50	1
13C-2,3,7,8-TCDD	69		25 - 164	11/15/23 14:25	11/17/23 16:50	1
13C-2,3,7,8-TCDF	57		24 - 169	11/15/23 14:25	11/17/23 16:50	1
13C-OCDD	56		17 - 157	11/15/23 14:25	11/17/23 16:50	1
13C-OCDF	54		17 - 157	11/15/23 14:25	11/17/23 16:50	1

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		30	14	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-2	ND		30	14	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-3	ND		42	20	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-4	ND		38	18	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-5	ND		38	18	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-6	ND		18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-7	ND		22	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-8	ND		18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-9	ND		18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-10	ND		30	14	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-11	ND		140	67	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-12/13	ND		32	14	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-14	ND		18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-15	ND		22	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-16	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-17	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-18/30	ND		32	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-19	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-20/28	ND		32	14	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-21/33	ND		32	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-22	ND		26	12	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-23	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-24	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-25	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-26/29	ND		47	22	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-27	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-31	ND		22	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-32	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-34	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-35	ND		18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-36	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-37	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-38	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-39	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-40/71	ND	cn	32	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-41	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-42	ND		34	16	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-43	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-44/47/65	ND		49	18	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-45	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-46	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-48	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-49/69	ND		32	10	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-50/53	ND		55	26	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-51	ND	cn	18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-52	ND		30	14	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-54	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-55	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-56	ND		63	30	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-57	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-58	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-59/62/75	ND		49	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-60	ND		55	26	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-61/70/74/76	ND		65	28	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-63	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-64	ND	cn	67	32	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-66	ND		59	28	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-67	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-68	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-72	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-73	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-77	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-78	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-79	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-80	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-81	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-82	ND		34	16	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-83	ND	cn	16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-84	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-85/116/117	ND		49	14	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-86/87/97/109/119/125	ND		97	38	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-88	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-89	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-90/101/113	ND		49	12	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-91	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-92	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-93/100	ND		32	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-94	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-95	ND		26	12	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-96	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-98/102	ND		32	12	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-99	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-103	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-104	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-105	ND		26	12	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-106	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-107	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-108/124	ND		32	12	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-110/115	ND		34	16	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-111	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-112	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-114	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-118	ND		38	18	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-120	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-121	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-122	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-123	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-126	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-127	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-128/166	ND		32	10	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-129/138/163	ND		49	14	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-130	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-131	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-132	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-133	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-134	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-135/151	ND		32	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-136	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-137	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-139/140	ND		32	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-141	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-142	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-143	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-144	ND	cn	16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-145	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-146	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-147/149	ND		32	10	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-148	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-150	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-152	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-153/168	ND		32	10	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-154	ND		83	40	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-155	ND		18	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-156/157	ND		32	8.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-158	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-159	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-160	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-161	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-162	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-164	ND		16	6.1	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-165	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-167	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-169	ND		16	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1
PCB-170	ND		22	10	ng/Kg	✱	11/15/23 14:31	11/17/23 22:12	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-171/173	ND		32	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-172	ND		30	14	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-174	ND		18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-175	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-176	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-177	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-178	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-179	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-180/193	ND		32	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-181	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-182	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-183/185	ND		32	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-184	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-186	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-187	6.6	J	16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-188	ND		99	49	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-189	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-190	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-191	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-192	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-194	8.1	J B	18	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-195	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-196	4.1	J	16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-197/200	ND		32	10	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-198/199	12	J B	32	8.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-201	ND		91	45	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-202	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-203	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-204	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-205	ND		16	6.1	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-206	6.7	J B	16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-207	ND		16	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
PCB-208	ND		42	20	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
DCB Decachlorobiphenyl	ND		120	59	ng/Kg	☼	11/15/23 14:31	11/17/23 22:12	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
PCB-1L	42		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-3L	46		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-4L	57		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-8L	41		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-15L	44		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-19L	51		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-31L	48		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-32L	55		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-37L	47		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-47L	42		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-54L	51		5 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-60L	50		10 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-70L	46		10 - 145				11/15/23 14:31	11/17/23 22:12	1
PCB-77L	56		10 - 145				11/15/23 14:31	11/17/23 22:12	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-81L	54		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-85L	63		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-95L	45		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-104L	46		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-105L	52		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-114L	49		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-118L	44		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-123L	44		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-126L	54		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-127L	48		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-155L	65		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-156L/157L	62		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-167L	60		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-169L	61		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-180L	70		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-188L	69		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-189L	62		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-202L	72		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-205L	62		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-206L	79		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-208L	76		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-209L	72		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-128L	68		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-133L	57		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-141L	61		10 - 145	11/15/23 14:31	11/17/23 22:12	1
PCB-162L	55		10 - 145	11/15/23 14:31	11/17/23 22:12	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000	^2	16	7.9	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Antimony	ND		0.16	0.063	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Arsenic	4.6		0.32	0.11	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Barium	41		0.32	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Beryllium	0.58		0.079	0.019	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Cadmium	0.10		0.079	0.032	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Calcium	1500		32	16	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Chromium	24		0.32	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Cobalt	5.1		0.16	0.063	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Copper	5.2		0.32	0.14	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Iron	15000	^2	79	37	mg/Kg		10/16/23 20:17	10/25/23 09:23	10
Lead	6.3		0.16	0.060	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Magnesium	4000		7.9	3.9	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Manganese	120		0.32	0.16	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Nickel	12		0.32	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Potassium	2000		32	13	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Selenium	0.27	J	0.32	0.079	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Silver	0.034	J	0.079	0.032	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Sodium	3700		40	19	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Thallium	0.11		0.079	0.031	mg/Kg		10/16/23 20:17	10/25/23 09:21	2
Zinc	39		24	3.2	mg/Kg		10/16/23 20:17	10/25/23 09:21	2

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	25		0.63	0.16	mg/Kg		10/16/23 20:17	10/25/23 09:21	2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.021	J	0.057	0.019	mg/Kg		10/16/23 21:19	10/17/23 14:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.1)	490		41	20	mg/Kg	☼	11/07/23 08:54	11/09/23 13:39	1
Total Phosphorus as PO4 (EPA 365.1)	1500		120	62	mg/Kg	☼	11/07/23 08:54	11/09/23 13:39	1
Total Organic Carbon (EPA Lloyd Kahn)	16000		300	100	mg/Kg			10/17/23 15:50	1
Percent Moisture (EPA Moisture)	51.2		1.0	1.0	%			10/14/23 16:09	1

Method: ASTM D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
50 mm (Sieve Size 2 inch)	100.0				% Finer			10/31/23 10:31	1
37.5 mm (Sieve Size 1.5 inch)	100.0				% Finer			10/31/23 10:31	1
25 mm (Sieve Size 1 inch)	100.0				% Finer			10/31/23 10:31	1
9.5 mm (Sieve Size 0.375 inch)	100.0				% Finer			10/31/23 10:31	1
19 mm (Sieve Size 0.75 inch)	100.0				% Finer			10/31/23 10:31	1
4.75 mm (Sieve Size #4)	100.0				% Finer			10/31/23 10:31	1
2 mm (Sieve Size #10)	100.0				% Finer			10/31/23 10:31	1
0.85 mm (Sieve Size #20)	99.8				% Finer			10/31/23 10:31	1
0.425 mm (Sieve Size #40)	97.9				% Finer			10/31/23 10:31	1
0.25 mm (Sieve Size #60)	95.6				% Finer			10/31/23 10:31	1
0.18 mm (Sieve Size #80)	93.2				% Finer			10/31/23 10:31	1
0.15 mm (Sieve Size #100)	92.5				% Finer			10/31/23 10:31	1
0.075 mm (Sieve Size #200)	90.6				% Finer			10/31/23 10:31	1
36.1 um (Hydrometer Reading 1)	69.3				% Finer			10/31/23 10:31	1
22.9 um (Hydrometer Reading 2)	62.1				% Finer			10/31/23 10:31	1
13.4 um (Hydrometer Reading 3)	57.2				% Finer			10/31/23 10:31	1
9.8 um (Hydrometer Reading 4)	54.8				% Finer			10/31/23 10:31	1
6.7 um (Hydrometer Reading 5)	50.0				% Finer			10/31/23 10:31	1
3.3 um (Hydrometer Reading 6)	40.3				% Finer			10/31/23 10:31	1
1.4 um (Hydrometer Reading 7)	35.5				% Finer			10/31/23 10:31	1
Clay	50.0				%			10/31/23 10:31	1
Gravel	0.0				%			10/31/23 10:31	1
Coarse Sand	0.0				%			10/31/23 10:31	1
Fine Sand	7.3				%			10/31/23 10:31	1
Medium Sand	2.1				%			10/31/23 10:31	1
Sand	9.4				%			10/31/23 10:31	1
Silt	40.6				%			10/31/23 10:31	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	5.1		2.5	0.51	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Pyrene	6.8		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Dibenzofuran	5.4	*- cn	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Benzo[g,h,i]perylene	ND	*- cn	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Benzo[e]pyrene	ND	*- cn	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Indeno[1,2,3-cd]pyrene	1.3	J	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Perylene	75		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Benzo[b]fluoranthene	3.7		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Fluoranthene	8.3		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Benzo[k]fluoranthene	3.6		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Acenaphthylene	1.7	J	2.5	0.51	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Chrysene	6.0		2.5	0.51	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Benzo[a]pyrene	1.9	J	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Dibenz(a,h)anthracene	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Benzo[a]anthracene	5.4		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Acenaphthene	2.4	J	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Phenanthrene	7.7	*- cn	2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Fluorene	5.7		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
Naphthalene	5.1	*- cn	3.6	2.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
2-Methylnaphthalene	3.5		2.5	1.5	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C1-Benzo(a)anthracenes/Chrysenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C2-Benzo(a)anthracenes/Chrysenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C4-Benzo(a)anthracenes/Chrysenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C1-Fluoranthene/Pyrenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C2-Fluoranthenes/Pyrene	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C3-Fluoranthenes/Pyrene	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C1-Fluorenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C2-Fluorenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C3-Fluorenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C1-Naphthalenes	3.8		3.6	2.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C2-Naphthalenes	60		3.6	2.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C3-Naphthalenes	ND		3.6	2.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C4-Naphthalenes	ND		3.6	2.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C1-Phenanthrenes/Anthracenes	6.3		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C2-Phenanthrenes/Anthracenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C3-Phenanthrenes/Anthracenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1
C4-Phenanthrenes/Anthracenes	ND		2.5	1.0	ug/Kg	☼	10/18/23 07:58	10/19/23 06:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	94		38 - 120	10/18/23 07:58	10/19/23 06:57	1
1-Methylnaphthalene-d10	82		38 - 96	10/18/23 07:58	10/19/23 06:57	1
Benzo(a)pyrene-d12 (Surr)	79		37 - 123	10/18/23 07:58	10/19/23 06:57	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	ND	cn	0.83	0.36	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
alpha-BHC (1C)	ND	cn	0.83	0.38	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
alpha-Chlordane (1C)	ND	cn	0.83	0.17	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
beta-BHC (1C)	ND	cn	1.0	0.44	ug/Kg		10/19/23 07:57	10/20/23 10:06	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC (1C)	ND	cn	1.0	0.45	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Dieldrin (1C)	ND	cn	1.7	0.33	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Endosulfan I (1C)	ND	cn	0.83	0.22	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Endosulfan II (1C)	ND	cn	2.3	1.1	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Endosulfan sulfate (1C)	ND	cn	1.7	0.39	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Endrin (1C)	ND	cn	1.7	0.68	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Endrin aldehyde (1C)	ND	cn	1.7	0.38	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Endrin ketone (1C)	ND	cn	2.0	0.60	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
gamma-BHC (Lindane) (1C)	ND	cn	0.83	0.21	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
gamma-Chlordane (1C)	ND	cn	0.83	0.25	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Heptachlor (1C)	ND	cn	0.83	0.31	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Heptachlor epoxide (1C)	ND	cn	0.83	0.35	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Methoxychlor (1C)	ND	cn	6.7	2.5	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
Toxaphene (1C)	ND	cn	33	14	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
p,p'-DDD (1C)	ND	cn	1.7	0.80	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
p,p'-DDE (1C)	ND	cn	1.7	0.70	ug/Kg		10/19/23 07:57	10/20/23 10:06	1
p,p'-DDT (1C)	ND	cn	1.7	0.79	ug/Kg		10/19/23 07:57	10/20/23 10:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	32	S1- cn	54 - 143	10/19/23 07:57	10/20/23 10:06	1
DCB Decachlorobiphenyl (Surr) (2C)	32	S1- cn	54 - 143	10/19/23 07:57	10/20/23 10:06	1
Tetrachloro-m-xylene (Surr) (1C)	4	S1- cn	20 - 131	10/19/23 07:57	10/20/23 10:06	1
Tetrachloro-m-xylene (Surr) (2C)	4	S1- cn	20 - 131	10/19/23 07:57	10/20/23 10:06	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	14		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,4,6,7,8-HpCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,4,7,8-HxCDD	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,4,7,8-HxCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,4,7,8,9-HpCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,6,7,8-HxCDD	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,6,7,8-HxCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,7,8-PeCDD	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,7,8-PeCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,7,8,9-HxCDD	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
1,2,3,7,8,9-HxCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
2,3,4,6,7,8-HxCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
2,3,4,7,8-PeCDF	ND		7.3	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
2,3,7,8-TCDD	ND		1.5	0.29	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
2,3,7,8-TCDF	ND		1.5	0.29	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
OCDD	120	B	15	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1
OCDF	ND		15	2.9	ng/Kg	✱	11/15/23 14:25	11/17/23 17:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	50		23 - 140	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,4,6,7,8-HpCDF	48		28 - 143	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,4,7,8-HxCDD	56		32 - 141	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,4,7,8-HxCDF	51		26 - 152	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,4,7,8,9-HpCDF	50		26 - 138	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,6,7,8-HxCDD	59		28 - 130	11/15/23 14:25	11/17/23 17:41	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	50		26 - 123	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,7,8-PeCDD	51		25 - 181	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,7,8-PeCDF	55		24 - 185	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,7,8,9-HxCDD	57		28 - 130	11/15/23 14:25	11/17/23 17:41	1
13C-1,2,3,7,8,9-HxCDF	45		29 - 147	11/15/23 14:25	11/17/23 17:41	1
13C-2,3,4,6,7,8-HxCDF	52		28 - 136	11/15/23 14:25	11/17/23 17:41	1
13C-2,3,4,7,8-PeCDF	56		21 - 178	11/15/23 14:25	11/17/23 17:41	1
13C-2,3,7,8-TCDD	66		25 - 164	11/15/23 14:25	11/17/23 17:41	1
13C-2,3,7,8-TCDF	56		24 - 169	11/15/23 14:25	11/17/23 17:41	1
13C-OCDD	54		17 - 157	11/15/23 14:25	11/17/23 17:41	1
13C-OCDF	46		17 - 157	11/15/23 14:25	11/17/23 17:41	1

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		23	11	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-2	ND		23	11	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-3	ND		32	15	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-4	ND		29	14	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-5	ND		29	14	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-6	ND		14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-7	ND		17	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-8	ND		14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-9	ND		14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-10	ND		23	11	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-11	ND		100	50	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-12/13	ND		24	11	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-14	ND		14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-15	ND		17	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-16	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-17	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-18/30	ND		24	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-19	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-20/28	ND		24	11	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-21/33	ND		24	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-22	ND		20	9.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-23	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-24	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-25	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-26/29	ND		35	17	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-27	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-31	ND		17	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-32	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-34	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-35	ND		14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-36	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-37	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-38	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-39	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-40/71	ND	cn	24	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-41	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-42	ND		26	12	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-43	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-44/47/65	ND		36	14	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-45	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-46	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-48	ND		14	6.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-49/69	ND		24	7.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-50/53	ND		41	20	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-51	ND	cn	14	6.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-52	ND		23	11	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-54	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-55	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-56	ND		47	23	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-57	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-58	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-59/62/75	ND		36	6.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-60	ND		41	20	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-61/70/74/76	ND		48	21	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-63	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-64	ND	cn	50	24	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-66	ND		44	21	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-67	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-68	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-72	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-73	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-77	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-78	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-79	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-80	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-81	ND		14	6.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-82	ND		26	12	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-83	ND	cn	12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-84	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-85/116/117	ND		36	11	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-86/87/97/109/119/125	ND		72	29	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-88	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-89	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-90/101/113	ND		36	9.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-91	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-92	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-93/100	ND		24	6.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-94	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-95	ND		20	9.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-96	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-98/102	ND		24	9.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-99	ND		14	6.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-103	ND		12	3.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-104	ND		12	4.5	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1
PCB-105	ND		20	9.0	ng/Kg	✳	11/15/23 14:31	11/17/23 20:55	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-106	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-107	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-108/124	ND		24	9.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-110/115	ND		26	12	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-111	ND		14	6.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-112	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-114	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-118	ND		29	14	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-120	ND		14	6.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-121	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-122	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-123	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-126	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-127	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-128/166	ND		24	7.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-129/138/163	ND		36	11	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-130	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-131	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-132	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-133	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-134	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-135/151	ND		24	6.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-136	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-137	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-139/140	ND		24	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-141	ND		14	6.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-142	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-143	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-144	ND	cn	12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-145	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-146	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-147/149	ND		24	7.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-148	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-150	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-152	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-153/168	ND		24	7.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-154	ND		62	30	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-155	ND		14	6.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-156/157	ND		24	6.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-158	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-159	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-160	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-161	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-162	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-164	ND		12	4.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-165	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-167	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-169	ND		12	3.0	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1
PCB-170	ND		17	7.5	ng/Kg	✱	11/15/23 14:31	11/17/23 20:55	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-171/173	ND		24	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-172	ND		23	11	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-174	ND		14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-175	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-176	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-177	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-178	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-179	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-180/193	ND		24	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-181	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-182	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-183/185	ND		24	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-184	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-186	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-187	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-188	ND		74	36	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-189	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-190	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-191	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-192	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-194	6.5	J B	14	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-195	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-196	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-197/200	ND		24	7.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-198/199	7.5	J I B	24	6.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-201	ND		68	33	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-202	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-203	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-204	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-205	ND		12	4.5	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-206	5.7	J B	12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-207	ND		12	3.0	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
PCB-208	ND		32	15	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1
DCB Decachlorobiphenyl	ND		89	44	ng/Kg	☼	11/15/23 14:31	11/17/23 20:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-1L	34		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-3L	38		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-4L	45		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-8L	34		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-15L	43		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-19L	45		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-31L	48		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-32L	51		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-37L	44		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-47L	40		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-54L	49		5 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-60L	49		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-70L	44		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-77L	59		10 - 145	11/15/23 14:31	11/17/23 20:55	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-81L	58		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-85L	59		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-95L	45		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-104L	44		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-105L	47		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-114L	46		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-118L	42		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-123L	44		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-126L	52		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-127L	45		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-155L	58		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-156L/157L	57		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-167L	55		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-169L	57		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-180L	57		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-188L	58		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-189L	54		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-202L	64		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-205L	58		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-206L	67		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-208L	65		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-209L	69		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-128L	58		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-133L	48		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-141L	49		10 - 145	11/15/23 14:31	11/17/23 20:55	1
PCB-162L	50		10 - 145	11/15/23 14:31	11/17/23 20:55	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13000	^2	15	7.6	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Antimony	ND		0.15	0.062	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Arsenic	5.9		0.31	0.10	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Barium	31		0.31	0.14	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Beryllium	0.54		0.077	0.018	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Cadmium	0.071	J	0.077	0.031	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Calcium	2200		31	15	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Chromium	28		0.31	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Cobalt	6.1		0.15	0.062	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Copper	5.6		0.31	0.14	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Iron	16000	^2	77	35	mg/Kg		10/16/23 20:17	10/25/23 09:15	10
Lead	5.5		0.15	0.058	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Magnesium	5200		7.7	3.8	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Manganese	160		0.31	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Nickel	15		0.31	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Potassium	2800		31	12	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Selenium	0.20	J	0.31	0.077	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Silver	ND		0.077	0.031	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Sodium	4200		38	18	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Thallium	0.13		0.077	0.030	mg/Kg		10/16/23 20:17	10/25/23 09:13	2
Zinc	39		23	3.1	mg/Kg		10/16/23 20:17	10/25/23 09:13	2

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 65.6

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	31		0.62	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:13	2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.055	0.018	mg/Kg		10/16/23 21:19	10/17/23 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.1)	300		27	14	mg/Kg	☼	11/07/23 10:01	11/09/23 13:43	1
Total Phosphorus as PO4 (EPA 365.1)	920		83	42	mg/Kg	☼	11/07/23 10:01	11/09/23 13:43	1
Total Organic Carbon (EPA Lloyd Kahn)	8700		300	100	mg/Kg			10/17/23 15:53	1
Percent Moisture (EPA Moisture)	34.4		1.0	1.0	%			10/14/23 16:09	1

Method: ASTM D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
50 mm (Sieve Size 2 inch)	100.0				% Finer			10/31/23 10:31	1
37.5 mm (Sieve Size 1.5 inch)	100.0				% Finer			10/31/23 10:31	1
25 mm (Sieve Size 1 inch)	100.0				% Finer			10/31/23 10:31	1
9.5 mm (Sieve Size 0.375 inch)	100.0				% Finer			10/31/23 10:31	1
19 mm (Sieve Size 0.75 inch)	100.0				% Finer			10/31/23 10:31	1
4.75 mm (Sieve Size #4)	100.0				% Finer			10/31/23 10:31	1
2 mm (Sieve Size #10)	100.0				% Finer			10/31/23 10:31	1
0.85 mm (Sieve Size #20)	99.5				% Finer			10/31/23 10:31	1
0.425 mm (Sieve Size #40)	96.4				% Finer			10/31/23 10:31	1
0.25 mm (Sieve Size #60)	87.3				% Finer			10/31/23 10:31	1
0.18 mm (Sieve Size #80)	82.8				% Finer			10/31/23 10:31	1
0.15 mm (Sieve Size #100)	80.3				% Finer			10/31/23 10:31	1
0.075 mm (Sieve Size #200)	74.2				% Finer			10/31/23 10:31	1
36.1 um (Hydrometer Reading 1)	47.5				% Finer			10/31/23 10:31	1
22.9 um (Hydrometer Reading 2)	43.2				% Finer			10/31/23 10:31	1
13.4 um (Hydrometer Reading 3)	41.0				% Finer			10/31/23 10:31	1
9.8 um (Hydrometer Reading 4)	38.8				% Finer			10/31/23 10:31	1
6.7 um (Hydrometer Reading 5)	34.4				% Finer			10/31/23 10:31	1
3.3 um (Hydrometer Reading 6)	27.8				% Finer			10/31/23 10:31	1
1.4 um (Hydrometer Reading 7)	27.8				% Finer			10/31/23 10:31	1
Clay	34.4				%			10/31/23 10:31	1
Gravel	0.0				%			10/31/23 10:31	1
Coarse Sand	0.0				%			10/31/23 10:31	1
Fine Sand	22.2				%			10/31/23 10:31	1
Medium Sand	3.6				%			10/31/23 10:31	1
Sand	25.8				%			10/31/23 10:31	1
Silt	39.8				%			10/31/23 10:31	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	2.4		2.3	0.46	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Pyrene	4.9		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Dibenzofuran	2.5	*- cn	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Benzo[g,h,i]perylene	ND	*- cn	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Benzo[e]pyrene	ND	*- cn	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Indeno[1,2,3-cd]pyrene	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Perylene	42		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Benzo[b]fluoranthene	1.5	J	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Fluoranthene	4.6		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Benzo[k]fluoranthene	1.2	J	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Acenaphthylene	ND		2.3	0.46	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Chrysene	8.7		2.3	0.46	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Benzo[a]pyrene	1.4	J	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Dibenz(a,h)anthracene	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Benzo[a]anthracene	1.4	J	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Acenaphthene	1.3	J	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Phenanthrene	6.2	*- cn	2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Fluorene	2.8		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Naphthalene	3.5	*- cn	3.2	1.8	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
2-Methylnaphthalene	2.6		2.3	1.4	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C1-Benzo(a)anthracenes/Chrysenes	3.4		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C2-Benzo(a)anthracenes/Chrysenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C4-Benzo(a)anthracenes/Chrysenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C1-Fluoranthene/Pyrenes	7.2		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C2-Fluoranthenes/Pyrene	11		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C3-Fluoranthenes/Pyrene	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C1-Fluorenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C2-Fluorenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C3-Fluorenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C1-Naphthalenes	3.3		3.2	1.8	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C2-Naphthalenes	38		3.2	1.8	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C3-Naphthalenes	ND		3.2	1.8	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C4-Naphthalenes	ND		3.2	1.8	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C1-Phenanthrenes/Anthracenes	9.0		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C2-Phenanthrenes/Anthracenes	13		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C3-Phenanthrenes/Anthracenes	16		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
C4-Phenanthrenes/Anthracenes	ND		2.3	0.92	ug/Kg	☼	10/18/23 07:58	10/19/23 07:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	95		38 - 120				10/18/23 07:58	10/19/23 07:41	1
1-Methylnaphthalene-d10	83		38 - 96				10/18/23 07:58	10/19/23 07:41	1
Benzo(a)pyrene-d12 (Surr)	83		37 - 123				10/18/23 07:58	10/19/23 07:41	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	ND	cn	0.82	0.36	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
alpha-BHC (1C)	ND	cn	0.82	0.38	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
alpha-Chlordane (1C)	ND	cn	0.82	0.17	ug/Kg		10/19/23 07:57	10/20/23 10:27	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
beta-BHC (1C)	ND	cn	0.99	0.43	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
delta-BHC (1C)	ND	cn	0.99	0.44	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Dieldrin (1C)	ND	cn	1.7	0.33	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Endosulfan I (1C)	ND	cn	0.82	0.22	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Endosulfan II (1C)	ND	cn	2.3	1.1	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Endosulfan sulfate (1C)	ND	cn	1.7	0.39	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Endrin (1C)	ND	cn	1.7	0.67	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Endrin aldehyde (1C)	ND	cn	1.7	0.38	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Endrin ketone (1C)	ND	cn	2.0	0.59	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
gamma-BHC (Lindane) (1C)	ND	cn	0.82	0.21	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
gamma-Chlordane (1C)	ND	cn	0.82	0.25	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Heptachlor (1C)	ND	cn	0.82	0.31	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Heptachlor epoxide (1C)	ND	cn	0.82	0.35	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Methoxychlor (1C)	ND	cn	6.6	2.5	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Toxaphene (1C)	ND	cn	33	14	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
p,p'-DDD (1C)	ND	cn	1.7	0.79	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
p,p'-DDE (1C)	ND	cn	1.7	0.69	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
p,p'-DDT (1C)	ND	cn	1.7	0.78	ug/Kg		10/19/23 07:57	10/20/23 10:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	37	S1- cn	54 - 143				10/19/23 07:57	10/20/23 10:27	1
DCB Decachlorobiphenyl (Surr) (2C)	38	S1- cn	54 - 143				10/19/23 07:57	10/20/23 10:27	1
Tetrachloro-m-xylene (Surr) (1C)	36	cn	20 - 131				10/19/23 07:57	10/20/23 10:27	1
Tetrachloro-m-xylene (Surr) (2C)	34	cn	20 - 131				10/19/23 07:57	10/20/23 10:27	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	19		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,4,6,7,8-HpCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,4,7,8-HxCDD	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,4,7,8-HxCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,4,7,8,9-HpCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,6,7,8-HxCDD	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,6,7,8-HxCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,7,8-PeCDD	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,7,8-PeCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,7,8,9-HxCDD	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
1,2,3,7,8,9-HxCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
2,3,4,6,7,8-HxCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
2,3,4,7,8-PeCDF	ND		6.9	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
2,3,7,8-TCDD	ND		1.4	0.28	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
2,3,7,8-TCDF	ND		1.4	0.28	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
OCDD	230	B	14	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
OCDF	ND		14	2.8	ng/Kg	✱	11/15/23 14:25	11/17/23 18:31	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	50		23 - 140				11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,4,6,7,8-HpCDF	47		28 - 143				11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,4,7,8-HxCDD	59		32 - 141				11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,4,7,8-HxCDF	62		26 - 152				11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,4,7,8,9-HpCDF	52		26 - 138				11/15/23 14:25	11/17/23 18:31	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDD	61		28 - 130	11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,6,7,8-HxCDF	60		26 - 123	11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,7,8-PeCDD	65		25 - 181	11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,7,8-PeCDF	69		24 - 185	11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,7,8,9-HxCDD	63		28 - 130	11/15/23 14:25	11/17/23 18:31	1
13C-1,2,3,7,8,9-HxCDF	47		29 - 147	11/15/23 14:25	11/17/23 18:31	1
13C-2,3,4,6,7,8-HxCDF	53		28 - 136	11/15/23 14:25	11/17/23 18:31	1
13C-2,3,4,7,8-PeCDF	71		21 - 178	11/15/23 14:25	11/17/23 18:31	1
13C-2,3,7,8-TCDD	81		25 - 164	11/15/23 14:25	11/17/23 18:31	1
13C-2,3,7,8-TCDF	68		24 - 169	11/15/23 14:25	11/17/23 18:31	1
13C-OCDD	57		17 - 157	11/15/23 14:25	11/17/23 18:31	1
13C-OCDF	52		17 - 157	11/15/23 14:25	11/17/23 18:31	1

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		20	9.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-2	ND		20	9.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-3	ND		28	13	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-4	ND		25	12	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-5	ND		25	12	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-6	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-7	ND		15	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-8	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-9	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-10	ND		20	9.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-11	ND		90	44	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-12/13	ND		21	9.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-14	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-15	ND		15	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-16	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-17	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-18/30	ND		21	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-19	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-20/28	ND		21	9.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-21/33	ND		21	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-22	ND		17	8.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-23	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-24	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-25	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-26/29	ND		31	15	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-27	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-31	ND		15	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-32	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-34	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-35	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-36	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-37	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-38	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-39	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-40/71	ND	cn	21	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-41	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-42	ND		23	11	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-43	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-44/47/65	ND		32	12	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-45	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-46	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-48	ND		12	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-49/69	ND		21	6.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-50/53	ND		36	17	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-51	ND	cn	12	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-52	ND		20	9.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-54	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-55	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-56	ND		41	20	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-57	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-58	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-59/62/75	ND		32	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-60	ND		36	17	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-61/70/74/76	ND		43	19	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-63	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-64	ND	cn	44	21	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-66	ND		39	19	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-67	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-68	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-72	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-73	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-77	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-78	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-79	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-80	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-81	ND		12	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-82	ND		23	11	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-83	ND	cn	11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-84	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-85/116/117	ND		32	9.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-86/87/97/109/119/125	ND		64	25	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-88	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-89	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-90/101/113	ND		32	8.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-91	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-92	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-93/100	ND		21	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-94	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-95	ND		17	8.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-96	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-98/102	ND		21	8.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-99	ND		12	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-103	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-104	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-105	ND		17	8.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-106	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-107	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-108/124	ND		21	8.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-110/115	ND		23	11	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-111	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-112	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-114	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-118	ND		25	12	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-120	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-121	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-122	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-123	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-126	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-127	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-128/166	ND		21	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-129/138/163	ND		32	9.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-130	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-131	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-132	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-133	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-134	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-135/151	ND		21	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-136	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-137	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-139/140	ND		21	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-141	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-142	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-143	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-144	ND	cn	11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-145	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-146	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-147/149	ND		21	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-148	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-150	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-152	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-153/168	ND		21	6.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-154	ND		55	27	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-155	ND		12	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-156/157	ND		21	5.4	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-158	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-159	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-160	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-161	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-162	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-164	ND		11	4.0	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-165	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-167	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1
PCB-169	ND		11	2.7	ng/Kg	☼	11/15/23 14:31	11/17/23 19:39	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-170	ND		15	6.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-171/173	ND		21	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-172	ND		20	9.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-174	ND		12	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-175	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-176	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-177	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-178	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-179	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-180/193	ND		21	6.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-181	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-182	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-183/185	ND		21	6.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-184	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-186	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-187	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-188	ND		66	32	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-189	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-190	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-191	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-192	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-194	ND		12	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-195	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-196	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-197/200	ND		21	6.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-198/199	6.6	J B	21	5.4	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-201	ND		60	29	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-202	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-203	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-204	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-205	ND		11	4.0	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-206	4.2	J B	11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-207	ND		11	2.7	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
PCB-208	ND		28	13	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
DCB Decachlorobiphenyl	ND		79	39	ng/Kg	✱	11/15/23 14:31	11/17/23 19:39	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
PCB-1L	38		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-3L	46		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-4L	53		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-8L	37		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-15L	39		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-19L	50		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-31L	44		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-32L	48		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-37L	42		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-47L	38		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-54L	55		5 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-60L	52		10 - 145				11/15/23 14:31	11/17/23 19:39	1
PCB-70L	42		10 - 145				11/15/23 14:31	11/17/23 19:39	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-77L	65		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-81L	60		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-85L	59		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-95L	46		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-104L	44		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-105L	62		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-114L	53		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-118L	53		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-123L	55		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-126L	60		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-127L	57		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-155L	57		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-156L/157L	61		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-167L	58		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-169L	61		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-180L	68		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-188L	72		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-189L	66		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-202L	78		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-205L	79		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-206L	86		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-208L	81		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-209L	85		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-128L	64		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-133L	58		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-141L	63		10 - 145	11/15/23 14:31	11/17/23 19:39	1
PCB-162L	53		10 - 145	11/15/23 14:31	11/17/23 19:39	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6900		16	7.9	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Antimony	ND		0.16	0.063	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Arsenic	2.7		0.32	0.11	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Barium	16		0.32	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Beryllium	0.26		0.079	0.019	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Cadmium	0.059	J	0.079	0.032	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Calcium	1400		32	16	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Chromium	13		0.32	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Cobalt	2.8		0.16	0.063	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Copper	3.1		0.32	0.14	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Iron	8100		16	7.3	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Lead	3.1		0.16	0.060	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Magnesium	2200		7.9	3.9	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Manganese	69		0.32	0.16	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Nickel	6.9		0.32	0.15	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Potassium	1200		32	13	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Selenium	0.12	J	0.32	0.079	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Silver	ND		0.079	0.032	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Sodium	2100		40	19	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Thallium	0.089		0.079	0.031	mg/Kg		10/16/23 20:17	10/25/23 09:03	2

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	19	J	24	3.2	mg/Kg		10/16/23 20:17	10/25/23 09:03	2
Vanadium	15		0.63	0.16	mg/Kg		10/16/23 20:17	10/25/23 09:03	2

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.025	J	0.055	0.018	mg/Kg		10/16/23 21:15	10/17/23 14:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.1)	230		23	11	mg/Kg	☼	11/07/23 10:01	11/09/23 13:43	1
Total Phosphorus as PO4 (EPA 365.1)	690		70	35	mg/Kg	☼	11/07/23 10:01	11/09/23 13:43	1
Total Organic Carbon (EPA Lloyd Kahn)	3800		300	100	mg/Kg			10/17/23 15:56	1
Percent Moisture (EPA Moisture)	28.5		1.0	1.0	%			10/14/23 16:09	1

Method: ASTM D422 - Grain Size

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
50 mm (Sieve Size 2 inch)	100.0				% Finer			10/31/23 10:31	1
37.5 mm (Sieve Size 1.5 inch)	100.0				% Finer			10/31/23 10:31	1
25 mm (Sieve Size 1 inch)	100.0				% Finer			10/31/23 10:31	1
9.5 mm (Sieve Size 0.375 inch)	100.0				% Finer			10/31/23 10:31	1
19 mm (Sieve Size 0.75 inch)	100.0				% Finer			10/31/23 10:31	1
4.75 mm (Sieve Size #4)	100.0				% Finer			10/31/23 10:31	1
2 mm (Sieve Size #10)	100.0				% Finer			10/31/23 10:31	1
0.85 mm (Sieve Size #20)	99.0				% Finer			10/31/23 10:31	1
0.425 mm (Sieve Size #40)	90.8				% Finer			10/31/23 10:31	1
0.25 mm (Sieve Size #60)	73.5				% Finer			10/31/23 10:31	1
0.18 mm (Sieve Size #80)	65.7				% Finer			10/31/23 10:31	1
0.15 mm (Sieve Size #100)	59.3				% Finer			10/31/23 10:31	1
0.075 mm (Sieve Size #200)	42.3				% Finer			10/31/23 10:31	1
36.1 um (Hydrometer Reading 1)	39.4				% Finer			10/31/23 10:31	1
22.9 um (Hydrometer Reading 2)	36.7				% Finer			10/31/23 10:31	1
13.4 um (Hydrometer Reading 3)	34.0				% Finer			10/31/23 10:31	1
9.8 um (Hydrometer Reading 4)	31.3				% Finer			10/31/23 10:31	1
6.7 um (Hydrometer Reading 5)	28.6				% Finer			10/31/23 10:31	1
3.3 um (Hydrometer Reading 6)	23.3				% Finer			10/31/23 10:31	1
1.4 um (Hydrometer Reading 7)	23.3				% Finer			10/31/23 10:31	1
Clay	28.6				%			10/31/23 10:31	1
Gravel	0.0				%			10/31/23 10:31	1
Coarse Sand	0.0				%			10/31/23 10:31	1
Fine Sand	48.5				%			10/31/23 10:31	1
Medium Sand	9.2				%			10/31/23 10:31	1
Sand	57.7				%			10/31/23 10:31	1
Silt	13.7				%			10/31/23 10:31	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Pyrene	ND		0.047	0.019	ug/L		10/17/23 09:03	10/18/23 12:23	1
Dibenzofuran	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Benzo[g,h,i]perylene	ND	*- cn	0.066	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
Benzo[e]pyrene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Indeno[1,2,3-cd]pyrene	ND		0.085	0.038	ug/L		10/17/23 09:03	10/18/23 12:23	1
Perylene	ND		0.047	0.019	ug/L		10/17/23 09:03	10/18/23 12:23	1
Benzo[b]fluoranthene	ND		0.085	0.038	ug/L		10/17/23 09:03	10/18/23 12:23	1
Fluoranthene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Benzo[k]fluoranthene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Acenaphthylene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Chrysene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Benzo[a]pyrene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Dibenz(a,h)anthracene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Benzo[a]anthracene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Acenaphthene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Phenanthrene	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
Fluorene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
Naphthalene	0.029	J	0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
2-Methylnaphthalene	ND		0.066	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C1-Benzo(a)anthracenes/Chrysenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C2-Benzo(a)anthracenes/Chrysenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C4-Benzo(a)anthracenes/Chrysenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C1-Fluoranthene/Pyrenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C2-Fluoranthenes/Pyrene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C3-Fluoranthenes/Pyrene	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C1-Fluorenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C2-Fluorenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C3-Fluorenes	ND		0.047	0.0094	ug/L		10/17/23 09:03	10/18/23 12:23	1
C1-Naphthalenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C2-Naphthalenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C3-Naphthalenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C4-Naphthalenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C1-Phenanthrenes/Anthracenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C2-Phenanthrenes/Anthracenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C3-Phenanthrenes/Anthracenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1
C4-Phenanthrenes/Anthracenes	ND		0.076	0.028	ug/L		10/17/23 09:03	10/18/23 12:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	97		53 - 132	10/17/23 09:03	10/18/23 12:23	1
1-Methylnaphthalene-d10	97		56 - 120	10/17/23 09:03	10/18/23 12:23	1
Benzo(a)pyrene-d12 (Surr)	90		33 - 124	10/17/23 09:03	10/18/23 12:23	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	0.016	J	0.020	0.0020	ug/L		10/17/23 08:15	10/18/23 17:04	1
alpha-BHC (1C)	ND		0.020	0.0030	ug/L		10/17/23 08:15	10/18/23 17:04	1
alpha-Chlordane (1C)	ND		0.020	0.0030	ug/L		10/17/23 08:15	10/18/23 17:04	1
beta-BHC (1C)	ND		0.030	0.011	ug/L		10/17/23 08:15	10/18/23 17:04	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC (1C)	ND		0.020	0.0034	ug/L		10/17/23 08:15	10/18/23 17:04	1
Dieldrin (1C)	ND		0.030	0.0053	ug/L		10/17/23 08:15	10/18/23 17:04	1
Endosulfan I (1C)	ND		0.020	0.0043	ug/L		10/17/23 08:15	10/18/23 17:04	1
Endosulfan II (1C)	ND		0.040	0.015	ug/L		10/17/23 08:15	10/18/23 17:04	1
Endosulfan sulfate (1C)	ND		0.030	0.0058	ug/L		10/17/23 08:15	10/18/23 17:04	1
Endrin (2C)	ND		0.030	0.0081	ug/L		10/17/23 08:15	10/18/23 17:04	1
Endrin aldehyde (1C)	ND		0.10	0.020	ug/L		10/17/23 08:15	10/18/23 17:04	1
Endrin ketone (1C)	ND		0.030	0.0050	ug/L		10/17/23 08:15	10/18/23 17:04	1
gamma-BHC (Lindane) (1C)	ND		0.020	0.0020	ug/L		10/17/23 08:15	10/18/23 17:04	1
gamma-Chlordane (1C)	ND		0.040	0.0070	ug/L		10/17/23 08:15	10/18/23 17:04	1
Heptachlor (1C)	ND		0.020	0.0020	ug/L		10/17/23 08:15	10/18/23 17:04	1
Heptachlor epoxide (2C)	ND		0.020	0.0023	ug/L		10/17/23 08:15	10/18/23 17:04	1
Methoxychlor (1C)	ND		0.11	0.030	ug/L		10/17/23 08:15	10/18/23 17:04	1
Toxaphene (2C)	ND		1.0	0.30	ug/L		10/17/23 08:15	10/18/23 17:04	1
p,p'-DDD (1C)	ND		0.030	0.0050	ug/L		10/17/23 08:15	10/18/23 17:04	1
p,p'-DDE (1C)	ND		0.030	0.0050	ug/L		10/17/23 08:15	10/18/23 17:04	1
p,p'-DDT (2C)	ND		0.030	0.0052	ug/L		10/17/23 08:15	10/18/23 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	42		20 - 149	10/17/23 08:15	10/18/23 17:04	1
DCB Decachlorobiphenyl (Surr) (2C)	40		20 - 149	10/17/23 08:15	10/18/23 17:04	1
Tetrachloro-m-xylene (Surr) (1C)	63		20 - 129	10/17/23 08:15	10/18/23 17:04	1
Tetrachloro-m-xylene (Surr) (2C)	70		20 - 129	10/17/23 08:15	10/18/23 17:04	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		24	4.3	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,4,6,7,8-HpCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,4,7,8-HxCDD	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,4,7,8-HxCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,4,7,8,9-HpCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,6,7,8-HxCDD	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,6,7,8-HxCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,7,8-PeCDD	ND		24	3.0	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,7,8-PeCDF	ND		24	2.6	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,7,8,9-HxCDD	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
1,2,3,7,8,9-HxCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
2,3,4,6,7,8-HxCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
2,3,4,7,8-PeCDF	ND		24	2.4	pg/L		11/14/23 23:33	11/15/23 12:20	1
2,3,7,8-TCDD	ND		3.8	0.83	pg/L		11/14/23 23:33	11/15/23 12:20	1
2,3,7,8-TCDF	ND		4.8	0.77	pg/L		11/14/23 23:33	11/15/23 12:20	1
OCDD	56	J	100	34	pg/L		11/14/23 23:33	11/15/23 12:20	1
OCDF	ND		48	5.8	pg/L		11/14/23 23:33	11/15/23 12:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	86		23 - 140	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,4,6,7,8-HpCDF	82		28 - 143	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,4,7,8-HxCDD	84		32 - 141	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,4,7,8-HxCDF	93		26 - 152	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,4,7,8,9-HpCDF	89		26 - 138	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,6,7,8-HxCDD	87		28 - 130	11/14/23 23:33	11/15/23 12:20	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,6,7,8-HxCDF	95		26 - 123	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,7,8-PeCDD	86		25 - 181	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,7,8-PeCDF	84		24 - 185	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,7,8,9-HxCDD	93		28 - 130	11/14/23 23:33	11/15/23 12:20	1
13C-1,2,3,7,8,9-HxCDF	86		29 - 147	11/14/23 23:33	11/15/23 12:20	1
13C-2,3,4,6,7,8-HxCDF	87		28 - 136	11/14/23 23:33	11/15/23 12:20	1
13C-2,3,4,7,8-PeCDF	86		21 - 178	11/14/23 23:33	11/15/23 12:20	1
13C-2,3,7,8-TCDD	91		25 - 164	11/14/23 23:33	11/15/23 12:20	1
13C-2,3,7,8-TCDF	87		24 - 169	11/14/23 23:33	11/15/23 12:20	1
13C-OCDD	89		17 - 157	11/14/23 23:33	11/15/23 12:20	1
13C-OCDF	93		17 - 157	11/14/23 23:33	11/15/23 12:20	1

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		190	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-10	ND		42	21	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-103	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-104	ND		75	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-105	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-106	ND		75	18	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-107	ND		75	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-108/124	ND		150	24	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-11	ND		280	100	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-110/115	ND		150	24	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-111	ND		75	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-112	ND		75	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-114	ND		75	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-118	ND		75	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-12/13	ND		75	32	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-120	ND		75	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-121	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-122	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-123	ND		75	21	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-126	ND		75	27	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-127	ND		75	6.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-128/166	ND		150	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-129/138/163	ND		220	27	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-130	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-131	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-132	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-133	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-134	ND		75	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-135/151	ND	cn	150	30	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-136	ND	cn	75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-137	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-139/140	ND		150	18	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-14	ND		42	19	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-141	ND		75	5.6	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-142	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-143	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-144	ND	cn	75	20	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-145	ND		75	21	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-146	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-147/149	ND		150	19	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-148	ND		75	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-15	ND		42	19	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-150	ND	cn	75	18	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-152	ND		75	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-153/168	18	J	150	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-154	ND		190	42	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-155	ND		75	19	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-156/157	ND		150	27	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-158	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-159	ND		75	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-16	ND		37	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-160	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-161	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-162	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-164	ND		75	6.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-165	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-167	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-169	ND		75	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-17	ND		37	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-170	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-171/173	ND		150	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-172	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-174	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-175	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-176	ND		75	5.6	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-177	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-178	ND		75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-179	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-18/30	ND		75	22	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-180/193	21	J B	150	18	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-181	ND		75	7.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-182	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-183/185	ND		150	21	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-184	ND		75	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-186	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-187	19	J B	75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-188	ND		190	44	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-189	ND		75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-19	ND		37	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-190	ND		75	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-191	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-192	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-194	16	J B	110	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-195	ND		110	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-196	ND		110	10	pg/L		11/10/23 21:08	11/15/23 15:49	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-197/200	ND		220	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-198/199	26	J B	220	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-2	ND		190	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-20/28	ND		75	26	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-201	ND		370	46	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-202	ND		110	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-203	ND		110	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-204	ND		110	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-205	ND		110	6.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-206	16	J B	110	6.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-207	ND		110	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-208	ND		110	51	pg/L		11/10/23 21:08	11/15/23 15:49	1
DCB Decachlorobiphenyl	ND		930	220	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-21/33	ND		75	27	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-22	ND		37	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-23	ND		37	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-24	ND		37	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-25	ND		37	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-26/29	ND		75	34	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-27	ND		37	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-3	ND		190	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-31	ND		37	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-32	ND		37	7.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-34	ND		37	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-35	ND		37	18	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-36	ND		37	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-37	ND		37	7.5	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-38	ND		37	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-39	ND		37	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-4	ND		42	21	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-40/71	ND		150	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-41	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-42	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-43	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-44/47/65	ND		220	22	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-45	ND		75	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-46	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-48	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-49/69	ND		150	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-5	ND		42	19	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-50/53	ND		280	85	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-51	ND		75	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-52	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-54	ND		75	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-55	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-56	ND		75	13	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-57	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-58	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-59/62/75	ND		220	23	pg/L		11/10/23 21:08	11/15/23 15:49	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-6	ND		37	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-60	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-61/70/74/76	ND		300	28	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-63	ND		75	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-64	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-66	10	J	75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-67	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-68	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-7	ND		37	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-72	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-73	ND		75	10	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-77	ND		75	18	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-78	ND		75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-79	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-8	ND		37	15	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-80	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-81	ND		75	9.3	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-82	ND		75	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-83	ND		75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-84	ND		75	23	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-85/116/117	ND		220	32	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-86/87/97/109/119/125	ND		450	140	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-88	ND		75	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-89	ND		75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-9	ND		37	16	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-90/101/113	ND		220	37	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-91	ND		75	14	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-92	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-93/100	ND		150	23	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-94	ND		75	12	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-95	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-96	ND		75	17	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-98/102	ND		190	27	pg/L		11/10/23 21:08	11/15/23 15:49	1
PCB-99	ND		75	11	pg/L		11/10/23 21:08	11/15/23 15:49	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	18		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-3L	22		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-4L	26		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-8L	25		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-15L	32		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-19L	34		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-31L	39		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-32L	40		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-37L	44		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-47L	42		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-54L	36		5 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-60L	45		10 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-70L	46		10 - 145				11/10/23 21:08	11/15/23 15:49	1
PCB-77L	38		10 - 145				11/10/23 21:08	11/15/23 15:49	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-81L	47		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-85L	68		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-95L	62		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-104L	57		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-105L	53		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-114L	49		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-118L	42		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-123L	44		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-126L	54		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-127L	54		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-155L	65		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-156L/157L	56		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-167L	55		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-169L	63		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-180L	68		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-188L	72		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-189L	50		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-202L	75		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-205L	75		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-206L	84		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-208L	81		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-209L	75		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-128L	64		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-133L	59		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-141L	57		10 - 145	11/10/23 21:08	11/15/23 15:49	1
PCB-162L	50		10 - 145	11/10/23 21:08	11/15/23 15:49	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	780		25	12	ug/L		10/17/23 17:16	10/25/23 12:34	1
Antimony	0.20	J	1.0	0.20	ug/L		10/17/23 17:16	10/25/23 12:34	1
Arsenic	2.7		2.0	0.68	ug/L		10/17/23 17:16	10/25/23 12:34	1
Barium	35		2.0	0.75	ug/L		10/17/23 17:16	10/25/23 12:34	1
Beryllium	ND		0.50	0.12	ug/L		10/17/23 17:16	10/25/23 12:34	1
Cadmium	ND		0.50	0.15	ug/L		10/17/23 17:16	10/25/23 12:34	1
Calcium	260000		1200	500	ug/L		10/17/23 17:16	10/25/23 18:30	10
Chromium	1.5	J	2.0	0.55	ug/L		10/17/23 17:16	10/25/23 12:34	1
Cobalt	0.55		0.50	0.16	ug/L		10/17/23 17:16	10/25/23 12:34	1
Copper	1.3		1.0	0.36	ug/L		10/17/23 17:16	10/25/23 12:34	1
Iron	730		50	20	ug/L		10/17/23 17:16	10/25/23 12:34	1
Lead	0.87		0.50	0.12	ug/L		10/17/23 17:16	10/25/23 12:34	1
Magnesium	770000		500	160	ug/L		10/17/23 17:16	10/25/23 18:30	10
Manganese	34		2.0	0.95	ug/L		10/17/23 17:16	10/25/23 12:34	1
Nickel	0.45	J	1.0	0.40	ug/L		10/17/23 17:16	10/25/23 12:34	1
Potassium	240000		2000	650	ug/L		10/17/23 17:16	10/25/23 18:30	10
Selenium	ND		1.0	0.28	ug/L		10/17/23 17:16	10/25/23 12:34	1
Silver	ND		0.50	0.10	ug/L		10/17/23 17:16	10/25/23 12:34	1
Sodium	6800000		20000	9000	ug/L		10/17/23 17:16	10/25/23 18:33	100
Thallium	ND		0.50	0.13	ug/L		10/17/23 17:16	10/25/23 12:34	1
Zinc	ND		10	4.0	ug/L		10/17/23 17:16	10/25/23 12:34	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	3.3	J	4.0	0.79	ug/L		10/17/23 17:16	10/25/23 12:34	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.088	J	0.20	0.079	ug/L		10/20/23 00:29	10/20/23 10:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	17	J	30	12	mg/L			10/16/23 07:33	1
Total Phosphorus as P (SM 4500 P F-2011)	ND		0.10	0.050	mg/L		10/25/23 14:00	10/26/23 12:06	1
Total Phosphorus as PO4 (SM 4500 P F-2011)	ND		0.31	0.25	mg/L		10/25/23 14:00	10/26/23 12:06	1
Total Organic Carbon (SM 5310 C-2014)	2.5		1.0	0.50	mg/L			10/21/23 13:22	1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Pyrene	ND		0.048	0.019	ug/L		10/17/23 09:03	10/18/23 13:08	1
Dibenzofuran	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Benzo[g,h,i]perylene	ND	*- cn	0.067	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
Benzo[e]pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Indeno[1,2,3-cd]pyrene	ND		0.086	0.038	ug/L		10/17/23 09:03	10/18/23 13:08	1
Perylene	ND		0.048	0.019	ug/L		10/17/23 09:03	10/18/23 13:08	1
Benzo[b]fluoranthene	ND		0.086	0.038	ug/L		10/17/23 09:03	10/18/23 13:08	1
Fluoranthene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Benzo[k]fluoranthene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Acenaphthylene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Chrysene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Benzo[a]pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Dibenz(a,h)anthracene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Benzo[a]anthracene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Acenaphthene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Phenanthrene	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
Fluorene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
Naphthalene	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
2-Methylnaphthalene	ND		0.067	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C1-Benzo(a)anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C2-Benzo(a)anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C4-Benzo(a)anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C1-Fluoranthene/Pyrenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C2-Fluoranthenes/Pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C3-Fluoranthenes/Pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C1-Fluorenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C2-Fluorenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C3-Fluorenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:08	1
C1-Naphthalenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C2-Naphthalenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C3-Naphthalenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C4-Naphthalenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C1-Phenanthrenes/Anthracenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C2-Phenanthrenes/Anthracenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C3-Phenanthrenes/Anthracenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1
C4-Phenanthrenes/Anthracenes	ND		0.077	0.029	ug/L		10/17/23 09:03	10/18/23 13:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	95		53 - 132	10/17/23 09:03	10/18/23 13:08	1
1-Methylnaphthalene-d10	89		56 - 120	10/17/23 09:03	10/18/23 13:08	1
Benzo(a)pyrene-d12 (Surr)	87		33 - 124	10/17/23 09:03	10/18/23 13:08	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	ND		0.021	0.0021	ug/L		10/18/23 08:05	10/19/23 15:10	1
alpha-BHC (1C)	ND		0.021	0.0031	ug/L		10/18/23 08:05	10/19/23 15:10	1
alpha-Chlordane (1C)	ND		0.021	0.0031	ug/L		10/18/23 08:05	10/19/23 15:10	1
beta-BHC (1C)	ND		0.031	0.011	ug/L		10/18/23 08:05	10/19/23 15:10	1
delta-BHC (1C)	ND		0.021	0.0035	ug/L		10/18/23 08:05	10/19/23 15:10	1
Dieldrin (1C)	ND		0.031	0.0055	ug/L		10/18/23 08:05	10/19/23 15:10	1
Endosulfan I (1C)	ND		0.021	0.0045	ug/L		10/18/23 08:05	10/19/23 15:10	1
Endosulfan II (1C)	ND		0.042	0.016	ug/L		10/18/23 08:05	10/19/23 15:10	1
Endosulfan sulfate (1C)	ND		0.031	0.0060	ug/L		10/18/23 08:05	10/19/23 15:10	1
Endrin (1C)	ND		0.031	0.0084	ug/L		10/18/23 08:05	10/19/23 15:10	1
Endrin aldehyde (1C)	ND		0.10	0.021	ug/L		10/18/23 08:05	10/19/23 15:10	1
Endrin ketone (1C)	ND		0.031	0.0052	ug/L		10/18/23 08:05	10/19/23 15:10	1
gamma-BHC (Lindane) (1C)	ND		0.021	0.0021	ug/L		10/18/23 08:05	10/19/23 15:10	1
gamma-Chlordane (1C)	ND		0.042	0.0073	ug/L		10/18/23 08:05	10/19/23 15:10	1
Heptachlor (1C)	ND		0.021	0.0021	ug/L		10/18/23 08:05	10/19/23 15:10	1
Heptachlor epoxide (1C)	ND		0.021	0.0024	ug/L		10/18/23 08:05	10/19/23 15:10	1
Methoxychlor (1C)	ND		0.11	0.031	ug/L		10/18/23 08:05	10/19/23 15:10	1
Toxaphene (1C)	ND	cn	1.0	0.31	ug/L		10/18/23 08:05	10/19/23 15:10	1
p,p'-DDD (1C)	ND		0.031	0.0052	ug/L		10/18/23 08:05	10/19/23 15:10	1
p,p'-DDE (1C)	ND		0.031	0.0052	ug/L		10/18/23 08:05	10/19/23 15:10	1
p,p'-DDT (1C)	ND		0.031	0.0054	ug/L		10/18/23 08:05	10/19/23 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	61		20 - 149	10/18/23 08:05	10/19/23 15:10	1
DCB Decachlorobiphenyl (Surr) (2C)	61		20 - 149	10/18/23 08:05	10/19/23 15:10	1
Tetrachloro-m-xylene (Surr) (1C)	62		20 - 129	10/18/23 08:05	10/19/23 15:10	1
Tetrachloro-m-xylene (Surr) (2C)	62		20 - 129	10/18/23 08:05	10/19/23 15:10	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		23	4.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,4,6,7,8-HpCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,4,7,8-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,4,7,8,9-HpCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,6,7,8-HxCDD	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,6,7,8-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,7,8-PeCDD	ND		23	3.0	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,7,8-PeCDF	ND		23	2.6	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,7,8,9-HxCDD	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
1,2,3,7,8,9-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
2,3,4,6,7,8-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
2,3,4,7,8-PeCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 13:13	1
2,3,7,8-TCDD	ND		3.8	0.82	pg/L		11/14/23 23:33	11/15/23 13:13	1
2,3,7,8-TCDF	ND		4.7	0.76	pg/L		11/14/23 23:33	11/15/23 13:13	1
OCDD	ND		100	34	pg/L		11/14/23 23:33	11/15/23 13:13	1
OCDF	ND		47	5.8	pg/L		11/14/23 23:33	11/15/23 13:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	67		23 - 140				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,4,6,7,8-HpCDF	63		28 - 143				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,4,7,8-HxCDD	68		32 - 141				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,4,7,8-HxCDF	71		26 - 152				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,4,7,8,9-HpCDF	66		26 - 138				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,6,7,8-HxCDD	68		28 - 130				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,6,7,8-HxCDF	72		26 - 123				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,7,8-PeCDD	60		25 - 181				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,7,8-PeCDF	63		24 - 185				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,7,8,9-HxCDD	74		28 - 130				11/14/23 23:33	11/15/23 13:13	1
13C-1,2,3,7,8,9-HxCDF	70		29 - 147				11/14/23 23:33	11/15/23 13:13	1
13C-2,3,4,6,7,8-HxCDF	73		28 - 136				11/14/23 23:33	11/15/23 13:13	1
13C-2,3,4,7,8-PeCDF	63		21 - 178				11/14/23 23:33	11/15/23 13:13	1
13C-2,3,7,8-TCDD	69		25 - 164				11/14/23 23:33	11/15/23 13:13	1
13C-2,3,7,8-TCDF	66		24 - 169				11/14/23 23:33	11/15/23 13:13	1
13C-OCDD	62		17 - 157				11/14/23 23:33	11/15/23 13:13	1
13C-OCDF	61		17 - 157				11/14/23 23:33	11/15/23 13:13	1

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		190	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-10	ND		43	21	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-103	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-104	ND		76	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-105	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-106	ND		76	18	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-107	ND		76	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-108/124	ND		150	25	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-11	ND		280	100	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-110/115	ND		150	25	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-111	ND		76	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-112	ND		76	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-114	ND		76	17	pg/L		11/10/23 21:08	11/15/23 17:06	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-118	ND		76	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-12/13	ND		76	32	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-120	ND		76	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-121	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-122	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-123	ND		76	21	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-126	ND		76	27	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-127	ND		76	6.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-128/166	ND		150	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-129/138/163	ND		230	27	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-130	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-131	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-132	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-133	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-134	ND		76	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-135/151	ND	cn	150	30	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-136	ND	cn	76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-137	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-139/140	ND		150	18	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-14	ND		43	19	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-141	ND		76	5.7	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-142	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-143	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-144	ND	cn	76	20	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-145	ND		76	22	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-146	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-147/149	ND		150	19	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-148	ND		76	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-15	ND		43	19	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-150	ND	cn	76	18	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-152	ND		76	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-153/168	ND		150	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-154	ND		190	43	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-155	ND		76	19	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-156/157	ND		150	27	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-158	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-159	ND		76	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-16	ND		38	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-160	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-161	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-162	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-164	ND		76	6.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-165	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-167	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-169	ND		76	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-17	ND		38	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-170	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-171/173	ND		150	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-172	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-174	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-175	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-176	ND		76	5.7	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-177	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-178	ND		76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-179	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-18/30	ND		76	23	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-180/193	18	J B	150	18	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-181	ND		76	7.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-182	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-183/185	ND		150	21	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-184	ND		76	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-186	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-187	15	J B	76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-188	ND		190	45	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-189	ND		76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-19	ND		38	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-190	ND		76	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-191	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-192	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-194	16	J B	110	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-195	ND		110	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-196	ND		110	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-197/200	ND		230	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-198/199	29	J B	230	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-2	ND		190	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-20/28	ND		76	27	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-201	ND		380	46	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-202	ND		110	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-203	12	J B	110	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-204	ND		110	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-205	ND		110	6.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-206	17	J B	110	6.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-207	ND		110	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-208	ND		110	52	pg/L		11/10/23 21:08	11/15/23 17:06	1
DCB Decachlorobiphenyl	ND		950	230	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-21/33	ND		76	27	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-22	ND		38	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-23	ND		38	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-24	ND		38	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-25	ND		38	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-26/29	ND		76	34	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-27	ND		38	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-3	ND		190	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-31	ND		38	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-32	ND		38	7.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-34	ND		38	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-35	ND		38	18	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-36	ND		38	13	pg/L		11/10/23 21:08	11/15/23 17:06	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-37	ND		38	7.6	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-38	ND		38	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-39	ND		38	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-4	ND		43	21	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-40/71	ND		150	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-41	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-42	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-43	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-44/47/65	ND		230	23	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-45	ND		76	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-46	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-48	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-49/69	ND		150	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-5	ND		43	19	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-50/53	ND		280	86	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-51	ND		76	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-52	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-54	ND		76	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-55	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-56	ND		76	13	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-57	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-58	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-59/62/75	ND		230	24	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-6	ND		38	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-60	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-61/70/74/76	ND		300	28	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-63	ND		76	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-64	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-66	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-67	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-68	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-7	ND		38	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-72	ND		76	8.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-73	ND		76	10	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-77	ND		76	18	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-78	ND		76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-79	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-8	ND		38	15	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-80	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-81	ND		76	9.5	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-82	ND		76	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-83	ND		76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-84	ND		76	24	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-85/116/117	ND		230	32	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-86/87/97/109/119/125	ND		450	140	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-88	ND		76	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-89	ND		76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-9	ND		38	16	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-90/101/113	ND		230	38	pg/L		11/10/23 21:08	11/15/23 17:06	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-91	ND		76	14	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-92	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-93/100	ND		150	24	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-94	ND		76	12	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-95	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-96	ND		76	17	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-98/102	ND		190	27	pg/L		11/10/23 21:08	11/15/23 17:06	1
PCB-99	ND		76	11	pg/L		11/10/23 21:08	11/15/23 17:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
PCB-1L	28		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-3L	32		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-4L	38		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-8L	28		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-15L	40		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-19L	40		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-31L	38		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-32L	48		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-37L	45		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-47L	44		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-54L	52		5 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-60L	51		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-70L	48		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-77L	55		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-81L	57		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-85L	71		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-95L	59		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-104L	55		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-105L	53		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-114L	44		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-118L	48		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-123L	51		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-126L	50		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-127L	43		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-155L	93		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-156L/157L	57		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-167L	59		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-169L	68		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-180L	67		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-188L	79		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-189L	68		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-202L	75		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-205L	75		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-206L	86		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-208L	96		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-209L	80		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-128L	81		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-133L	80		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-141L	70		10 - 145				11/10/23 21:08	11/15/23 17:06	1
PCB-162L	56		10 - 145				11/10/23 21:08	11/15/23 17:06	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	190		25	12	ug/L		10/17/23 17:16	10/25/23 12:24	1
Antimony	ND		1.0	0.20	ug/L		10/17/23 17:16	10/25/23 12:24	1
Arsenic	2.2		2.0	0.68	ug/L		10/17/23 17:16	10/25/23 12:24	1
Barium	11		2.0	0.75	ug/L		10/17/23 17:16	10/25/23 12:24	1
Beryllium	ND		0.50	0.12	ug/L		10/17/23 17:16	10/25/23 12:24	1
Cadmium	ND		0.50	0.15	ug/L		10/17/23 17:16	10/25/23 12:24	1
Calcium	340000		1200	500	ug/L		10/17/23 17:16	10/25/23 18:22	10
Chromium	ND		2.0	0.55	ug/L		10/17/23 17:16	10/25/23 12:24	1
Cobalt	ND		0.50	0.16	ug/L		10/17/23 17:16	10/25/23 12:24	1
Copper	0.93	J	1.0	0.36	ug/L		10/17/23 17:16	10/25/23 12:24	1
Iron	210		50	20	ug/L		10/17/23 17:16	10/25/23 12:24	1
Lead	0.22	J	0.50	0.12	ug/L		10/17/23 17:16	10/25/23 12:24	1
Magnesium	1100000		5000	1600	ug/L		10/17/23 17:16	10/25/23 18:24	100
Manganese	8.5		2.0	0.95	ug/L		10/17/23 17:16	10/25/23 12:24	1
Nickel	ND		1.0	0.40	ug/L		10/17/23 17:16	10/25/23 12:24	1
Potassium	320000		2000	650	ug/L		10/17/23 17:16	10/25/23 18:22	10
Selenium	ND		1.0	0.28	ug/L		10/17/23 17:16	10/25/23 12:24	1
Silver	ND		0.50	0.10	ug/L		10/17/23 17:16	10/25/23 12:24	1
Sodium	8600000		50000	23000	ug/L		10/17/23 17:16	10/25/23 18:36	250
Thallium	ND		0.50	0.13	ug/L		10/17/23 17:16	10/25/23 12:24	1
Zinc	ND		10	4.0	ug/L		10/17/23 17:16	10/25/23 12:24	1
Vanadium	2.3	J	4.0	0.79	ug/L		10/17/23 17:16	10/25/23 12:24	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.098	J	0.20	0.079	ug/L		10/20/23 00:29	10/20/23 10:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	22	J	30	12	mg/L			10/16/23 07:33	1
Total Phosphorus as P (SM 4500 P F-2011)	ND		0.10	0.050	mg/L		10/25/23 14:00	10/26/23 12:09	1
Total Phosphorus as PO4 (SM 4500 P F-2011)	ND		0.31	0.25	mg/L		10/25/23 14:00	10/26/23 12:09	1
Total Organic Carbon (SM 5310 C-2014)	0.73	J	1.0	0.50	mg/L			10/21/23 13:42	1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Pyrene	ND		0.048	0.019	ug/L		10/17/23 09:03	10/18/23 13:52	1
Dibenzofuran	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Benzo[g,h,i]perylene	ND	*- cn	0.067	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
Benzo[e]pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Indeno[1,2,3-cd]pyrene	ND		0.086	0.038	ug/L		10/17/23 09:03	10/18/23 13:52	1
Perylene	ND		0.048	0.019	ug/L		10/17/23 09:03	10/18/23 13:52	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.086	0.038	ug/L		10/17/23 09:03	10/18/23 13:52	1
Fluoranthene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Benzo[k]fluoranthene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Acenaphthylene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Chrysene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Benzo[a]pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Dibenz(a,h)anthracene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Benzo[a]anthracene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Acenaphthene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Phenanthrene	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
Fluorene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
Naphthalene	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
2-Methylnaphthalene	ND		0.067	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C1-Benzo(a)anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C2-Benzo(a)anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C4-Benzo(a)anthracenes/Chrysenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C1-Fluoranthene/Pyrenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C2-Fluoranthenes/Pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C3-Fluoranthenes/Pyrene	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C1-Fluorenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C2-Fluorenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C3-Fluorenes	ND		0.048	0.0096	ug/L		10/17/23 09:03	10/18/23 13:52	1
C1-Naphthalenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C2-Naphthalenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C3-Naphthalenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C4-Naphthalenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C1-Phenanthrenes/Anthracenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C2-Phenanthrenes/Anthracenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C3-Phenanthrenes/Anthracenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1
C4-Phenanthrenes/Anthracenes	ND		0.076	0.029	ug/L		10/17/23 09:03	10/18/23 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Fluoranthene-d10 (Surr)	99		53 - 132	10/17/23 09:03	10/18/23 13:52	1
1-Methylnaphthalene-d10	89		56 - 120	10/17/23 09:03	10/18/23 13:52	1
Benzo(a)pyrene-d12 (Surr)	90		33 - 124	10/17/23 09:03	10/18/23 13:52	1

Method: SW846 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	ND		0.020	0.0020	ug/L		10/18/23 08:05	10/19/23 15:30	1
alpha-BHC (1C)	ND		0.020	0.0030	ug/L		10/18/23 08:05	10/19/23 15:30	1
alpha-Chlordane (1C)	ND		0.020	0.0030	ug/L		10/18/23 08:05	10/19/23 15:30	1
beta-BHC (1C)	ND		0.030	0.011	ug/L		10/18/23 08:05	10/19/23 15:30	1
delta-BHC (1C)	ND		0.020	0.0034	ug/L		10/18/23 08:05	10/19/23 15:30	1
Dieldrin (1C)	ND		0.030	0.0052	ug/L		10/18/23 08:05	10/19/23 15:30	1
Endosulfan I (1C)	ND		0.020	0.0042	ug/L		10/18/23 08:05	10/19/23 15:30	1
Endosulfan II (1C)	ND		0.039	0.015	ug/L		10/18/23 08:05	10/19/23 15:30	1
Endosulfan sulfate (1C)	ND		0.030	0.0057	ug/L		10/18/23 08:05	10/19/23 15:30	1
Endrin (1C)	ND		0.030	0.0080	ug/L		10/18/23 08:05	10/19/23 15:30	1
Endrin aldehyde (1C)	ND		0.099	0.020	ug/L		10/18/23 08:05	10/19/23 15:30	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin ketone (1C)	ND		0.030	0.0049	ug/L		10/18/23 08:05	10/19/23 15:30	1
gamma-BHC (Lindane) (1C)	ND		0.020	0.0020	ug/L		10/18/23 08:05	10/19/23 15:30	1
gamma-Chlordane (1C)	ND		0.039	0.0069	ug/L		10/18/23 08:05	10/19/23 15:30	1
Heptachlor (1C)	ND		0.020	0.0020	ug/L		10/18/23 08:05	10/19/23 15:30	1
Heptachlor epoxide (1C)	ND		0.020	0.0023	ug/L		10/18/23 08:05	10/19/23 15:30	1
Methoxychlor (1C)	ND		0.11	0.030	ug/L		10/18/23 08:05	10/19/23 15:30	1
Toxaphene (1C)	ND	cn	0.99	0.30	ug/L		10/18/23 08:05	10/19/23 15:30	1
p,p'-DDD (1C)	ND		0.030	0.0049	ug/L		10/18/23 08:05	10/19/23 15:30	1
p,p'-DDE (1C)	ND		0.030	0.0049	ug/L		10/18/23 08:05	10/19/23 15:30	1
p,p'-DDT (1C)	ND		0.030	0.0051	ug/L		10/18/23 08:05	10/19/23 15:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	65		20 - 149				10/18/23 08:05	10/19/23 15:30	1
DCB Decachlorobiphenyl (Surr) (2C)	63		20 - 149				10/18/23 08:05	10/19/23 15:30	1
Tetrachloro-m-xylene (Surr) (1C)	66		20 - 129				10/18/23 08:05	10/19/23 15:30	1
Tetrachloro-m-xylene (Surr) (2C)	67		20 - 129				10/18/23 08:05	10/19/23 15:30	1

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	ND		23	4.2	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,4,6,7,8-HpCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,4,7,8-HxCDD	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,4,7,8-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,4,7,8,9-HpCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,6,7,8-HxCDD	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,6,7,8-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,7,8-PeCDD	ND		23	2.9	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,7,8-PeCDF	ND		23	2.6	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,7,8,9-HxCDD	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
1,2,3,7,8,9-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
2,3,4,6,7,8-HxCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
2,3,4,7,8-PeCDF	ND		23	2.3	pg/L		11/14/23 23:33	11/15/23 14:06	1
2,3,7,8-TCDD	ND		3.7	0.81	pg/L		11/14/23 23:33	11/15/23 14:06	1
2,3,7,8-TCDF	ND		4.7	0.76	pg/L		11/14/23 23:33	11/15/23 14:06	1
OCDD	ND		100	34	pg/L		11/14/23 23:33	11/15/23 14:06	1
OCDF	ND		47	5.7	pg/L		11/14/23 23:33	11/15/23 14:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDD	67		23 - 140				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,4,6,7,8-HpCDF	69		28 - 143				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,4,7,8-HxCDD	74		32 - 141				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,4,7,8-HxCDF	79		26 - 152				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,4,7,8,9-HpCDF	72		26 - 138				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,6,7,8-HxCDD	75		28 - 130				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,6,7,8-HxCDF	85		26 - 123				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,7,8-PeCDD	63		25 - 181				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,7,8-PeCDF	65		24 - 185				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,7,8,9-HxCDD	77		28 - 130				11/14/23 23:33	11/15/23 14:06	1
13C-1,2,3,7,8,9-HxCDF	73		29 - 147				11/14/23 23:33	11/15/23 14:06	1
13C-2,3,4,6,7,8-HxCDF	78		28 - 136				11/14/23 23:33	11/15/23 14:06	1
13C-2,3,4,7,8-PeCDF	65		21 - 178				11/14/23 23:33	11/15/23 14:06	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	71		25 - 164	11/14/23 23:33	11/15/23 14:06	1
13C-2,3,7,8-TCDF	71		24 - 169	11/14/23 23:33	11/15/23 14:06	1
13C-OCDD	65		17 - 157	11/14/23 23:33	11/15/23 14:06	1
13C-OCDF	63		17 - 157	11/14/23 23:33	11/15/23 14:06	1

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1	ND		190	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-10	ND		42	21	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-103	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-104	ND		75	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-105	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-106	ND		75	18	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-107	ND		75	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-108/124	ND		150	24	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-11	ND		280	100	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-110/115	ND		150	24	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-111	ND		75	12	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-112	ND		75	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-114	ND		75	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-118	ND		75	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-12/13	ND		75	32	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-120	ND		75	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-121	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-122	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-123	ND		75	21	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-126	ND		75	27	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-127	ND		75	6.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-128/166	ND		150	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-129/138/163	ND		220	27	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-130	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-131	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-132	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-133	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-134	ND		75	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-135/151	ND	cn	150	30	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-136	ND	cn	75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-137	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-139/140	ND		150	18	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-14	ND		42	19	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-141	ND		75	5.6	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-142	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-143	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-144	ND	cn	75	20	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-145	ND		75	22	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-146	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-147/149	ND		150	19	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-148	ND		75	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-15	ND		42	19	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-150	ND	cn	75	18	pg/L		11/10/23 21:08	11/15/23 18:23	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-152	ND		75	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-153/168	ND		150	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-154	ND		190	42	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-155	ND		75	19	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-156/157	ND		150	27	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-158	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-159	ND		75	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-16	ND		37	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-160	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-161	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-162	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-164	ND		75	6.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-165	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-167	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-169	ND		75	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-17	ND		37	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-170	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-171/173	ND		150	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-172	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-174	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-175	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-176	ND		75	5.6	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-177	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-178	ND		75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-179	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-18/30	ND		75	22	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-180/193	25	J B	150	18	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-181	ND		75	7.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-182	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-183/185	ND		150	21	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-184	ND		75	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-186	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-187	20	J B	75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-188	ND		190	44	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-189	ND		75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-19	ND		37	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-190	ND		75	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-191	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-192	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-194	17	J B	110	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-195	ND		110	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-196	ND		110	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-197/200	ND		220	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-198/199	31	J B	220	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-2	ND		190	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-20/28	ND		75	26	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-201	ND		370	46	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-202	ND		110	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-203	16	J B	110	12	pg/L		11/10/23 21:08	11/15/23 18:23	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-204	ND		110	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-205	ND		110	6.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-206	24	J I B	110	6.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-207	ND		110	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-208	ND		110	51	pg/L		11/10/23 21:08	11/15/23 18:23	1
DCB Decachlorobiphenyl	ND		940	220	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-21/33	ND		75	27	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-22	ND		37	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-23	ND		37	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-24	ND		37	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-25	ND		37	12	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-26/29	ND		75	34	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-27	ND		37	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-3	ND		190	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-31	ND		37	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-32	ND		37	7.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-34	ND		37	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-35	ND		37	18	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-36	ND		37	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-37	ND		37	7.5	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-38	ND		37	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-39	ND		37	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-4	ND		42	21	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-40/71	ND		150	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-41	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-42	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-43	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-44/47/65	ND		220	22	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-45	ND		75	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-46	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-48	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-49/69	ND		150	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-5	ND		42	19	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-50/53	ND		280	85	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-51	ND		75	12	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-52	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-54	ND		75	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-55	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-56	ND		75	13	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-57	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-58	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-59/62/75	ND		220	23	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-6	ND		37	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-60	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-61/70/74/76	ND		300	28	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-63	ND		75	12	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-64	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-66	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-67	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-68	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-7	ND		37	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-72	ND		75	8.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-73	ND		75	10	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-77	ND		75	18	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-78	ND		75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-79	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-8	ND		37	15	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-80	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-81	ND		75	9.4	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-82	ND		75	12	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-83	ND		75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-84	ND		75	23	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-85/116/117	ND		220	32	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-86/87/97/109/119/125	ND		450	140	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-88	ND		75	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-89	ND		75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-9	ND		37	16	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-90/101/113	ND		220	37	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-91	ND		75	14	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-92	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-93/100	ND		150	23	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-94	ND		75	12	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-95	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-96	ND		75	17	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-98/102	ND		190	27	pg/L		11/10/23 21:08	11/15/23 18:23	1
PCB-99	ND		75	11	pg/L		11/10/23 21:08	11/15/23 18:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-1L	31		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-3L	38		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-4L	49		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-8L	35		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-15L	55		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-19L	53		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-31L	53		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-32L	65		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-37L	47		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-47L	51		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-54L	63		5 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-60L	56		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-70L	57		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-77L	68		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-81L	69		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-85L	76		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-95L	62		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-104L	60		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-105L	53		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-114L	50		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-118L	46		10 - 145	11/10/23 21:08	11/15/23 18:23	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
PCB-123L	50		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-126L	52		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-127L	59		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-155L	77		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-156L/157L	63		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-167L	64		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-169L	64		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-180L	71		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-188L	76		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-189L	58		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-202L	84		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-205L	70		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-206L	81		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-208L	80		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-209L	79		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-128L	67		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-133L	64		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-141L	71		10 - 145	11/10/23 21:08	11/15/23 18:23	1
PCB-162L	59		10 - 145	11/10/23 21:08	11/15/23 18:23	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	320		25	12	ug/L		10/17/23 17:16	10/25/23 12:32	1
Antimony	ND		1.0	0.20	ug/L		10/17/23 17:16	10/25/23 12:32	1
Arsenic	2.3		2.0	0.68	ug/L		10/17/23 17:16	10/25/23 12:32	1
Barium	9.6		2.0	0.75	ug/L		10/17/23 17:16	10/25/23 12:32	1
Beryllium	ND		0.50	0.12	ug/L		10/17/23 17:16	10/25/23 12:32	1
Cadmium	ND		0.50	0.15	ug/L		10/17/23 17:16	10/25/23 12:32	1
Calcium	370000		1200	500	ug/L		10/17/23 17:16	10/25/23 18:26	10
Chromium	0.60	J	2.0	0.55	ug/L		10/17/23 17:16	10/25/23 12:32	1
Cobalt	0.16	J	0.50	0.16	ug/L		10/17/23 17:16	10/25/23 12:32	1
Copper	0.84	J	1.0	0.36	ug/L		10/17/23 17:16	10/25/23 12:32	1
Iron	320		50	20	ug/L		10/17/23 17:16	10/25/23 12:32	1
Lead	0.31	J	0.50	0.12	ug/L		10/17/23 17:16	10/25/23 12:32	1
Magnesium	1000000		5000	1600	ug/L		10/17/23 17:16	10/25/23 18:28	100
Manganese	8.5		2.0	0.95	ug/L		10/17/23 17:16	10/25/23 12:32	1
Nickel	ND		1.0	0.40	ug/L		10/17/23 17:16	10/25/23 12:32	1
Potassium	340000		2000	650	ug/L		10/17/23 17:16	10/25/23 18:26	10
Selenium	ND		1.0	0.28	ug/L		10/17/23 17:16	10/25/23 12:32	1
Silver	ND		0.50	0.10	ug/L		10/17/23 17:16	10/25/23 12:32	1
Sodium	8800000		20000	9000	ug/L		10/17/23 17:16	10/25/23 18:28	100
Thallium	ND		0.50	0.13	ug/L		10/17/23 17:16	10/25/23 12:32	1
Zinc	ND		10	4.0	ug/L		10/17/23 17:16	10/25/23 12:32	1
Vanadium	2.6	J	4.0	0.79	ug/L		10/17/23 17:16	10/25/23 12:32	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.091	J	0.20	0.079	ug/L		10/24/23 06:08	10/24/23 14:03	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C - 2015)	15	J	30	12	mg/L			10/17/23 06:47	1
Total Phosphorus as P (SM 4500 P F-2011)	ND		0.10	0.050	mg/L		10/25/23 14:00	10/26/23 12:06	1
Total Phosphorus as PO4 (SM 4500 P F-2011)	ND		0.31	0.25	mg/L		10/25/23 14:00	10/26/23 12:06	1
Total Organic Carbon (SM 5310 C-2014)	0.53	J	1.0	0.50	mg/L			10/21/23 14:01	1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147072-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 42.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		0.93	0.12	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluoropentanoic acid	ND		0.47	0.12	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorohexanoic acid	ND		0.23	0.069	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluoroheptanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorooctanoic acid	0.063	J I	0.23	0.060	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorononanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorodecanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluoroundecanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorododecanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorotridecanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorotetradecanoic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorobutanesulfonic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluoropentanesulfonic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorohexanesulfonic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluoroheptanesulfonic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorooctanesulfonic acid	ND		0.23	0.060	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorononanesulfonic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorodecanesulfonic acid	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		0.93	0.23	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.2	0.41	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.2	0.41	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
Perfluorooctanesulfonamide	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
NMeFOSA	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
N-ethylperfluoro-1-octanesulfonamide	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
NMeFOSAA	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
NEtFOSAA	ND		0.23	0.058	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		2.3	0.58	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		2.3	0.58	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1
HFPO-DA	ND		0.93	0.060	ng/g	✱	10/18/23 09:29	11/04/23 01:18	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147072-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 42.7

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.93	0.23	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
Perfluoro-3-methoxypropanoic acid	ND		0.47	0.12	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
Perfluoro(4-methoxybutanoic acid)	ND		0.47	0.12	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
Perfluoro-3,6-dioxaheptanoic acid	ND		0.47	0.12	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	ND		0.93	0.23	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid	ND		0.93	0.23	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
PFEESA	ND		0.47	0.12	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
3:3 FTCA	ND		1.2	0.29	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
5:3 FTCA	ND		5.8	1.2	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
7:3 FTCA	ND		5.8	1.2	ng/g	☼	10/18/23 09:29	11/04/23 01:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	86.1		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C5 PFPeA	87.8		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C5 PFHxA	86.3		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C4 PFHpA	86.0		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C8 PFOA	65.3		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C9 PFNA	83.0		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C6 PFDA	83.0		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C7 PFUnA	80.8		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C2-PFDoDA	77.6		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C2 PFTeDA	69.3		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C3 PFBS	81.9		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C3 PFHxS	84.5		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C8 PFOS	82.9		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C8 FOSA	73.0		20 - 150				10/18/23 09:29	11/04/23 01:18	1
d3-NMeFOSAA	79.3		20 - 150				10/18/23 09:29	11/04/23 01:18	1
d5-NEtFOSAA	76.3		20 - 150				10/18/23 09:29	11/04/23 01:18	1
M2-4:2 FTS	99.6		20 - 150				10/18/23 09:29	11/04/23 01:18	1
M2-6:2 FTS	98.2		20 - 150				10/18/23 09:29	11/04/23 01:18	1
M2-8:2 FTS	74.6		20 - 150				10/18/23 09:29	11/04/23 01:18	1
13C3 HFPO-DA	86.3		20 - 150				10/18/23 09:29	11/04/23 01:18	1
d7-N-MeFOSE-M	62.2		20 - 150				10/18/23 09:29	11/04/23 01:18	1
d9-N-EtFOSE-M	58.5		20 - 150				10/18/23 09:29	11/04/23 01:18	1
d5-NEtPFOSA	61.4		20 - 150				10/18/23 09:29	11/04/23 01:18	1
d3-NMePFOSA	63.5		20 - 150				10/18/23 09:29	11/04/23 01:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	57.3		1.0	1.0	%			10/16/23 11:36	1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147072-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 56.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		0.80	0.10	ng/g	☼	10/18/23 09:29	11/04/23 01:30	1
Perfluoropentanoic acid	ND		0.40	0.10	ng/g	☼	10/18/23 09:29	11/04/23 01:30	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147072-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 56.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		0.20	0.059	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoroheptanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorooctanoic acid	ND		0.20	0.051	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorononanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorodecanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoroundecanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorododecanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorotridecanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorotetradecanoic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorobutanesulfonic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoropentanesulfonic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorohexanesulfonic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoroheptanesulfonic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorooctanesulfonic acid	0.052	J	0.20	0.051	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorononanesulfonic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorodecanesulfonic acid	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		0.80	0.20	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.0	0.35	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.0	0.35	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluorooctanesulfonamide	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
NMeFOSA	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
N-ethylperfluoro-1-octanesulfonamide	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
NMeFOSAA	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
NEtFOSAA	ND		0.20	0.050	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
HFPO-DA	ND		0.80	0.051	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.80	0.20	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoro-3-methoxypropanoic acid	ND		0.40	0.10	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoro(4-methoxybutanoic acid)	ND		0.40	0.10	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Perfluoro-3,6-dioxaheptanoic acid	ND		0.40	0.10	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.80	0.20	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	ND		0.80	0.20	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
PFEESA	ND		0.40	0.10	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
3:3 FTCA	ND		1.0	0.25	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
5:3 FTCA	ND		5.0	1.0	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
7:3 FTCA	ND		5.0	1.0	ng/g	✱	10/18/23 09:29	11/04/23 01:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	87.6		20 - 150				10/18/23 09:29	11/04/23 01:30	1
13C5 PFPeA	79.7		20 - 150				10/18/23 09:29	11/04/23 01:30	1
13C5 PFHxA	81.6		20 - 150				10/18/23 09:29	11/04/23 01:30	1
13C4 PFHpA	86.2		20 - 150				10/18/23 09:29	11/04/23 01:30	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147072-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 56.6

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	93.6		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C9 PFNA	86.4		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C6 PFDA	85.0		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C7 PFUnA	87.4		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C2-PFDoDA	79.4		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C2 PFTeDA	67.0		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C3 PFBS	93.4		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C3 PFHxS	90.5		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C8 PFOS	86.9		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C8 FOSA	77.8		20 - 150	10/18/23 09:29	11/04/23 01:30	1
d3-NMeFOSAA	89.6		20 - 150	10/18/23 09:29	11/04/23 01:30	1
d5-NEtFOSAA	83.4		20 - 150	10/18/23 09:29	11/04/23 01:30	1
M2-4:2 FTS	93.9		20 - 150	10/18/23 09:29	11/04/23 01:30	1
M2-6:2 FTS	102		20 - 150	10/18/23 09:29	11/04/23 01:30	1
M2-8:2 FTS	89.2		20 - 150	10/18/23 09:29	11/04/23 01:30	1
13C3 HFPO-DA	85.5		20 - 150	10/18/23 09:29	11/04/23 01:30	1
d7-N-MeFOSE-M	30.1		20 - 150	10/18/23 09:29	11/04/23 01:30	1
d5-NEtPFOSA	59.7		20 - 150	10/18/23 09:29	11/04/23 01:30	1
d3-NMePFOSA	60.5		20 - 150	10/18/23 09:29	11/04/23 01:30	1

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		17	4.3	ng/g	☼	11/11/23 09:46	11/17/23 22:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d9-N-EtFOSE-M	64.3		20 - 150	11/11/23 09:46	11/17/23 22:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	43.4		1.0	1.0	%			10/16/23 11:36	1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147072-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 64.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		0.80	0.10	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluoropentanoic acid	ND		0.40	0.10	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorohexanoic acid	ND		0.20	0.059	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluoroheptanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorooctanoic acid	ND		0.20	0.051	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorononanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorodecanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluoroundecanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorododecanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorotridecanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorotetradecanoic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluorobutanesulfonic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1
Perfluoropentanesulfonic acid	ND		0.20	0.050	ng/g	☼	10/18/23 09:29	11/04/23 01:42	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147072-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 64.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluoroheptanesulfonic acid	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluorooctanesulfonic acid	ND		0.20	0.051	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluorononanesulfonic acid	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluorodecanesulfonic acid	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		0.80	0.20	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.0	0.35	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.0	0.35	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluorooctanesulfonamide	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
NMeFOSA	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
N-ethylperfluoro-1-octanesulfonamide	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
NMeFOSAA	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
NEtFOSAA	ND		0.20	0.050	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
HFPO-DA	ND		0.80	0.051	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.80	0.20	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluoro-3-methoxypropanoic acid	ND		0.40	0.10	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluoro(4-methoxybutanoic acid)	ND		0.40	0.10	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Perfluoro-3,6-dioxaheptanoic acid	ND		0.40	0.10	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.80	0.20	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.80	0.20	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
PFEESA	ND		0.40	0.10	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
3:3 FTCA	ND		1.0	0.25	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
5:3 FTCA	ND		5.0	1.0	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
7:3 FTCA	ND		5.0	1.0	ng/g	✳	10/18/23 09:29	11/04/23 01:42	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	105		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C5 PFPeA	105		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C5 PFHxA	102		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C4 PFHpA	106		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C8 PFOA	99.0		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C9 PFNA	97.2		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C6 PFDA	102		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C7 PFUnA	101		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C2-PFDoDA	101		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C2 PFTeDA	93.0		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C3 PFBS	116		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C3 PFHxS	108		20 - 150				10/18/23 09:29	11/04/23 01:42	1
13C8 PFOS	101		20 - 150				10/18/23 09:29	11/04/23 01:42	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147072-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 64.8

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	93.1		20 - 150	10/18/23 09:29	11/04/23 01:42	1
d3-NMeFOSAA	103		20 - 150	10/18/23 09:29	11/04/23 01:42	1
d5-NEtFOSAA	101		20 - 150	10/18/23 09:29	11/04/23 01:42	1
M2-4:2 FTS	119		20 - 150	10/18/23 09:29	11/04/23 01:42	1
M2-6:2 FTS	117		20 - 150	10/18/23 09:29	11/04/23 01:42	1
M2-8:2 FTS	114		20 - 150	10/18/23 09:29	11/04/23 01:42	1
13C3 HFPO-DA	105		20 - 150	10/18/23 09:29	11/04/23 01:42	1
d7-N-MeFOSE-M	85.6		20 - 150	10/18/23 09:29	11/04/23 01:42	1
d9-N-EtFOSE-M	85.4		20 - 150	10/18/23 09:29	11/04/23 01:42	1
d5-NEtPFOSA	87.7		20 - 150	10/18/23 09:29	11/04/23 01:42	1
d3-NMePFOSA	84.2		20 - 150	10/18/23 09:29	11/04/23 01:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	35.2		1.0	1.0	%			10/16/23 11:36	1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147072-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	2.2	J	7.0	1.8	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoropentanoic acid	2.2	J I	3.5	0.88	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorohexanoic acid	1.7	J	1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoroheptanoic acid	0.98	J	1.8	0.46	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorooctanoic acid	2.3		1.8	0.56	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorononanoic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorobutanesulfonic acid	1.3	J I	1.8	0.26	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoropentanesulfonic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorohexanesulfonic acid	0.65	J	1.8	0.50	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoroheptanesulfonic acid	ND		1.8	0.35	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorooctanesulfonic acid	0.93	J	1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorononanesulfonic acid	ND		1.8	0.35	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorodecanesulfonic acid	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.79	ng/L		10/31/23 15:05	11/15/23 04:34	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		7.0	1.5	ng/L		10/31/23 15:05	11/15/23 04:34	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		7.0	2.2	ng/L		10/31/23 15:05	11/15/23 04:34	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		7.0	2.3	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluorooctanesulfonamide	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
NMeFOSA	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
N-ethylperfluoro-1-octanesulfonamide	ND		1.8	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	ND		3.5	1.1	ng/L		10/31/23 15:05	11/15/23 04:34	1
NEtFOSAA	ND		1.8	0.62	ng/L		10/31/23 15:05	11/15/23 04:34	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		18	4.4	ng/L		10/31/23 15:05	11/15/23 04:34	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		18	4.4	ng/L		10/31/23 15:05	11/15/23 04:34	1
HFPO-DA	ND		7.0	1.8	ng/L		10/31/23 15:05	11/15/23 04:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		7.0	1.3	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoro-3-methoxypropanoic acid	ND		3.5	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoro(4-methoxybutanoic acid)	ND		3.5	0.88	ng/L		10/31/23 15:05	11/15/23 04:34	1
Perfluoro-3,6-dioxaheptanoic acid	ND		3.5	0.88	ng/L		10/31/23 15:05	11/15/23 04:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		7.0	0.88	ng/L		10/31/23 15:05	11/15/23 04:34	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid	ND		7.0	1.8	ng/L		10/31/23 15:05	11/15/23 04:34	1
PFEESA	ND		3.5	0.44	ng/L		10/31/23 15:05	11/15/23 04:34	1
3:3 FTCA	ND		8.8	1.3	ng/L		10/31/23 15:05	11/15/23 04:34	1
5:3 FTCA	ND		44	8.8	ng/L		10/31/23 15:05	11/15/23 04:34	1
7:3 FTCA	ND		44	8.8	ng/L		10/31/23 15:05	11/15/23 04:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	22.2		10 - 130	10/31/23 15:05	11/15/23 04:34	1
13C5 PFPeA	71.9		35 - 150	10/31/23 15:05	11/15/23 04:34	1
13C5 PFHxA	63.0		55 - 150	10/31/23 15:05	11/15/23 04:34	1
13C4 PFHpA	60.3		55 - 150	10/31/23 15:05	11/15/23 04:34	1
13C8 PFOA	68.1		60 - 140	10/31/23 15:05	11/15/23 04:34	1
13C9 PFNA	58.4		55 - 140	10/31/23 15:05	11/15/23 04:34	1
13C6 PFDA	58.4		50 - 140	10/31/23 15:05	11/15/23 04:34	1
13C7 PFUnA	52.4		30 - 140	10/31/23 15:05	11/15/23 04:34	1
13C2-PFDODA	44.8		10 - 150	10/31/23 15:05	11/15/23 04:34	1
13C2 PFTeDA	38.6		10 - 130	10/31/23 15:05	11/15/23 04:34	1
13C3 PFBS	62.8		55 - 150	10/31/23 15:05	11/15/23 04:34	1
13C3 PFHxS	60.2		55 - 150	10/31/23 15:05	11/15/23 04:34	1
13C8 PFOS	63.8		45 - 140	10/31/23 15:05	11/15/23 04:34	1
13C8 FOSA	55.3		30 - 130	10/31/23 15:05	11/15/23 04:34	1
d3-NMeFOSAA	53.6		45 - 200	10/31/23 15:05	11/15/23 04:34	1
d5-NEtFOSAA	51.2		10 - 200	10/31/23 15:05	11/15/23 04:34	1
M2-4:2 FTS	68.6		60 - 200	10/31/23 15:05	11/15/23 04:34	1
M2-6:2 FTS	66.5		60 - 200	10/31/23 15:05	11/15/23 04:34	1
M2-8:2 FTS	62.8		50 - 200	10/31/23 15:05	11/15/23 04:34	1
13C3 HFPO-DA	60.7		25 - 160	10/31/23 15:05	11/15/23 04:34	1
d7-N-MeFOSE-M	38.4		10 - 150	10/31/23 15:05	11/15/23 04:34	1
d9-N-EtFOSE-M	40.7		10 - 150	10/31/23 15:05	11/15/23 04:34	1
d5-NEtPFOSA	37.2		10 - 130	10/31/23 15:05	11/15/23 04:34	1
d3-NMePFOSA	42.9		15 - 130	10/31/23 15:05	11/15/23 04:34	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147072-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	2.1	J	7.1	1.8	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoropentanoic acid	0.99	J	3.5	0.88	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorohexanoic acid	1.2	J	1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoroheptanoic acid	ND		1.8	0.46	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorooctanoic acid	1.6	J	1.8	0.57	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorononanoic acid	0.68	J I *+ cn	1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorobutanesulfonic acid	1.6	J I	1.8	0.26	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoropentanesulfonic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorohexanesulfonic acid	ND		1.8	0.50	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoroheptanesulfonic acid	ND		1.8	0.35	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorooctanesulfonic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorononanesulfonic acid	ND		1.8	0.35	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorodecanesulfonic acid	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.79	ng/L		11/07/23 07:22	11/16/23 04:10	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		7.1	1.5	ng/L		11/07/23 07:22	11/16/23 04:10	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		7.1	2.2	ng/L		11/07/23 07:22	11/16/23 04:10	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		7.1	2.3	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluorooctanesulfonamide	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
NMeFOSA	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
N-ethylperfluoro-1-octanesulfonamide	ND		1.8	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
NMeFOSAA	ND	*+ cn	3.5	1.1	ng/L		11/07/23 07:22	11/16/23 04:10	1
NEtFOSAA	ND		1.8	0.62	ng/L		11/07/23 07:22	11/16/23 04:10	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		18	4.4	ng/L		11/07/23 07:22	11/16/23 04:10	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		18	4.4	ng/L		11/07/23 07:22	11/16/23 04:10	1
HFPO-DA	ND		7.1	1.8	ng/L		11/07/23 07:22	11/16/23 04:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		7.1	1.3	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoro-3-methoxypropanoic acid	ND		3.5	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoro(4-methoxybutanoic acid)	ND		3.5	0.88	ng/L		11/07/23 07:22	11/16/23 04:10	1
Perfluoro-3,6-dioxahexanoic acid	ND		3.5	0.88	ng/L		11/07/23 07:22	11/16/23 04:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		7.1	0.88	ng/L		11/07/23 07:22	11/16/23 04:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		7.1	1.8	ng/L		11/07/23 07:22	11/16/23 04:10	1
PFEESA	ND		3.5	0.44	ng/L		11/07/23 07:22	11/16/23 04:10	1
3:3 FTCA	ND	*+ cn	8.8	1.3	ng/L		11/07/23 07:22	11/16/23 04:10	1
5:3 FTCA	ND		44	8.8	ng/L		11/07/23 07:22	11/16/23 04:10	1
7:3 FTCA	ND		44	8.8	ng/L		11/07/23 07:22	11/16/23 04:10	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147072-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	26.9		10 - 130	11/07/23 07:22	11/16/23 04:10	1
13C5 PFPeA	99.4		35 - 150	11/07/23 07:22	11/16/23 04:10	1
13C5 PFHxA	86.3		55 - 150	11/07/23 07:22	11/16/23 04:10	1
13C4 PFHpA	97.2		55 - 150	11/07/23 07:22	11/16/23 04:10	1
13C8 PFOA	91.5		60 - 140	11/07/23 07:22	11/16/23 04:10	1
13C9 PFNA	92.7		55 - 140	11/07/23 07:22	11/16/23 04:10	1
13C6 PFDA	85.9		50 - 140	11/07/23 07:22	11/16/23 04:10	1
13C7 PFUnA	79.3		30 - 140	11/07/23 07:22	11/16/23 04:10	1
13C2-PFDoDA	59.8		10 - 150	11/07/23 07:22	11/16/23 04:10	1
13C2 PFTeDA	62.6		10 - 130	11/07/23 07:22	11/16/23 04:10	1
13C3 PFBS	94.2		55 - 150	11/07/23 07:22	11/16/23 04:10	1
13C3 PFHxS	102		55 - 150	11/07/23 07:22	11/16/23 04:10	1
13C8 PFOS	83.8		45 - 140	11/07/23 07:22	11/16/23 04:10	1
13C8 FOSA	93.3		30 - 130	11/07/23 07:22	11/16/23 04:10	1
d3-NMeFOSAA	60.8		45 - 200	11/07/23 07:22	11/16/23 04:10	1
d5-NEtFOSAA	70.7		10 - 200	11/07/23 07:22	11/16/23 04:10	1
M2-4:2 FTS	113		60 - 200	11/07/23 07:22	11/16/23 04:10	1
M2-6:2 FTS	121		60 - 200	11/07/23 07:22	11/16/23 04:10	1
M2-8:2 FTS	88.5		50 - 200	11/07/23 07:22	11/16/23 04:10	1
13C3 HFPO-DA	91.6		25 - 160	11/07/23 07:22	11/16/23 04:10	1
d7-N-MeFOSE-M	66.4		10 - 150	11/07/23 07:22	11/16/23 04:10	1
d9-N-EtFOSE-M	61.6		10 - 150	11/07/23 07:22	11/16/23 04:10	1
d5-NEtPFOSA	69.9		10 - 130	11/07/23 07:22	11/16/23 04:10	1
d3-NMePFOSA	73.5		15 - 130	11/07/23 07:22	11/16/23 04:10	1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147072-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	2.2	J	6.9	1.7	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoropentanoic acid	1.2	J	3.5	0.87	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorohexanoic acid	1.4	J	1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoroheptanoic acid	0.62	J	1.7	0.45	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorooctanoic acid	1.2	J	1.7	0.55	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorononanoic acid	0.76	J *+ cn	1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorodecanoic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoroundecanoic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorododecanoic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorotridecanoic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorotetradecanoic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorobutanesulfonic acid	1.7	I	1.7	0.26	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoropentanesulfonic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorohexanesulfonic acid	ND		1.7	0.49	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoroheptanesulfonic acid	ND		1.7	0.35	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorooctanesulfonic acid	0.58	J	1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorononanesulfonic acid	ND		1.7	0.35	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorodecanesulfonic acid	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.78	ng/L		11/07/23 07:22	11/16/23 04:23	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147072-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		6.9	1.5	ng/L		11/07/23 07:22	11/16/23 04:23	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		6.9	2.2	ng/L		11/07/23 07:22	11/16/23 04:23	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		6.9	2.3	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluorooctanesulfonamide	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
NMeFOSA	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
N-ethylperfluoro-1-octanesulfonamide	ND		1.7	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
NMeFOSAA	ND	*+ cn	3.5	1.0	ng/L		11/07/23 07:22	11/16/23 04:23	1
NEtFOSAA	ND		1.7	0.61	ng/L		11/07/23 07:22	11/16/23 04:23	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		17	4.3	ng/L		11/07/23 07:22	11/16/23 04:23	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		17	4.3	ng/L		11/07/23 07:22	11/16/23 04:23	1
HFPO-DA	ND		6.9	1.7	ng/L		11/07/23 07:22	11/16/23 04:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		6.9	1.3	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoro-3-methoxypropanoic acid	ND		3.5	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoro(4-methoxybutanoic acid)	ND		3.5	0.87	ng/L		11/07/23 07:22	11/16/23 04:23	1
Perfluoro-3,6-dioxaheptanoic acid	ND		3.5	0.87	ng/L		11/07/23 07:22	11/16/23 04:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		6.9	0.87	ng/L		11/07/23 07:22	11/16/23 04:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		6.9	1.7	ng/L		11/07/23 07:22	11/16/23 04:23	1
PFEESA	ND		3.5	0.43	ng/L		11/07/23 07:22	11/16/23 04:23	1
3:3 FTCA	ND	*+ cn	8.7	1.3	ng/L		11/07/23 07:22	11/16/23 04:23	1
5:3 FTCA	ND		43	8.7	ng/L		11/07/23 07:22	11/16/23 04:23	1
7:3 FTCA	ND		43	8.7	ng/L		11/07/23 07:22	11/16/23 04:23	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	25.5		10 - 130				11/07/23 07:22	11/16/23 04:23	1
13C5 PFPeA	78.8		35 - 150				11/07/23 07:22	11/16/23 04:23	1
13C5 PFHxA	72.6		55 - 150				11/07/23 07:22	11/16/23 04:23	1
13C4 PFHpA	79.5		55 - 150				11/07/23 07:22	11/16/23 04:23	1
13C8 PFOA	77.4		60 - 140				11/07/23 07:22	11/16/23 04:23	1
13C9 PFNA	75.9		55 - 140				11/07/23 07:22	11/16/23 04:23	1
13C6 PFDA	77.6		50 - 140				11/07/23 07:22	11/16/23 04:23	1
13C7 PFUnA	68.6		30 - 140				11/07/23 07:22	11/16/23 04:23	1
13C2-PFDoDA	59.4		10 - 150				11/07/23 07:22	11/16/23 04:23	1
13C2 PFTeDA	52.0		10 - 130				11/07/23 07:22	11/16/23 04:23	1
13C3 PFBS	86.0		55 - 150				11/07/23 07:22	11/16/23 04:23	1
13C3 PFHxS	83.3		55 - 150				11/07/23 07:22	11/16/23 04:23	1
13C8 PFOS	78.4		45 - 140				11/07/23 07:22	11/16/23 04:23	1
13C8 FOSA	87.0		30 - 130				11/07/23 07:22	11/16/23 04:23	1
d3-NMeFOSAA	57.0		45 - 200				11/07/23 07:22	11/16/23 04:23	1
d5-NEtFOSAA	64.5		10 - 200				11/07/23 07:22	11/16/23 04:23	1
M2-4:2 FTS	115		60 - 200				11/07/23 07:22	11/16/23 04:23	1
M2-6:2 FTS	107		60 - 200				11/07/23 07:22	11/16/23 04:23	1
M2-8:2 FTS	78.6		50 - 200				11/07/23 07:22	11/16/23 04:23	1

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147072-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79.4		25 - 160	11/07/23 07:22	11/16/23 04:23	1
d7-N-MeFOSE-M	56.0		10 - 150	11/07/23 07:22	11/16/23 04:23	1
d9-N-EtFOSE-M	53.3		10 - 150	11/07/23 07:22	11/16/23 04:23	1
d5-NEtPFOSA	62.0		10 - 130	11/07/23 07:22	11/16/23 04:23	1
d3-NMePFOSA	69.6		15 - 130	11/07/23 07:22	11/16/23 04:23	1

Client Sample ID: Field Blank

Lab Sample ID: 410-147072-7

Date Collected: 10/12/23 11:15

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		7.2	1.8	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoropentanoic acid	ND		3.6	0.90	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorohexanoic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoroheptanoic acid	ND		1.8	0.47	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorooctanoic acid	ND		1.8	0.58	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorononanoic acid	ND	*+ cn	1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorobutanesulfonic acid	ND		1.8	0.27	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoropentanesulfonic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorohexanesulfonic acid	ND		1.8	0.51	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoroheptanesulfonic acid	ND		1.8	0.36	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorooctanesulfonic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorononanesulfonic acid	ND		1.8	0.36	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorodecanesulfonic acid	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.81	ng/L		11/07/23 07:22	11/16/23 04:36	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		7.2	1.5	ng/L		11/07/23 07:22	11/16/23 04:36	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		7.2	2.3	ng/L		11/07/23 07:22	11/16/23 04:36	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		7.2	2.3	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluorooctanesulfonamide	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
NMeFOSA	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
N-ethylperfluoro-1-octanesulfonamide	ND		1.8	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
NMeFOSAA	ND	*+ cn	3.6	1.1	ng/L		11/07/23 07:22	11/16/23 04:36	1
NEtFOSAA	ND		1.8	0.63	ng/L		11/07/23 07:22	11/16/23 04:36	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		18	4.5	ng/L		11/07/23 07:22	11/16/23 04:36	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		18	4.5	ng/L		11/07/23 07:22	11/16/23 04:36	1
HFPO-DA	ND		7.2	1.8	ng/L		11/07/23 07:22	11/16/23 04:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		7.2	1.4	ng/L		11/07/23 07:22	11/16/23 04:36	1

Eurolins Lancaster Laboratories Environment Testing, LLC

Client Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: Field Blank

Lab Sample ID: 410-147027-7

Date Collected: 10/12/23 11:15

Matrix: Water

Date Received: 10/13/23 17:37

Method: EPA 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid	ND		3.6	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoro(4-methoxybutanoic acid)	ND		3.6	0.90	ng/L		11/07/23 07:22	11/16/23 04:36	1
Perfluoro-3,6-dioxahexanoic acid	ND		3.6	0.90	ng/L		11/07/23 07:22	11/16/23 04:36	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid	ND		7.2	0.90	ng/L		11/07/23 07:22	11/16/23 04:36	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid	ND		7.2	1.8	ng/L		11/07/23 07:22	11/16/23 04:36	1
PFEESA	ND		3.6	0.45	ng/L		11/07/23 07:22	11/16/23 04:36	1
3:3 FTCA	ND	*+ cn	9.0	1.4	ng/L		11/07/23 07:22	11/16/23 04:36	1
5:3 FTCA	ND		45	9.0	ng/L		11/07/23 07:22	11/16/23 04:36	1
7:3 FTCA	ND		45	9.0	ng/L		11/07/23 07:22	11/16/23 04:36	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	84.5		10 - 130				11/07/23 07:22	11/16/23 04:36	1
13C5 PFPeA	78.1		35 - 150				11/07/23 07:22	11/16/23 04:36	1
13C5 PFHxA	87.0		55 - 150				11/07/23 07:22	11/16/23 04:36	1
13C4 PFHpA	91.3		55 - 150				11/07/23 07:22	11/16/23 04:36	1
13C8 PFOA	82.0		60 - 140				11/07/23 07:22	11/16/23 04:36	1
13C9 PFNA	81.3		55 - 140				11/07/23 07:22	11/16/23 04:36	1
13C6 PFDA	82.3		50 - 140				11/07/23 07:22	11/16/23 04:36	1
13C7 PFUnA	78.1		30 - 140				11/07/23 07:22	11/16/23 04:36	1
13C2-PFDoDA	80.5		10 - 150				11/07/23 07:22	11/16/23 04:36	1
13C2 PFTeDA	82.3		10 - 130				11/07/23 07:22	11/16/23 04:36	1
13C3 PFBS	81.2		55 - 150				11/07/23 07:22	11/16/23 04:36	1
13C3 PFHxS	89.7		55 - 150				11/07/23 07:22	11/16/23 04:36	1
13C8 PFOS	87.2		45 - 140				11/07/23 07:22	11/16/23 04:36	1
13C8 FOSA	89.2		30 - 130				11/07/23 07:22	11/16/23 04:36	1
d3-NMeFOSAA	74.2		45 - 200				11/07/23 07:22	11/16/23 04:36	1
d5-NEtFOSAA	84.2		10 - 200				11/07/23 07:22	11/16/23 04:36	1
M2-4:2 FTS	89.4		60 - 200				11/07/23 07:22	11/16/23 04:36	1
M2-6:2 FTS	111		60 - 200				11/07/23 07:22	11/16/23 04:36	1
M2-8:2 FTS	90.5		50 - 200				11/07/23 07:22	11/16/23 04:36	1
13C3 HFPO-DA	90.9		25 - 160				11/07/23 07:22	11/16/23 04:36	1
d7-N-MeFOSE-M	78.3		10 - 150				11/07/23 07:22	11/16/23 04:36	1
d9-N-EtFOSE-M	78.2		10 - 150				11/07/23 07:22	11/16/23 04:36	1
d5-NEtPFOSA	69.3		10 - 130				11/07/23 07:22	11/16/23 04:36	1
d3-NMePFOSA	71.4		15 - 130				11/07/23 07:22	11/16/23 04:36	1

Eurofins Lancaster Laboratories Environment Testing, LLC

Sediment Grain Size - D422

Client
 Client Sample ID
 Lab Sample ID 410-147027-A-1

Date Received
 Start Date 10/31/2023 10:31
 End Date 11/09/2023 14:44

Dry Weight Determination

Tin Weight 0.81 g
 Wet Sample + Tin 8.16 g
 Dry Sample + Tin 4.40 g
 % Moisture 51.16 %

Non-soil material:
 Shape (> #10):
 Hardness (> #10):

Date/Time in oven 11/04/2023 1:35
 Date/Time out of oven 11/09/2023 3:23

Sample Weights

	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	128.29	196.23	67.94
Sample Weight (Oven Dried)			33.2

Hydrometer Data

Serial Number 237666
 Calib. Date (mm/dd/yyyy) 07/25/2022
 Low Temp (C) 17.0
 Reading at Low Temp 1.0010
 High Temp (C) 23.0
 Reading at High Temp 1.0005
 Hydrometer Cal Slope -8.33333E-05
 Hydrometer Cal Intercept 1.002416667
 Default Soil Gravity 2.6500

Sample Split (oven dried)

	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0
Sample <#10			33.2
% Passing #10			48.9

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500			0.00 g	100.0	Gravel	
#4	4750			0.00 g	100.0	Gravel	
#10	2000	450.90	450.90	0.00 g	100.0	Sand	Coarse
#20	850	340.17	340.23	0.06 g	99.8	Sand	Medium
#40	425	347.53	348.17	0.64 g	97.9	Sand	Medium
#60	250	329.37	330.15	0.78 g	95.6	Sand	Fine
#80	180	325.86	326.66	0.80 g	93.2	Sand	Fine
#100	150	317.32	317.55	0.23 g	92.5	Sand	Fine
#200	75	216.20	216.83	0.63 g	90.6	Sand	Fine
				0.00 g	90.6		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g) 33.2

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
	2	1.0150	21.0	33.5	69.3	Silt	
	5	1.0135	21.0	21.5	62.1	Silt	
	15	1.0125	21.0	12.5	57.2	Silt	
	30	1.0120	21.0	8.9	54.8	Silt	
	60	1.0110	21.0	6.4	50	Silt	
	250	1.0090	21.0	3.2	40.3	Clay	
	1440	1.0080	21.0	1.3	35.5	Clay	

Eurofins Lancaster Laboratories Environment Testing, LLC

Sediment Grain Size - D422

Client		Date Received	
Client Sample ID		Start Date	10/31/2023 10:31
Lab Sample ID	410-147027-B-2	End Date	11/09/2023 14:46

Dry Weight Determination		Non-soil material:	
Tin Weight	0.80 g	Shape (> #10):	
Wet Sample + Tin	6.99 g	Hardness (> #10):	
Dry Sample + Tin	4.86 g		
% Moisture	34.41 %		
		Date/Time in oven	11/04/2023 1:35
		Date/Time out of oven	11/09/2023 3:31

Sample Weights				Hydrometer Data	
	Tare (g)	Pan+Samp (g)	Samp (g)	Serial Number	237666
Sample Weight (Wet)	114.07	169.92	55.85	Calib. Date (mm/dd/yyyy)	07/25/2022
Sample Weight (Oven Dried)			36.6	Low Temp (C)	17.0
Sample Split (oven dried)				Reading at Low Temp	1.0010
	Tare (g)	Pan+Samp (g)	Samp (g)	High Temp (C)	23.0
Sample >=#10			0	Reading at High Temp	1.0005
Sample <#10			36.6	Hydrometer Cal Slope	-8.33333E-05
% Passing #10			65.5	Hydrometer Cal Intercept	1.002416667
				Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)							
Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500			0.00 g	100.0	Gravel	
#4	4750			0.00 g	100.0	Gravel	
#10	2000	450.90	450.90	0.00 g	100.0	Sand	Coarse
#20	850	340.17	340.34	0.17 g	99.5	Sand	Medium
#40	425	347.53	348.68	1.15 g	96.4	Sand	Medium
#60	250	329.37	332.69	3.32 g	87.3	Sand	Fine
#80	180	325.86	327.51	1.65 g	82.8	Sand	Fine
#100	150	317.32	318.23	0.91 g	80.3	Sand	Fine
#200	75	216.20	218.45	2.25 g	74.2	Sand	Fine
				0.00 g	74.2		

Adjusted Hydrometer Sample Mass	
Hydrometer Sample Mass (g)	36.6

Silt/Clay Fraction (Hydrometer Test)								
Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class	
	2	2	1.0115	21.0	34.7	47.5	Silt	
	5	5	1.0105	21.0	22.2	43.2	Silt	
	15	15	1.0100	21.0	12.9	41	Silt	
	30	30	1.0095	21.0	9.1	38.8	Silt	
	60	60	1.0085	21.0	6.5	34.4	Silt	
	250	250	1.0070	21.0	3.2	27.8	Clay	
	1440	1440	1.0070	21.0	1.4	27.8	Clay	

Eurofins Lancaster Laboratories Environment Testing, LLC

Sediment Grain Size - D422

Client
 Client Sample ID
 Lab Sample ID 410-147027-B-3

Date Received
 Start Date 10/31/2023 10:31
 End Date 11/09/2023 14:48

Dry Weight Determination

Tin Weight 0.81 g
 Wet Sample + Tin 8.16 g
 Dry Sample + Tin 4.40 g
 % Moisture 51.16 %

Non-soil material:
 Shape (> #10):
 Hardness (> #10):

Date/Time in oven 11/04/2023 1:35
 Date/Time out of oven 11/09/2023 3:36

Sample Weights

	Tare (g)	Pan+Samp (g)	Samp (g)
Sample Weight (Wet)	131.12	192.25	61.13
Sample Weight (Oven Dried)			29.9

Hydrometer Data

Serial Number 237666
 Calib. Date (mm/dd/yyyy) 07/25/2022
 Low Temp (C) 17.0
 Reading at Low Temp 1.0010
 High Temp (C) 23.0
 Reading at High Temp 1.0005
 Hydrometer Cal Slope -8.33333E-05
 Hydrometer Cal Intercept 1.002416667
 Default Soil Gravity 2.6500

Sample Split (oven dried)

	Tare (g)	Pan+Samp (g)	Samp (g)
Sample >=#10			0
Sample <#10			29.9
% Passing #10			48.9

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500			0.00 g	100.0	Gravel	
#4	4750			0.00 g	100.0	Gravel	
#10	2000	450.90	450.90	0.00 g	100.0	Sand	Coarse
#20	850	340.17	340.46	0.29 g	99.0	Sand	Medium
#40	425	347.53	349.97	2.44 g	90.8	Sand	Medium
#60	250	329.37	334.54	5.17 g	73.5	Sand	Fine
#80	180	325.86	328.19	2.33 g	65.7	Sand	Fine
#100	150	317.32	319.23	1.91 g	59.3	Sand	Fine
#200	75	216.20	221.28	5.08 g	42.3	Sand	Fine
				0.00 g	42.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g) 29.9

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
	2	2	1.0080	21.0	35.9	39.4 Silt	
	5	5	1.0075	21.0	22.8	36.7 Silt	
	15	15	1.0070	21.0	13.2	34 Silt	
	30	30	1.0065	21.0	9.4	31.3 Silt	
	60	60	1.0060	21.0	6.7	28.6 Silt	
	250	250	1.0050	21.0	3.3	23.3 Clay	
	1440	1440	1.0050	21.0	1.4	23.3 Clay	

Surrogate Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FLN10 (38-120)	MNPd10 (38-96)	BAPd12 (37-123)
410-147027-1	SED Comp 1	71	70	58
410-147027-1 MS	SED Comp 1	79	65	71
410-147027-1 MSD	SED Comp 1	82	81	67
410-147027-2	SED Comp 2	94	82	79
410-147027-3	SED Comp 3	95	83	83
LCS 410-432561/2-A	Lab Control Sample	79	65	76
MB 410-432561/1-A	Method Blank	86	76	85

Surrogate Legend

FLN10 = Fluoranthene-d10 (Surr)
MNPd10 = 1-Methylnaphthalene-d10
BAPd12 = Benzo(a)pyrene-d12 (Surr)

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FLN10 (53-132)	MNPd10 (56-120)	BAPd12 (33-124)
410-147027-4	SW Comp 1	97	97	90
410-147027-5	SW Comp 2	95	89	87
410-147027-6	SW Comp 3	99	89	90
LCS 410-432041/2-A	Lab Control Sample	90	75	87
LCSd 410-432041/3-A	Lab Control Sample Dup	94	81	93
MB 410-432041/1-A	Method Blank	100	93	92

Surrogate Legend

FLN10 = Fluoranthene-d10 (Surr)
MNPd10 = 1-Methylnaphthalene-d10
BAPd12 = Benzo(a)pyrene-d12 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (54-143)	DCB2 (54-143)	TCX1 (20-131)	TCX2 (20-131)
410-147027-1	SED Comp 1	27 S1- cn	27 S1- cn	6 S1- cn	6 S1- cn
410-147027-1 MS	SED Comp 1	48 S1- cn	47 S1- cn	47 cn	52 cn
410-147027-1 MSD	SED Comp 1	51 S1- cn	47 S1- cn	69 cn	48 cn
410-147027-2	SED Comp 2	32 S1- cn	32 S1- cn	4 S1- cn	4 S1- cn
410-147027-3	SED Comp 3	37 S1- cn	38 S1- cn	36 cn	34 cn
LCS 410-433154/2-A	Lab Control Sample	82	84	51	51
MB 410-433154/1-A	Method Blank	104	103	68	70

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Surrogate Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (20-149)	DCB2 (20-149)	TCX1 (20-129)	TCX2 (20-129)
410-147027-4	SW Comp 1	42	40	63	70
410-147027-5	SW Comp 2	61	61	62	62
410-147027-6	SW Comp 3	65	63	66	67
LCS 410-432062/2-A	Lab Control Sample	61	59	70	78
LCS 410-432569/2-A	Lab Control Sample	65	65	53	53
MB 410-432062/1-A	Method Blank	44	44	61	67
MB 410-432569/1-A	Method Blank	62	59	50	49

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene (Surr)

Isotope Dilution Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (20-150)	PFPeA (20-150)	13C5PHA (20-150)	C4PFHA (20-150)	C8PFOA (20-150)	C9PFNA (20-150)	C6PFDA (20-150)	13C7PUA (20-150)
410-147072-1	SED Comp 1	86.1	87.8	86.3	86.0	65.3	83.0	83.0	80.8
410-147072-2	SED Comp 2	87.6	79.7	81.6	86.2	93.6	86.4	85.0	87.4
410-147072-2 - RE	SED Comp 2								
410-147072-3	SED Comp 3	105	105	102	106	99.0	97.2	102	101
410-147072-3 DU	SED Comp 3	107	103	97.6	104	121	99.3	95.2	99.9
LCS 410-432683/2-A	Lab Control Sample	106	111	105	109	104	103	98.2	104
LCS 410-442336/2-A	Lab Control Sample	95.4	84.3	87.4	86.1	107	100	97.6	91.8
LLCS 410-432683/3-A	Lab Control Sample	106	99.0	105	102	122	102	103	105
LLCS 410-442336/3-A	Lab Control Sample	97.2	84.7	76.7	101	93.2	90.1	93.8	80.9
MB 410-432683/1-A	Method Blank	104	111	99.8	102	90.9	98.4	98.1	96.3
MB 410-442336/1-A	Method Blank	76.0	84.8	81.1	102	87.2	104	99.6	85.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDODA (20-150)	PFTDA (20-150)	C3PFBS (20-150)	C3PFHS (20-150)	C8PFOS (20-150)	PFOSA (20-150)	d3NMFOS (20-150)	d5NEFOS (20-150)
410-147072-1	SED Comp 1	77.6	69.3	81.9	84.5	82.9	73.0	79.3	76.3
410-147072-2	SED Comp 2	79.4	67.0	93.4	90.5	86.9	77.8	89.6	83.4
410-147072-2 - RE	SED Comp 2								
410-147072-3	SED Comp 3	101	93.0	116	108	101	93.1	103	101
410-147072-3 DU	SED Comp 3	95.0	88.0	110	101	101	92.8	98.5	95.8
LCS 410-432683/2-A	Lab Control Sample	95.2	88.5	108	106	103	93.9	104	96.5
LCS 410-442336/2-A	Lab Control Sample	81.6	83.6	82.8	97.1	97.1	97.0	89.1	86.3
LLCS 410-432683/3-A	Lab Control Sample	98.3	86.5	114	103	103	92.7	102	96.9
LLCS 410-442336/3-A	Lab Control Sample	94.4	95.1	102	104	101	112	81.9	77.7
MB 410-432683/1-A	Method Blank	90.0	82.7	108	99.1	97.1	84.9	98.6	92.2
MB 410-442336/1-A	Method Blank	91.2	87.3	99.7	107	99.8	118	81.9	91.9

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (20-150)	M262FTS (20-150)	M282FTS (20-150)	HFPODA (20-150)	NMFM (20-150)	NEFM (20-150)	d5NPFSA (20-150)	d3NMFSA (20-150)
410-147072-1	SED Comp 1	99.6	98.2	74.6	86.3	62.2	58.5	61.4	63.5
410-147072-2	SED Comp 2	93.9	102	89.2	85.5	30.1		59.7	60.5
410-147072-2 - RE	SED Comp 2						64.3		
410-147072-3	SED Comp 3	119	117	114	105	85.6	85.4	87.7	84.2
410-147072-3 DU	SED Comp 3	116	112	115	101	82.7	81.8	78.3	82.6
LCS 410-432683/2-A	Lab Control Sample	109	111	100	104	90.0	89.3	76.5	76.5
LCS 410-442336/2-A	Lab Control Sample	98.6	89.4	92.5	85.5	75.8	73.2	58.2	66.2
LLCS 410-432683/3-A	Lab Control Sample	115	110	102	106	92.5	94.1	71.2	69.5
LLCS 410-442336/3-A	Lab Control Sample	118	121	93.2	96.9	76.2	76.2	53.1	56.6
MB 410-432683/1-A	Method Blank	102	106	115	104	90.6	85.8	70.8	75.0
MB 410-442336/1-A	Method Blank	121	127	104	94.2	82.9	80.3	58.4	65.9

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- C6PFDA = 13C6 PFDA
- 13C7PUA = 13C7 PFUnA

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

PFDODA = 13C2-PFDODA
 PFTDA = 13C2 PFTeDA
 C3PFBS = 13C3 PFBS
 C3PFHS = 13C3 PFHxS
 C8PFOS = 13C8 PFOS
 PFOSA = 13C8 FOSA
 d3NMFOS = d3-NMeFOSAA
 d5NEFOS = d5-NEtFOSAA
 M242FTS = M2-4:2 FTS
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 HFPODA = 13C3 HFPO-DA
 NMFM = d7-N-MeFOSE-M
 NEFM = d9-N-EtFOSE-M
 d5NPFSA = d5-NEtPFOSA
 d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (10-130)	PFPeA (35-150)	13C5PHA (55-150)	C4PFHA (55-150)	C8PFOA (60-140)	C9PFNA (55-140)	C6PFDA (50-140)	13C7PUA (30-140)
410-147072-4	SW Comp 1	22.2	71.9	63.0	60.3	68.1	58.4	58.4	52.4
410-147072-5	SW Comp 2	26.9	99.4	86.3	97.2	91.5	92.7	85.9	79.3
410-147072-6	SW Comp 3	25.5	78.8	72.6	79.5	77.4	75.9	77.6	68.6
410-147072-7	Field Blank	84.5	78.1	87.0	91.3	82.0	81.3	82.3	78.1
MB 410-437922/1-A	Method Blank	93.9	97.8	97.3	103	94.8	95.0	88.3	72.1
MB 410-440339/1-A	Method Blank	76.8	81.0	83.8	91.4	86.7	77.4	79.1	79.7

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDODA (10-150)	PFTDA (10-130)	C3PFBS (55-150)	C3PFHS (55-150)	C8PFOS (45-140)	PFOSA (30-130)	d3NMFOS (45-200)	d5NEFOS (10-200)
410-147072-4	SW Comp 1	44.8	38.6	62.8	60.2	63.8	55.3	53.6	51.2
410-147072-5	SW Comp 2	59.8	62.6	94.2	102	83.8	93.3	60.8	70.7
410-147072-6	SW Comp 3	59.4	52.0	86.0	83.3	78.4	87.0	57.0	64.5
410-147072-7	Field Blank	80.5	82.3	81.2	89.7	87.2	89.2	74.2	84.2
MB 410-437922/1-A	Method Blank	71.4	71.4	96.3	100	92.2	83.9	104	99.2
MB 410-440339/1-A	Method Blank	76.6	87.1	75.6	83.8	78.3	86.8	70.2	70.0

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (60-200)	M262FTS (60-200)	M282FTS (50-200)	HFPODA (25-160)	NMFM (10-150)	NEFM (10-150)	d5NPFSA (10-130)	d3NMFSA (15-130)
410-147072-4	SW Comp 1	68.6	66.5	62.8	60.7	38.4	40.7	37.2	42.9
410-147072-5	SW Comp 2	113	121	88.5	91.6	66.4	61.6	69.9	73.5
410-147072-6	SW Comp 3	115	107	78.6	79.4	56.0	53.3	62.0	69.6
410-147072-7	Field Blank	89.4	111	90.5	90.9	78.3	78.2	69.3	71.4
MB 410-437922/1-A	Method Blank	109	115	90.4	99.2	68.4	66.5	47.3	49.5
MB 410-440339/1-A	Method Blank	79.2	84.4	84.1	88.2	72.9	73.0	66.3	65.3

Surrogate Legend

PFBA = 13C4 PFBA
 PFPeA = 13C5 PFPeA
 13C5PHA = 13C5 PFHxA
 C4PFHA = 13C4 PFHpA
 C8PFOA = 13C8 PFOA
 C9PFNA = 13C9 PFNA
 C6PFDA = 13C6 PFDA

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

13C7PUA = 13C7 PFUnA
 PFDoDA = 13C2-PFDoDA
 PFTDA = 13C2 PFTeDA
 C3PFBS = 13C3 PFBS
 C3PFHS = 13C3 PFHxS
 C8PFOS = 13C8 PFOS
 PFOSA = 13C8 FOSA
 d3NMFOS = d3-NMeFOSAA
 d5NEFOS = d5-NEtFOSAA
 M242FTS = M2-4:2 FTS
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 HFPODA = 13C3 HFPO-DA
 NMFm = d7-N-MeFOSE-M
 NEFM = d9-N-EtFOSE-M
 d5NPFSA = d5-NEtPFOSA
 d3NMFSA = d3-NMePFOSA

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (10-130)	PFPeA (40-150)	13C5PHA (40-150)	C4PFHA (40-150)	C8PFOA (30-140)	C9PFNA (30-140)	C6PFDA (20-140)	13C7PUA (20-140)
LCS 410-437922/2-A	Lab Control Sample	93.7	94.0	98.5	96.4	97.5	86.8	86.2	72.5
LCS 410-440339/2-A	Lab Control Sample	91.6	86.4	90.3	92.6	88.1	107	89.4	90.1
LLCS 410-437922/3-A	Lab Control Sample	94.6	106	103	106	105	107	94.7	81.0
LLCS 410-440339/3-A	Lab Control Sample	92.3	82.9	96.7	96.7	95.7	86.4	94.7	90.1

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoDA (10-150)	PFTDA (10-130)	C3PFBS (25-150)	C3PFHS (25-150)	C8PFOS (20-140)	PFOSA (10-130)	d3NMFOS (10-200)	d5NEFOS (10-200)
LCS 410-437922/2-A	Lab Control Sample	70.7	73.5	95.6	101	91.7	84.3	107	106
LCS 410-440339/2-A	Lab Control Sample	91.2	97.9	92.9	96.2	96.7	101	76.5	91.6
LLCS 410-437922/3-A	Lab Control Sample	82.4	83.0	86.5	94.8	90.3	86.7	111	113
LLCS 410-440339/3-A	Lab Control Sample	88.5	102	98.7	98.8	94.0	98.1	82.8	88.4

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (25-200)	M262FTS (25-200)	M282FTS (25-200)	HFPODA (25-160)	NMFm (10-150)	NEFM (10-150)	d5NPFSA (10-130)	d3NMFSA (10-130)
LCS 410-437922/2-A	Lab Control Sample	120	109	109	91.9	79.4	77.2	52.4	53.5
LCS 410-440339/2-A	Lab Control Sample	90.5	112	93.8	95.4	87.7	89.3	73.0	74.3
LLCS 410-437922/3-A	Lab Control Sample	117	111	96.6	100	77.8	78.0	52.6	53.6
LLCS 410-440339/3-A	Lab Control Sample	95.3	109	94.6	92.8	81.2	83.1	73.8	76.8

Surrogate Legend

PFBA = 13C4 PFBA
 PFPeA = 13C5 PFPeA
 13C5PHA = 13C5 PFHxA
 C4PFHA = 13C4 PFHpA
 C8PFOA = 13C8 PFOA
 C9PFNA = 13C9 PFNA
 C6PFDA = 13C6 PFDA
 13C7PUA = 13C7 PFUnA
 PFDoDA = 13C2-PFDoDA
 PFTDA = 13C2 PFTeDA
 C3PFBS = 13C3 PFBS
 C3PFHS = 13C3 PFHxS

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

C8PFOS = 13C8 PFOS
 PFOSA = 13C8 FOSA
 d3NMFOS = d3-NMeFOSAA
 d5NEFOS = d5-NEtFOSAA
 M242FTS = M2-4:2 FTS
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 HFPODA = 13C3 HFPO-DA
 NMFm = d7-N-MeFOSE-M
 NEFM = d9-N-EtFOSE-M
 d5NPFSA = d5-NEtPFOSA
 d3NMFSA = d3-NMePFOSA

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDD (23-140)	HpCDF (28-143)	HxCDD (32-141)	HxCDF (26-152)	HpCDF2 (26-138)	HxDD (28-130)	HxDF (26-123)	PeCDD (25-181)
410-147027-1	SED Comp 1	49	39	56	50	47	56	49	54
410-147027-2	SED Comp 2	50	48	56	51	50	59	50	51
410-147027-3	SED Comp 3	50	47	59	62	52	61	60	65
MB 410-443803/1-A	Method Blank	66	60	70	71	69	72	71	66

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCDF (24-185)	13CHxCD (28-130)	HxCF (29-147)	13CHxCF (28-136)	PeCF (21-178)	TCDD (25-164)	TCDF (24-169)	OCDD (17-157)
410-147027-1	SED Comp 1	55	57	47	53	55	69	57	56
410-147027-2	SED Comp 2	55	57	45	52	56	66	56	54
410-147027-3	SED Comp 3	69	63	47	53	71	81	68	57
MB 410-443803/1-A	Method Blank	70	77	64	68	71	76	72	84

		OCDF (17-157)
Lab Sample ID	Client Sample ID	OCDF (17-157)
410-147027-1	SED Comp 1	54
410-147027-2	SED Comp 2	46
410-147027-3	SED Comp 3	52
MB 410-443803/1-A	Method Blank	79

Surrogate Legend

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

Isotope Dilution Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDD (26-166)	HpCDF (21-158)	HxCDD (21-193)	HxCDF (19-202)	HpCDF2 (20-186)	HxDD (25-163)	HxDF (21-159)	PeCDD (21-227)
LCS 410-443803/2-A	Lab Control Sample	68	61	71	72	71	73	72	66

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCDF (21-192)	13CHxCD (25-163)	HxCF (17-205)	13CHxCF (22-176)	PeCF (13-328)	TCDD (20-175)	TCDF (22-152)	OCDD (13-199)
LCS 410-443803/2-A	Lab Control Sample	69	77	63	71	70	79	71	83

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	OCDF (13-199)							
LCS 410-443803/2-A	Lab Control Sample	82							

Surrogate Legend

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

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HpCDD (23-140)	HpCDF (28-143)	HxCDD (32-141)	HxCDF (26-152)	HpCDF2 (26-138)	HxDD (28-130)	HxDF (26-123)	PeCDD (25-181)
410-147027-4	SW Comp 1	86	82	84	93	89	87	95	86
410-147027-5	SW Comp 2	67	63	68	71	66	68	72	60
410-147027-6	SW Comp 3	67	69	74	79	72	75	85	63
MB 410-443481/1-A	Method Blank	73	75	87	90	75	85	86	80

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PeCDF (24-185)	13CHxCD (28-130)	HxCF (29-147)	13CHxCF (28-136)	PeCF (21-178)	TCDD (25-164)	TCDF (24-169)	OCDD (17-157)
410-147027-4	SW Comp 1	84	93	86	87	86	91	87	89
410-147027-5	SW Comp 2	63	74	70	73	63	69	66	62
410-147027-6	SW Comp 3	65	77	73	78	65	71	71	65
MB 410-443481/1-A	Method Blank	81	93	79	84	81	91	76	74

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	OCDF (17-157)							
410-147027-4	SW Comp 1	93							

Eurofins Lancaster Laboratories Environment Testing, LLC

Isotope Dilution Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OCDF (17-157)
410-147027-5	SW Comp 2	61
410-147027-6	SW Comp 3	63
MB 410-443481/1-A	Method Blank	70

Surrogate Legend

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

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HpCDD (26-166)	HpCDF (21-158)	HxCDD (21-193)	HxCDF (19-202)	HpCDF2 (20-186)	HxDD (25-163)	HxDF (21-159)	PeCDD (21-227)
LCS 410-443481/2-A	Lab Control Sample	76	76	86	88	76	89	89	80

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PeCDF (21-192)	13CHxCD (25-163)	HxCF (17-205)	13CHxCF (22-176)	PeCF (13-328)	TCDD (20-175)	TCDF (22-152)	OCDD (13-199)
LCS 410-443481/2-A	Lab Control Sample	79	93	83	86	81	93	79	74

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OCDF (13-199)
LCS 410-443481/2-A	Lab Control Sample	68

Surrogate Legend

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
 HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
 HxCDD = 13C-1,2,3,4,7,8-HxCDD
 HxCDF = 13C-1,2,3,4,7,8-HxCDF
 HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
 HxDD = 13C-1,2,3,6,7,8-HxCDD
 HxDF = 13C-1,2,3,6,7,8-HxCDF
 PeCDD = 13C-1,2,3,7,8-PeCDD
 PeCDF = 13C-1,2,3,7,8-PeCDF
 13CHxCD = 13C-1,2,3,7,8,9-HxCDD
 HxCF = 13C-1,2,3,7,8,9-HxCDF

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

PeCF = 13C-2,3,4,7,8-PeCDF

TCDD = 13C-2,3,7,8-TCDD

TCDF = 13C-2,3,7,8-TCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB1L (5-145)	PCB3L (5-145)	PCB4L (5-145)	PCB8L (5-145)	PCB15L (5-145)	PCB19L (5-145)	PCB31L (5-145)	PCB32L (5-145)
410-147027-1	SED Comp 1	42	46	57	41	44	51	48	55
410-147027-2	SED Comp 2	34	38	45	34	43	45	48	51
410-147027-3	SED Comp 3	38	46	53	37	39	50	44	48
MB 410-443808/1-B	Method Blank	43	44	55	45	52	59	48	61

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB37L (5-145)	PCB47L (5-145)	PCB54L (5-145)	PCB60L (10-145)	PCB70L (10-145)	PCB77L (10-145)	PCB81L (10-145)	PCB85L (10-145)
410-147027-1	SED Comp 1	47	42	51	50	46	56	54	63
410-147027-2	SED Comp 2	44	40	49	49	44	59	58	59
410-147027-3	SED Comp 3	42	38	55	52	42	65	60	59
MB 410-443808/1-B	Method Blank	61	57	71	66	68	77	72	80

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB95L (10-145)	PCB104L (10-145)	PCB105L (10-145)	PCB114L (10-145)	PCB118L (10-145)	PCB123L (10-145)	PCB126L (10-145)	PCB127L (10-145)
410-147027-1	SED Comp 1	45	46	52	49	44	44	54	48
410-147027-2	SED Comp 2	45	44	47	46	42	44	52	45
410-147027-3	SED Comp 3	46	44	62	53	53	55	60	57
MB 410-443808/1-B	Method Blank	67	66	75	70	67	72	73	68

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB155L (10-145)	156157L (10-145)	PCB167L (10-145)	PCB169L (10-145)	PCB180L (10-145)	PCB188L (10-145)	PCB189L (10-145)	PCB202L (10-145)
410-147027-1	SED Comp 1	65	62	60	61	70	69	62	72
410-147027-2	SED Comp 2	58	57	55	57	57	58	54	64
410-147027-3	SED Comp 3	57	61	58	61	68	72	66	78
MB 410-443808/1-B	Method Blank	80	80	74	79	76	89	75	87

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB205L (10-145)	PCB206L (10-145)	PCB208L (10-145)	PCB209L (10-145)	PCB128L (10-145)	PCB133L (10-145)	PCB141L (10-145)	PCB162L (10-145)
410-147027-1	SED Comp 1	62	79	76	72	68	57	61	55
410-147027-2	SED Comp 2	58	67	65	69	58	48	49	50
410-147027-3	SED Comp 3	79	86	81	85	64	58	63	53
MB 410-443808/1-B	Method Blank	86	99	88	101	83	76	78	66

Surrogate Legend

- PCB1L = PCB-1L
- PCB3L = PCB-3L
- PCB4L = PCB-4L
- PCB8L = PCB-8L
- PCB15L = PCB-15L
- PCB19L = PCB-19L
- PCB31L = PCB-31L
- PCB32L = PCB-32L
- PCB37L = PCB-37L

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

- PCB47L = PCB-47L
- PCB54L = PCB-54L
- PCB60L = PCB-60L
- PCB70L = PCB-70L
- PCB77L = PCB-77L
- PCB81L = PCB-81L
- PCB85L = PCB-85L
- PCB95L = PCB-95L
- PCB104L = PCB-104L
- PCB105L = PCB-105L
- PCB114L = PCB-114L
- PCB118L = PCB-118L
- PCB123L = PCB-123L
- PCB126L = PCB-126L
- PCB127L = PCB-127L
- PCB155L = PCB-155L
- 156157L = PCB-156L/157L
- PCB167L = PCB-167L
- PCB169L = PCB-169L
- PCB180L = PCB-180L
- PCB188L = PCB-188L
- PCB189L = PCB-189L
- PCB202L = PCB-202L
- PCB205L = PCB-205L
- PCB206L = PCB-206L
- PCB208L = PCB-208L
- PCB209L = PCB-209L
- PCB128L = PCB-128L
- PCB133L = PCB-133L
- PCB141L = PCB-141L
- PCB162L = PCB-162L

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB1L (15-145)	PCB3L (15-145)	PCB4L (15-145)	PCB8L (15-145)	PCB15L (15-145)	PCB19L (15-145)	PCB31L (15-145)	PCB32L (15-145)
LCS 410-443808/2-B	Lab Control Sample	33	44	54	39	43	49	47	52
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB37L (15-145)	PCB47L (15-145)	PCB54L (15-145)	PCB60L (40-145)	PCB70L (40-145)	PCB77L (40-145)	PCB81L (40-145)	PCB85L (40-145)
LCS 410-443808/2-B	Lab Control Sample	57	56	66	68	53	74	66	63
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB95L (40-145)	PCB104L (40-145)	PCB105L (40-145)	PCB114L (40-145)	PCB118L (40-145)	PCB123L (40-145)	PCB126L (40-145)	PCB127L (40-145)
LCS 410-443808/2-B	Lab Control Sample	58	55	61	59	54	59	62	59
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB155L (40-145)	156157L (40-145)	PCB167L (40-145)	PCB169L (40-145)	PCB180L (40-145)	PCB188L (40-145)	PCB189L (40-145)	PCB202L (40-145)
LCS 410-443808/2-B	Lab Control Sample	79	71	69	76	70	74	73	79
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB205L (40-145)	PCB206L (40-145)	PCB208L (40-145)	PCB209L (40-145)	PCB128L (40-145)	PCB133L (40-145)	PCB141L (40-145)	PCB162L (40-145)
LCS 410-443808/2-B	Lab Control Sample	82	90	92	92	77	73	61	64

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Isotope Dilution Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Surrogate Legend

PCB1L = PCB-1L
 PCB3L = PCB-3L
 PCB4L = PCB-4L
 PCB8L = PCB-8L
 PCB15L = PCB-15L
 PCB19L = PCB-19L
 PCB31L = PCB-31L
 PCB32L = PCB-32L
 PCB37L = PCB-37L
 PCB47L = PCB-47L
 PCB54L = PCB-54L
 PCB60L = PCB-60L
 PCB70L = PCB-70L
 PCB77L = PCB-77L
 PCB81L = PCB-81L
 PCB85L = PCB-85L
 PCB95L = PCB-95L
 PCB104L = PCB-104L
 PCB105L = PCB-105L
 PCB114L = PCB-114L
 PCB118L = PCB-118L
 PCB123L = PCB-123L
 PCB126L = PCB-126L
 PCB127L = PCB-127L
 PCB155L = PCB-155L
 156157L = PCB-156L/157L
 PCB167L = PCB-167L
 PCB169L = PCB-169L
 PCB180L = PCB-180L
 PCB188L = PCB-188L
 PCB189L = PCB-189L
 PCB202L = PCB-202L
 PCB205L = PCB-205L
 PCB206L = PCB-206L
 PCB208L = PCB-208L
 PCB209L = PCB-209L
 PCB128L = PCB-128L
 PCB133L = PCB-133L
 PCB141L = PCB-141L
 PCB162L = PCB-162L

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB1L (5-145)	PCB3L (5-145)	PCB4L (5-145)	PCB8L (5-145)	PCB15L (5-145)	PCB19L (5-145)	PCB31L (5-145)	PCB32L (5-145)
410-147027-4	SW Comp 1	18	22	26	25	32	34	39	40
410-147027-5	SW Comp 2	28	32	38	28	40	40	38	48
410-147027-6	SW Comp 3	31	38	49	35	55	53	53	65
MB 410-442274/1-A	Method Blank	20	25	32	27	36	41	36	44

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PCB37L (5-145)	PCB47L (5-145)	PCB54L (5-145)	PCB60L (10-145)	PCB70L (10-145)	PCB77L (10-145)	PCB81L (10-145)	PCB85L (10-145)
410-147027-4	SW Comp 1	44	42	36	45	46	38	47	68

Eurofins Lancaster Laboratories Environment Testing, LLC

Isotope Dilution Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB37L (5-145)	PCB47L (5-145)	PCB54L (5-145)	PCB60L (10-145)	PCB70L (10-145)	PCB77L (10-145)	PCB81L (10-145)	PCB85L (10-145)
410-147027-5	SW Comp 2	45	44	52	51	48	55	57	71
410-147027-6	SW Comp 3	47	51	63	56	57	68	69	76
MB 410-442274/1-A	Method Blank	45	48	49	50	46	59	58	69

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB95L (10-145)	PCB104L (10-145)	PCB105L (10-145)	PCB114L (10-145)	PCB118L (10-145)	PCB123L (10-145)	PCB126L (10-145)	PCB127L (10-145)
410-147027-4	SW Comp 1	62	57	53	49	42	44	54	54
410-147027-5	SW Comp 2	59	55	53	44	48	51	50	43
410-147027-6	SW Comp 3	62	60	53	50	46	50	52	59
MB 410-442274/1-A	Method Blank	54	53	47	44	46	49	50	46

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB155L (10-145)	156157L (10-145)	PCB167L (10-145)	PCB169L (10-145)	PCB180L (10-145)	PCB188L (10-145)	PCB189L (10-145)	PCB202L (10-145)
410-147027-4	SW Comp 1	65	56	55	63	68	72	50	75
410-147027-5	SW Comp 2	93	57	59	68	67	79	68	75
410-147027-6	SW Comp 3	77	63	64	64	71	76	58	84
MB 410-442274/1-A	Method Blank	73	57	50	54	58	67	52	69

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB205L (10-145)	PCB206L (10-145)	PCB208L (10-145)	PCB209L (10-145)	PCB128L (10-145)	PCB133L (10-145)	PCB141L (10-145)	PCB162L (10-145)
410-147027-4	SW Comp 1	75	84	81	75	64	59	57	50
410-147027-5	SW Comp 2	75	86	96	80	81	80	70	56
410-147027-6	SW Comp 3	70	81	80	79	67	64	71	59
MB 410-442274/1-A	Method Blank	74	76	73	75	68	62	66	50

Surrogate Legend

- PCB1L = PCB-1L
- PCB3L = PCB-3L
- PCB4L = PCB-4L
- PCB8L = PCB-8L
- PCB15L = PCB-15L
- PCB19L = PCB-19L
- PCB31L = PCB-31L
- PCB32L = PCB-32L
- PCB37L = PCB-37L
- PCB47L = PCB-47L
- PCB54L = PCB-54L
- PCB60L = PCB-60L
- PCB70L = PCB-70L
- PCB77L = PCB-77L
- PCB81L = PCB-81L
- PCB85L = PCB-85L
- PCB95L = PCB-95L
- PCB104L = PCB-104L
- PCB105L = PCB-105L
- PCB114L = PCB-114L
- PCB118L = PCB-118L
- PCB123L = PCB-123L
- PCB126L = PCB-126L
- PCB127L = PCB-127L

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

- PCB155L = PCB-155L
- 156157L = PCB-156L/157L
- PCB167L = PCB-167L
- PCB169L = PCB-169L
- PCB180L = PCB-180L
- PCB188L = PCB-188L
- PCB189L = PCB-189L
- PCB202L = PCB-202L
- PCB205L = PCB-205L
- PCB206L = PCB-206L
- PCB208L = PCB-208L
- PCB209L = PCB-209L
- PCB128L = PCB-128L
- PCB133L = PCB-133L
- PCB141L = PCB-141L
- PCB162L = PCB-162L

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB1L (15-145)	PCB3L (15-145)	PCB4L (15-145)	PCB8L (15-145)	PCB15L (15-145)	PCB19L (15-145)	PCB31L (15-145)	PCB32L (15-145)
LCS 410-442274/2-A	Lab Control Sample	15 cn	17 cn	21 cn	18 cn	23 cn	26 cn	26 cn	30 cn
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB37L (15-145)	PCB47L (15-145)	PCB54L (15-145)	PCB60L (40-145)	PCB70L (40-145)	PCB77L (40-145)	PCB81L (40-145)	PCB85L (40-145)
LCS 410-442274/2-A	Lab Control Sample	30 cn	29 cn	30 cn	34 *5- cn	29 *5- cn	36 *5- cn	39 *5- cn	44 cn
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB95L (40-145)	PCB104L (40-145)	PCB105L (40-145)	PCB114L (40-145)	PCB118L (40-145)	PCB123L (40-145)	PCB126L (40-145)	PCB127L (40-145)
LCS 410-442274/2-A	Lab Control Sample	34 *5- cn	32 *5- cn	29 *5- cn	30 *5- cn	30 *5- cn	34 *5- cn	31 *5- cn	33 *5- cn
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB155L (40-145)	156157L (40-145)	PCB167L (40-145)	PCB169L (40-145)	PCB180L (40-145)	PCB188L (40-145)	PCB189L (40-145)	PCB202L (40-145)
LCS 410-442274/2-A	Lab Control Sample	53 cn	40 cn	42 cn	44 cn	49 cn	56 cn	41 cn	60 cn
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PCB205L (40-145)	PCB206L (40-145)	PCB208L (40-145)	PCB209L (40-145)	PCB128L (40-145)	PCB133L (40-145)	PCB141L (40-145)	PCB162L (40-145)
LCS 410-442274/2-A	Lab Control Sample	49 cn	60 cn	58 cn	59 cn	49 cn	46 cn	46 cn	38 *5- cn

Surrogate Legend

- PCB1L = PCB-1L
- PCB3L = PCB-3L
- PCB4L = PCB-4L
- PCB8L = PCB-8L
- PCB15L = PCB-15L
- PCB19L = PCB-19L
- PCB31L = PCB-31L
- PCB32L = PCB-32L
- PCB37L = PCB-37L
- PCB47L = PCB-47L
- PCB54L = PCB-54L
- PCB60L = PCB-60L
- PCB70L = PCB-70L
- PCB77L = PCB-77L

Isotope Dilution Summary

Client: Hill Consulting, Inc.

Job ID: 410-147027-1

Project/Site: IRB

PCB81L = PCB-81L
PCB85L = PCB-85L
PCB95L = PCB-95L
PCB104L = PCB-104L
PCB105L = PCB-105L
PCB114L = PCB-114L
PCB118L = PCB-118L
PCB123L = PCB-123L
PCB126L = PCB-126L
PCB127L = PCB-127L
PCB155L = PCB-155L
156157L = PCB-156L/157L
PCB167L = PCB-167L
PCB169L = PCB-169L
PCB180L = PCB-180L
PCB188L = PCB-188L
PCB189L = PCB-189L
PCB202L = PCB-202L
PCB205L = PCB-205L
PCB206L = PCB-206L
PCB208L = PCB-208L
PCB209L = PCB-209L
PCB128L = PCB-128L
PCB133L = PCB-133L
PCB141L = PCB-141L
PCB162L = PCB-162L



QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 410-432041/1-A
Matrix: Water
Analysis Batch: 432573

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 432041

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Anthracene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Pyrene	ND		0.050	0.020	ug/L		10/17/23 09:03	10/18/23 10:11	1
Dibenzofuran	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Benzo[g,h,i]perylene	ND		0.070	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
Benzo[e]pyrene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Indeno[1,2,3-cd]pyrene	ND		0.090	0.040	ug/L		10/17/23 09:03	10/18/23 10:11	1
Perylene	ND		0.050	0.020	ug/L		10/17/23 09:03	10/18/23 10:11	1
Benzo[b]fluoranthene	ND		0.090	0.040	ug/L		10/17/23 09:03	10/18/23 10:11	1
Fluoranthene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Benzo[k]fluoranthene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Acenaphthylene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Chrysene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Benzo[a]pyrene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Dibenz(a,h)anthracene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Benzo[a]anthracene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Acenaphthene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Phenanthrene	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
Fluorene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
Naphthalene	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
2-Methylnaphthalene	ND		0.070	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C1-Benzo(a)anthracenes/Chrysenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C2-Benzo(a)anthracenes/Chrysenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C4-Benzo(a)anthracenes/Chrysenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C1-Fluoranthene/Pyrenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C2-Fluoranthenes/Pyrene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C3-Fluoranthenes/Pyrene	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C1-Fluorenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C2-Fluorenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C3-Fluorenes	ND		0.050	0.010	ug/L		10/17/23 09:03	10/18/23 10:11	1
C1-Naphthalenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C2-Naphthalenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C3-Naphthalenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C4-Naphthalenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C1-Phenanthrenes/Anthracenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C2-Phenanthrenes/Anthracenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C3-Phenanthrenes/Anthracenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1
C4-Phenanthrenes/Anthracenes	ND		0.080	0.030	ug/L		10/17/23 09:03	10/18/23 10:11	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Fluoranthene-d10 (Surr)	100		53 - 132	10/17/23 09:03	10/18/23 10:11	1
1-Methylnaphthalene-d10	93		56 - 120	10/17/23 09:03	10/18/23 10:11	1
Benzo(a)pyrene-d12 (Surr)	92		33 - 124	10/17/23 09:03	10/18/23 10:11	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 410-432041/2-A

Matrix: Water

Analysis Batch: 432573

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432041

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Anthracene	1.00	0.809		ug/L		81	56 - 120
Pyrene	1.00	0.712		ug/L		71	65 - 120
Dibenzofuran	1.00	0.802		ug/L		80	52 - 120
Benzo[g,h,i]perylene	1.00	0.601	*	ug/L		60	66 - 120
Benzo[e]pyrene	1.06	0.850		ug/L		80	66 - 120
Indeno[1,2,3-cd]pyrene	1.00	0.782		ug/L		78	69 - 120
Perylene	1.00	0.906		ug/L		90	70 - 130
Benzo[b]fluoranthene	1.00	0.875		ug/L		88	62 - 125
Fluoranthene	1.00	0.720		ug/L		72	67 - 120
Benzo[k]fluoranthene	1.00	0.814		ug/L		81	55 - 121
Acenaphthylene	1.00	0.789		ug/L		79	50 - 120
Chrysene	1.00	0.807		ug/L		81	66 - 120
Benzo[a]pyrene	1.00	0.822		ug/L		82	63 - 120
Dibenz(a,h)anthracene	1.00	0.728		ug/L		73	62 - 120
Benzo[a]anthracene	1.00	0.831		ug/L		83	68 - 120
Acenaphthene	1.00	0.758		ug/L		76	39 - 125
Phenanthrene	1.00	0.676		ug/L		68	64 - 120
Fluorene	1.00	0.796		ug/L		80	53 - 120
Naphthalene	1.00	0.649		ug/L		65	26 - 122
2-Methylnaphthalene	1.00	0.956		ug/L		96	43 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Fluoranthene-d10 (Surr)	90		53 - 132
1-Methylnaphthalene-d10	75		56 - 120
Benzo(a)pyrene-d12 (Surr)	87		33 - 124

Lab Sample ID: LCSD 410-432041/3-A

Matrix: Water

Analysis Batch: 432573

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 432041

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Anthracene	1.00	0.831		ug/L		83	56 - 120	3	30
Pyrene	1.00	0.780		ug/L		78	65 - 120	9	30
Dibenzofuran	1.00	0.913		ug/L		91	52 - 120	13	30
Benzo[g,h,i]perylene	1.00	0.755		ug/L		75	66 - 120	23	30
Benzo[e]pyrene	1.06	0.889		ug/L		84	66 - 120	4	30
Indeno[1,2,3-cd]pyrene	1.00	0.930		ug/L		93	69 - 120	17	30
Perylene	1.00	0.948		ug/L		95	70 - 130	5	30
Benzo[b]fluoranthene	1.00	0.972		ug/L		97	62 - 125	10	30
Fluoranthene	1.00	0.770		ug/L		77	67 - 120	7	30
Benzo[k]fluoranthene	1.00	0.844		ug/L		84	55 - 121	4	30
Acenaphthylene	1.00	0.901		ug/L		90	50 - 120	13	30
Chrysene	1.00	0.885		ug/L		89	66 - 120	9	30
Benzo[a]pyrene	1.00	0.874		ug/L		87	63 - 120	6	30
Dibenz(a,h)anthracene	1.00	0.862		ug/L		86	62 - 120	17	30
Benzo[a]anthracene	1.00	0.916		ug/L		92	68 - 120	10	30
Acenaphthene	1.00	0.846		ug/L		85	39 - 125	11	30
Phenanthrene	1.00	0.712		ug/L		71	64 - 120	5	30

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 410-432041/3-A
Matrix: Water
Analysis Batch: 432573

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 432041

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Fluorene	1.00	0.887		ug/L		89	53 - 120	11		30
Naphthalene	1.00	0.693		ug/L		69	26 - 122	7		30
2-Methylnaphthalene	1.00	1.02		ug/L		102	43 - 120	6		30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Fluoranthene-d10 (Surr)	94		53 - 132
1-Methylnaphthalene-d10	81		56 - 120
Benzo(a)pyrene-d12 (Surr)	93		33 - 124

Lab Sample ID: MB 410-432561/1-A
Matrix: Solid
Analysis Batch: 433060

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 432561

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Anthracene	ND		1.7	0.33	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Pyrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Dibenzofuran	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Benzo[g,h,i]perylene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Benzo[e]pyrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Indeno[1,2,3-cd]pyrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Perylene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Benzo[b]fluoranthene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Fluoranthene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Benzo[k]fluoranthene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Acenaphthylene	ND		1.7	0.33	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Chrysene	ND		1.7	0.33	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Benzo[a]pyrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Dibenz(a,h)anthracene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Benzo[a]anthracene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Acenaphthene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Phenanthrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Fluorene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
Naphthalene	ND		2.3	1.3	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
2-Methylnaphthalene	ND		1.7	1.0	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C1-Benzo(a)anthracenes/Chrysenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C2-Benzo(a)anthracenes/Chrysenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C3-Benzo(a)Anthracenes/Chrysenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C4-Benzo(a)anthracenes/Chrysenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C1-Fluoranthene/Pyrenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C2-Fluoranthenes/Pyrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C3-Fluoranthenes/Pyrene	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C1-Fluorenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C2-Fluorenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C3-Fluorenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C1-Naphthalenes	ND		2.3	1.3	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C2-Naphthalenes	ND		2.3	1.3	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C3-Naphthalenes	ND		2.3	1.3	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C4-Naphthalenes	ND		2.3	1.3	ug/Kg		10/18/23 07:58	10/19/23 05:29	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 410-432561/1-A

Matrix: Solid

Analysis Batch: 433060

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 432561

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
C1-Phenanthrenes/Anthracenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C2-Phenanthrenes/Anthracenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C3-Phenanthrenes/Anthracenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1
C4-Phenanthrenes/Anthracenes	ND		1.7	0.67	ug/Kg		10/18/23 07:58	10/19/23 05:29	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Fluoranthene-d10 (Surr)	86		38 - 120	10/18/23 07:58	10/19/23 05:29	1
1-Methylnaphthalene-d10	76		38 - 96	10/18/23 07:58	10/19/23 05:29	1
Benzo(a)pyrene-d12 (Surr)	85		37 - 123	10/18/23 07:58	10/19/23 05:29	1

Lab Sample ID: LCS 410-432561/2-A

Matrix: Solid

Analysis Batch: 433060

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432561

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Anthracene	33.3	24.0		ug/Kg		72	66 - 115
Pyrene	33.3	20.5		ug/Kg		62	61 - 119
Dibenzofuran	33.3	23.1	*-	ug/Kg		69	70 - 130
Benzo[g,h,i]perylene	33.3	17.7	*-	ug/Kg		53	66 - 116
Benzo[e]pyrene	35.3	24.7	*-	ug/Kg		70	80 - 120
Indeno[1,2,3-cd]pyrene	33.3	24.9		ug/Kg		75	69 - 123
Perylene	33.4	27.2		ug/Kg		81	80 - 120
Benzo[b]fluoranthene	33.3	24.0		ug/Kg		72	71 - 134
Fluoranthene	33.3	21.6		ug/Kg		65	65 - 126
Benzo[k]fluoranthene	33.3	24.4		ug/Kg		73	68 - 122
Acenaphthylene	33.3	22.7		ug/Kg		68	53 - 102
Chrysene	33.3	23.5		ug/Kg		71	65 - 113
Benzo[a]pyrene	33.3	24.8		ug/Kg		74	67 - 124
Dibenz(a,h)anthracene	33.3	21.9		ug/Kg		66	66 - 119
Benzo[a]anthracene	33.3	24.8		ug/Kg		74	71 - 127
Acenaphthene	33.3	21.0		ug/Kg		63	55 - 112
Phenanthrene	33.3	19.3	*-	ug/Kg		58	67 - 111
Fluorene	33.3	23.2		ug/Kg		70	67 - 118
Naphthalene	33.3	17.9	*-	ug/Kg		54	60 - 101
2-Methylnaphthalene	33.3	27.9		ug/Kg		84	63 - 114

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Fluoranthene-d10 (Surr)	79		38 - 120
1-Methylnaphthalene-d10	65		38 - 96
Benzo(a)pyrene-d12 (Surr)	76		37 - 123

Lab Sample ID: 410-147027-1 MS

Matrix: Solid

Analysis Batch: 433060

Client Sample ID: SED Comp 1

Prep Type: Total/NA

Prep Batch: 432561

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Anthracene	0.97	J	67.8	49.1		ug/Kg	☼	71	66 - 115
Pyrene	7.7		67.8	56.7		ug/Kg	☼	72	61 - 119

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-147027-1 MS

Matrix: Solid

Analysis Batch: 433060

Client Sample ID: SED Comp 1

Prep Type: Total/NA

Prep Batch: 432561

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Dibenzofuran	47	F1 *- cn	67.8	45.3	F1	ug/Kg	⊛	-3	70 - 130
Benzo[g,h,i]perylene	1.6	J F1 *- cn	67.8	25.3	F1	ug/Kg	⊛	35	66 - 116
Benzo[e]pyrene	5.0	F1 *- cn	71.8	51.3	F1	ug/Kg	⊛	65	80 - 120
Indeno[1,2,3-cd]pyrene	ND	F1	67.8	33.9	F1	ug/Kg	⊛	50	69 - 123
Perylene	32	F1	68.0	132	F1	ug/Kg	⊛	146	80 - 120
Benzo[b]fluoranthene	5.0		67.8	69.0		ug/Kg	⊛	94	71 - 134
Fluoranthene	9.4		67.8	57.6		ug/Kg	⊛	71	65 - 126
Benzo[k]fluoranthene	3.4		67.8	57.6		ug/Kg	⊛	80	68 - 122
Acenaphthylene	ND		67.8	39.2		ug/Kg	⊛	58	53 - 102
Chrysene	9.2	F1	67.8	49.7	F1	ug/Kg	⊛	60	65 - 113
Benzo[a]pyrene	2.3	J F1	67.8	48.7		ug/Kg	⊛	68	67 - 124
Dibenz(a,h)anthracene	ND	F1	67.8	29.6	F1	ug/Kg	⊛	44	66 - 119
Benzo[a]anthracene	4.2	F1	67.8	52.2		ug/Kg	⊛	71	71 - 127
Acenaphthene	ND		67.8	40.1		ug/Kg	⊛	59	55 - 112
Phenanthrene	71	F1 *- cn	67.8	49.9	F1	ug/Kg	⊛	-30	67 - 111
Fluorene	3.2	J F1	67.8	46.2	F1	ug/Kg	⊛	63	67 - 118
Naphthalene	50	F1 *- cn	67.8	42.3	F1	ug/Kg	⊛	-12	60 - 101
2-Methylnaphthalene	70	F1	67.8	61.6	F1	ug/Kg	⊛	-12	63 - 114

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Fluoranthene-d10 (Surr)	79		38 - 120
1-Methylnaphthalene-d10	65		38 - 96
Benzo(a)pyrene-d12 (Surr)	71		37 - 123

Lab Sample ID: 410-147027-1 MSD

Matrix: Solid

Analysis Batch: 433060

Client Sample ID: SED Comp 1

Prep Type: Total/NA

Prep Batch: 432561

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Anthracene	0.97	J	68.2	50.8		ug/Kg	⊛	73	66 - 115	4	30
Pyrene	7.7		68.2	55.4		ug/Kg	⊛	70	61 - 119	2	30
Dibenzofuran	47	F1 *- cn	68.2	49.5	F1	ug/Kg	⊛	3	70 - 130	9	30
Benzo[g,h,i]perylene	1.6	J F1 *- cn	68.2	24.3	F1	ug/Kg	⊛	33	66 - 116	4	30
Benzo[e]pyrene	5.0	F1 *- cn	72.2	47.9	F1	ug/Kg	⊛	59	80 - 120	7	30
Indeno[1,2,3-cd]pyrene	ND	F1	68.2	33.5	F1	ug/Kg	⊛	49	69 - 123	1	30
Perylene	32	F1	68.3	127	F1	ug/Kg	⊛	139	80 - 120	4	30
Benzo[b]fluoranthene	5.0		68.2	61.6		ug/Kg	⊛	83	71 - 134	11	30
Fluoranthene	9.4		68.2	55.2		ug/Kg	⊛	67	65 - 126	4	30
Benzo[k]fluoranthene	3.4		68.2	58.0		ug/Kg	⊛	80	68 - 122	1	30
Acenaphthylene	ND		68.2	45.4		ug/Kg	⊛	67	53 - 102	15	30
Chrysene	9.2	F1	68.2	46.5	F1	ug/Kg	⊛	55	65 - 113	7	30
Benzo[a]pyrene	2.3	J F1	68.2	46.0	F1	ug/Kg	⊛	64	67 - 124	6	30
Dibenz(a,h)anthracene	ND	F1	68.2	30.8	F1	ug/Kg	⊛	45	66 - 119	4	30
Benzo[a]anthracene	4.2	F1	68.2	49.7	F1	ug/Kg	⊛	67	71 - 127	5	30
Acenaphthene	ND		68.2	43.1		ug/Kg	⊛	63	55 - 112	7	30
Phenanthrene	71	F1 *- cn	68.2	50.3	F1	ug/Kg	⊛	-30	67 - 111	1	30
Fluorene	3.2	J F1	68.2	49.2		ug/Kg	⊛	67	67 - 118	6	30
Naphthalene	50	F1 *- cn	68.2	49.7	F1	ug/Kg	⊛	-1	60 - 101	16	30

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 410-147027-1 MSD

Client Sample ID: SED Comp 1

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 433060

Prep Batch: 432561

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Methylnaphthalene	70	F1	68.2	69.0	F1	ug/Kg	✱	-1	63 - 114	11	30
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
Fluoranthene-d10 (Surr)	82		38 - 120								
1-Methylnaphthalene-d10	81		38 - 96								
Benzo(a)pyrene-d12 (Surr)	67		37 - 123								

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-432062/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 432474

Prep Batch: 432062

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin (1C)	ND		0.020	0.0020	ug/L		10/17/23 08:15	10/18/23 09:33	1
alpha-BHC (1C)	ND		0.020	0.0030	ug/L		10/17/23 08:15	10/18/23 09:33	1
alpha-Chlordane (1C)	ND		0.020	0.0030	ug/L		10/17/23 08:15	10/18/23 09:33	1
beta-BHC (1C)	ND		0.030	0.011	ug/L		10/17/23 08:15	10/18/23 09:33	1
delta-BHC (1C)	ND		0.020	0.0034	ug/L		10/17/23 08:15	10/18/23 09:33	1
Dieldrin (1C)	ND		0.030	0.0053	ug/L		10/17/23 08:15	10/18/23 09:33	1
Endosulfan I (1C)	ND		0.020	0.0043	ug/L		10/17/23 08:15	10/18/23 09:33	1
Endosulfan II (1C)	ND		0.040	0.015	ug/L		10/17/23 08:15	10/18/23 09:33	1
Endosulfan sulfate (1C)	ND		0.030	0.0058	ug/L		10/17/23 08:15	10/18/23 09:33	1
Endrin (1C)	ND		0.030	0.0081	ug/L		10/17/23 08:15	10/18/23 09:33	1
Endrin aldehyde (1C)	ND		0.10	0.020	ug/L		10/17/23 08:15	10/18/23 09:33	1
Endrin ketone (1C)	ND		0.030	0.0050	ug/L		10/17/23 08:15	10/18/23 09:33	1
gamma-BHC (Lindane) (1C)	ND		0.020	0.0020	ug/L		10/17/23 08:15	10/18/23 09:33	1
gamma-Chlordane (1C)	ND		0.040	0.0070	ug/L		10/17/23 08:15	10/18/23 09:33	1
Heptachlor (1C)	ND		0.020	0.0020	ug/L		10/17/23 08:15	10/18/23 09:33	1
Heptachlor epoxide (1C)	ND		0.020	0.0023	ug/L		10/17/23 08:15	10/18/23 09:33	1
Methoxychlor (1C)	ND		0.11	0.030	ug/L		10/17/23 08:15	10/18/23 09:33	1
Toxaphene (1C)	ND		1.0	0.30	ug/L		10/17/23 08:15	10/18/23 09:33	1
p,p'-DDD (1C)	ND		0.030	0.0050	ug/L		10/17/23 08:15	10/18/23 09:33	1
p,p'-DDE (1C)	ND		0.030	0.0050	ug/L		10/17/23 08:15	10/18/23 09:33	1
p,p'-DDT (1C)	ND		0.030	0.0052	ug/L		10/17/23 08:15	10/18/23 09:33	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr) (1C)	44		20 - 149				10/17/23 08:15	10/18/23 09:33	1
DCB Decachlorobiphenyl (Surr) (2C)	44		20 - 149				10/17/23 08:15	10/18/23 09:33	1
Tetrachloro-m-xylene (Surr) (1C)	61		20 - 129				10/17/23 08:15	10/18/23 09:33	1
Tetrachloro-m-xylene (Surr) (2C)	67		20 - 129				10/17/23 08:15	10/18/23 09:33	1

Lab Sample ID: LCS 410-432062/2-A

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 432474

Prep Batch: 432062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin (1C)	0.100	0.0692		ug/L		69	10 - 148

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 410-432062/2-A

Matrix: Water

Analysis Batch: 432474

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
alpha-BHC (1C)	0.100	0.0889		ug/L		89	47 - 132	
alpha-Chlordane (1C)	0.100	0.0906		ug/L		91	50 - 136	
beta-BHC (1C)	0.100	0.100		ug/L		100	65 - 139	
delta-BHC (1C)	0.100	0.0886		ug/L		89	56 - 141	
Dieldrin (1C)	0.200	0.176		ug/L		88	58 - 145	
Endosulfan I (1C)	0.100	0.0906		ug/L		91	63 - 138	
Endosulfan II (1C)	0.200	0.181		ug/L		91	61 - 138	
Endosulfan sulfate (1C)	0.200	0.184		ug/L		92	63 - 129	
Endrin (1C)	0.200	0.191		ug/L		95	63 - 131	
Endrin aldehyde (1C)	0.200	0.169		ug/L		84	57 - 135	
Endrin ketone (1C)	0.200	0.190		ug/L		95	67 - 136	
gamma-BHC (Lindane) (1C)	0.100	0.0895		ug/L		90	61 - 139	
gamma-Chlordane (1C)	0.100	0.0855		ug/L		86	33 - 141	
Heptachlor (1C)	0.100	0.0783		ug/L		78	35 - 136	
Heptachlor epoxide (1C)	0.100	0.0902		ug/L		90	59 - 146	
Methoxychlor (1C)	1.00	0.880		ug/L		88	66 - 148	
p,p'-DDD (1C)	0.200	0.180		ug/L		90	42 - 148	
p,p'-DDE (1C)	0.200	0.168		ug/L		84	20 - 140	
p,p'-DDT (1C)	0.200	0.162		ug/L		81	40 - 145	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	61		20 - 149
DCB Decachlorobiphenyl (Surr) (2C)	59		20 - 149
Tetrachloro-m-xylene (Surr) (1C)	70		20 - 129
Tetrachloro-m-xylene (Surr) (2C)	78		20 - 129

Lab Sample ID: MB 410-432569/1-A

Matrix: Water

Analysis Batch: 433050

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 432569

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin (1C)	ND		0.020	0.0020	ug/L		10/18/23 08:05	10/19/23 05:12	1
alpha-BHC (1C)	ND		0.020	0.0030	ug/L		10/18/23 08:05	10/19/23 05:12	1
alpha-Chlordane (1C)	ND		0.020	0.0030	ug/L		10/18/23 08:05	10/19/23 05:12	1
beta-BHC (1C)	ND		0.030	0.011	ug/L		10/18/23 08:05	10/19/23 05:12	1
delta-BHC (1C)	ND		0.020	0.0034	ug/L		10/18/23 08:05	10/19/23 05:12	1
Dieldrin (1C)	ND		0.030	0.0053	ug/L		10/18/23 08:05	10/19/23 05:12	1
Endosulfan I (1C)	ND		0.020	0.0043	ug/L		10/18/23 08:05	10/19/23 05:12	1
Endosulfan II (1C)	ND		0.040	0.015	ug/L		10/18/23 08:05	10/19/23 05:12	1
Endosulfan sulfate (1C)	ND		0.030	0.0058	ug/L		10/18/23 08:05	10/19/23 05:12	1
Endrin (1C)	ND		0.030	0.0081	ug/L		10/18/23 08:05	10/19/23 05:12	1
Endrin aldehyde (1C)	ND		0.10	0.020	ug/L		10/18/23 08:05	10/19/23 05:12	1
Endrin ketone (1C)	ND		0.030	0.0050	ug/L		10/18/23 08:05	10/19/23 05:12	1
gamma-BHC (Lindane) (1C)	ND		0.020	0.0020	ug/L		10/18/23 08:05	10/19/23 05:12	1
gamma-Chlordane (1C)	ND		0.040	0.0070	ug/L		10/18/23 08:05	10/19/23 05:12	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 410-432569/1-A

Matrix: Water

Analysis Batch: 433050

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 432569

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Heptachlor (1C)	ND		0.020	0.0020	ug/L		10/18/23 08:05	10/19/23 05:12	1
Heptachlor epoxide (1C)	ND		0.020	0.0023	ug/L		10/18/23 08:05	10/19/23 05:12	1
Methoxychlor (1C)	ND		0.11	0.030	ug/L		10/18/23 08:05	10/19/23 05:12	1
Toxaphene (1C)	ND		1.0	0.30	ug/L		10/18/23 08:05	10/19/23 05:12	1
p,p'-DDD (1C)	ND		0.030	0.0050	ug/L		10/18/23 08:05	10/19/23 05:12	1
p,p'-DDE (1C)	ND		0.030	0.0050	ug/L		10/18/23 08:05	10/19/23 05:12	1
p,p'-DDT (1C)	ND		0.030	0.0052	ug/L		10/18/23 08:05	10/19/23 05:12	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr) (1C)	62		20 - 149	10/18/23 08:05	10/19/23 05:12	1
DCB Decachlorobiphenyl (Surr) (2C)	59		20 - 149	10/18/23 08:05	10/19/23 05:12	1
Tetrachloro-m-xylene (Surr) (1C)	50		20 - 129	10/18/23 08:05	10/19/23 05:12	1
Tetrachloro-m-xylene (Surr) (2C)	49		20 - 129	10/18/23 08:05	10/19/23 05:12	1

Lab Sample ID: LCS 410-432569/2-A

Matrix: Water

Analysis Batch: 433050

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432569

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aldrin (1C)	0.100	0.0570		ug/L		57	10 - 148
alpha-BHC (1C)	0.100	0.0834		ug/L		83	47 - 132
alpha-Chlordane (1C)	0.100	0.0813		ug/L		81	50 - 136
beta-BHC (1C)	0.100	0.0915		ug/L		92	65 - 139
delta-BHC (1C)	0.100	0.0852		ug/L		85	56 - 141
Dieldrin (1C)	0.200	0.167		ug/L		84	58 - 145
Endosulfan I (1C)	0.100	0.0865		ug/L		87	63 - 138
Endosulfan II (1C)	0.200	0.179		ug/L		90	61 - 138
Endosulfan sulfate (1C)	0.200	0.182		ug/L		91	63 - 129
Endrin (1C)	0.200	0.174		ug/L		87	63 - 131
Endrin aldehyde (1C)	0.200	0.185		ug/L		92	57 - 135
Endrin ketone (1C)	0.200	0.191		ug/L		95	67 - 136
gamma-BHC (Lindane) (1C)	0.100	0.0813		ug/L		81	61 - 139
gamma-Chlordane (1C)	0.100	0.0749		ug/L		75	33 - 141
Heptachlor (1C)	0.100	0.0655		ug/L		65	35 - 136
Heptachlor epoxide (1C)	0.100	0.0884		ug/L		88	59 - 146
Methoxychlor (1C)	1.00	0.960		ug/L		96	66 - 148
p,p'-DDD (1C)	0.200	0.171		ug/L		85	42 - 148
p,p'-DDE (1C)	0.200	0.148		ug/L		74	20 - 140
p,p'-DDT (1C)	0.200	0.180		ug/L		90	40 - 145

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	65		20 - 149
DCB Decachlorobiphenyl (Surr) (2C)	65		20 - 149
Tetrachloro-m-xylene (Surr) (1C)	53		20 - 129
Tetrachloro-m-xylene (Surr) (2C)	53		20 - 129

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 410-433154/1-A

Matrix: Solid

Analysis Batch: 433563

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 433154

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aldrin (1C)	ND		0.83	0.36	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
alpha-BHC (1C)	ND		0.83	0.38	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
alpha-Chlordane (1C)	ND		0.83	0.17	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
beta-BHC (1C)	ND		1.0	0.44	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
delta-BHC (1C)	ND		1.0	0.45	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Dieldrin (1C)	ND		1.7	0.33	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Endosulfan I (1C)	ND		0.83	0.22	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Endosulfan II (1C)	ND		2.3	1.1	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Endosulfan sulfate (1C)	ND		1.7	0.39	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Endrin (1C)	ND		1.7	0.68	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Endrin aldehyde (1C)	ND		1.7	0.38	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Endrin ketone (1C)	ND		2.0	0.60	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
gamma-BHC (Lindane) (1C)	ND		0.83	0.21	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
gamma-Chlordane (1C)	ND		0.83	0.25	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Heptachlor (1C)	ND		0.83	0.31	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Heptachlor epoxide (1C)	ND		0.83	0.35	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Methoxychlor (1C)	ND		6.7	2.6	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
Toxaphene (1C)	ND		33	14	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
p,p'-DDD (1C)	ND		1.7	0.80	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
p,p'-DDE (1C)	ND		1.7	0.70	ug/Kg		10/19/23 07:57	10/20/23 04:36	1
p,p'-DDT (1C)	ND		1.7	0.79	ug/Kg		10/19/23 07:57	10/20/23 04:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl (Surr) (1C)	104		54 - 143	10/19/23 07:57	10/20/23 04:36	1
DCB Decachlorobiphenyl (Surr) (2C)	103		54 - 143	10/19/23 07:57	10/20/23 04:36	1
Tetrachloro-m-xylene (Surr) (1C)	68		20 - 131	10/19/23 07:57	10/20/23 04:36	1
Tetrachloro-m-xylene (Surr) (2C)	70		20 - 131	10/19/23 07:57	10/20/23 04:36	1

Lab Sample ID: LCS 410-433154/2-A

Matrix: Solid

Analysis Batch: 433563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 433154

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aldrin (1C)	3.33	2.48		ug/Kg		74	49 - 130
alpha-BHC (1C)	3.33	2.72		ug/Kg		82	32 - 141
alpha-Chlordane (1C)	3.33	2.64		ug/Kg		79	54 - 129
beta-BHC (1C)	3.33	2.71		ug/Kg		81	50 - 132
delta-BHC (1C)	3.33	2.74		ug/Kg		82	47 - 141
Dieldrin (1C)	6.67	5.42		ug/Kg		81	54 - 136
Endosulfan I (1C)	3.33	2.53		ug/Kg		76	51 - 124
Endosulfan II (1C)	6.67	5.54		ug/Kg		83	56 - 125
Endosulfan sulfate (1C)	6.67	5.78		ug/Kg		87	39 - 136
Endrin (1C)	6.67	5.24		ug/Kg		79	56 - 129
Endrin aldehyde (1C)	6.67	6.50		ug/Kg		97	46 - 133
Endrin ketone (1C)	6.67	5.83		ug/Kg		87	55 - 128
gamma-BHC (Lindane) (1C)	3.33	2.59		ug/Kg		78	32 - 138
gamma-Chlordane (1C)	3.33	2.57		ug/Kg		77	52 - 137
Heptachlor (1C)	3.33	2.59		ug/Kg		78	52 - 139

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 410-433154/2-A

Matrix: Solid

Analysis Batch: 433563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 433154

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (1C)	3.33	2.63		ug/Kg		79	55 - 133
Methoxychlor (1C)	33.3	29.6		ug/Kg		89	54 - 148
p,p'-DDD (1C)	6.67	5.43		ug/Kg		81	59 - 135
p,p'-DDE (1C)	6.67	5.47		ug/Kg		82	57 - 135
p,p'-DDT (1C)	6.67	5.43		ug/Kg		82	53 - 151

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	82		54 - 143
DCB Decachlorobiphenyl (Surr) (2C)	84		54 - 143
Tetrachloro-m-xylene (Surr) (1C)	51		20 - 131
Tetrachloro-m-xylene (Surr) (2C)	51		20 - 131

Lab Sample ID: 410-147027-1 MS

Matrix: Solid

Analysis Batch: 433563

Client Sample ID: SED Comp 1

Prep Type: Total/NA

Prep Batch: 433154

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin (2C)	ND	F1 cn	3.31	1.46	F1 cn	ug/Kg		44	49 - 130
alpha-BHC (2C)	ND	cn	3.31	1.51	cn	ug/Kg		46	32 - 141
alpha-Chlordane (1C)	ND	F1 cn	3.31	1.45	p F1 cn	ug/Kg		44	54 - 129
beta-BHC (2C)	ND	F1 cn	3.31	1.18	p F1 cn	ug/Kg		36	50 - 132
delta-BHC (2C)	ND	F1 F2 cn	3.31	1.65	p cn	ug/Kg		50	47 - 141
Dieldrin (2C)	ND	F1 cn	6.61	3.44	F1 cn	ug/Kg		52	54 - 136
Endosulfan I (2C)	ND	F1 cn	3.31	1.76	cn	ug/Kg		53	51 - 124
Endosulfan II (1C)	ND	cn	6.61	3.97	cn	ug/Kg		60	56 - 125
Endosulfan sulfate (2C)	ND	F1 cn	6.61	3.81	cn	ug/Kg		58	39 - 136
Endrin (2C)	ND	F1 cn	6.61	3.34	F1 cn	ug/Kg		50	56 - 129
Endrin aldehyde (1C)	ND	cn	6.61	4.38	cn	ug/Kg		66	46 - 133
Endrin ketone (1C)	ND	F1 cn	6.61	2.80	F1 cn	ug/Kg		42	55 - 128
gamma-BHC (Lindane) (2C)	ND	F1 cn	3.31	1.86	p cn	ug/Kg		56	32 - 138
gamma-Chlordane (2C)	ND	F1 cn	3.31	1.73	cn	ug/Kg		52	52 - 137
Heptachlor (1C)	ND	F1 cn	3.31	ND	F1 cn	ug/Kg		0	52 - 139
Heptachlor epoxide (1C)	ND	F1 cn	3.31	1.40	p F1 cn	ug/Kg		42	55 - 133
Methoxychlor (1C)	ND	F1 cn	33.1	4.89	J F1 cn	ug/Kg		15	54 - 148
p,p'-DDD (2C)	ND	F1 cn	6.61	4.64	cn	ug/Kg		70	59 - 135
p,p'-DDE (2C)	ND	F1 cn	6.61	4.33	cn	ug/Kg		65	57 - 135
p,p'-DDT (1C)	ND	F1 cn	6.61	ND	F1 cn	ug/Kg		0	53 - 151

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	48	S1- cn	54 - 143
DCB Decachlorobiphenyl (Surr) (2C)	47	S1- cn	54 - 143
Tetrachloro-m-xylene (Surr) (1C)	47	cn	20 - 131

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 410-147027-1 MS

Matrix: Solid

Analysis Batch: 433563

Client Sample ID: SED Comp 1

Prep Type: Total/NA

Prep Batch: 433154

Surrogate	%Recovery	MS	MS	Limits
		Qualifier	Qualifier	
Tetrachloro-m-xylene (Surr) (2C)	52	cn		20 - 131

Lab Sample ID: 410-147027-1 MSD

Matrix: Solid

Analysis Batch: 433563

Client Sample ID: SED Comp 1

Prep Type: Total/NA

Prep Batch: 433154

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	RPD Limit
				Result	Qualifier				Limits	Limits		
Aldrin (1C)	ND	F1 cn	3.29	1.07	F1 cn	ug/Kg		33	49 - 130	30	50	
alpha-BHC (2C)	ND	cn	3.29	1.05	p cn	ug/Kg		32	32 - 141	36	50	
alpha-Chlordane (1C)	ND	F1 cn	3.29	1.04	p F1 cn	ug/Kg		32	54 - 129	32	50	
beta-BHC (2C)	ND	F1 cn	3.29	ND	F1 cn	ug/Kg		0	50 - 132	NC	50	
delta-BHC (2C)	ND	F1 F2 cn	3.29	1.22	p F1 cn	ug/Kg		37	47 - 141	30	50	
Dieldrin (1C)	ND	F1 cn	6.59	2.34	F1 cn	ug/Kg		35	54 - 136	38	50	
Endosulfan I (2C)	ND	F1 cn	3.29	0.418	J p F1 F2 cn	ug/Kg		13	51 - 124	123	50	
Endosulfan II (2C)	ND	cn	6.59	2.41	p F1 cn	ug/Kg		37	56 - 125	49	50	
Endosulfan sulfate (2C)	ND	F1 cn	6.59	2.70	cn	ug/Kg		41	39 - 136	34	50	
Endrin (2C)	ND	F1 cn	6.59	2.63	F1 cn	ug/Kg		40	56 - 129	24	50	
Endrin aldehyde (2C)	ND	cn	6.59	1.99	p F1 F2 cn	ug/Kg		30	46 - 133	75	35	
Endrin ketone (1C)	ND	F1 cn	6.59	2.45	F1 cn	ug/Kg		37	55 - 128	13	50	
gamma-BHC (Lindane) (2C)	ND	F1 cn	3.29	1.63	p cn	ug/Kg		49	32 - 138	13	50	
gamma-Chlordane (1C)	ND	F1 cn	3.29	1.24	F1 cn	ug/Kg		38	52 - 137	33	50	
Heptachlor (1C)	ND	F1 cn	3.29	ND	F1 cn	ug/Kg		0	52 - 139	NC	50	
Heptachlor epoxide (1C)	ND	F1 cn	3.29	1.18	p F1 cn	ug/Kg		36	55 - 133	18	50	
Methoxychlor (1C)	ND	F1 cn	32.9	4.76	J F1 cn	ug/Kg		14	54 - 148	3	50	
p,p'-DDD (1C)	ND	F1 cn	6.59	3.31	F1 cn	ug/Kg		50	59 - 135	33	50	
p,p'-DDE (2C)	ND	F1 cn	6.59	3.37	F1 cn	ug/Kg		51	57 - 135	25	50	
p,p'-DDT (1C)	ND	F1 cn	6.59	0.792	J F1 cn	ug/Kg		12	53 - 151	NC	50	

Surrogate	%Recovery	MSD	MSD	Limits
		Qualifier	Qualifier	
DCB Decachlorobiphenyl (Surr) (1C)	51	S1- cn		54 - 143
DCB Decachlorobiphenyl (Surr) (2C)	47	S1- cn		54 - 143
Tetrachloro-m-xylene (Surr) (1C)	69	cn		20 - 131
Tetrachloro-m-xylene (Surr) (2C)	48	cn		20 - 131

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS

Lab Sample ID: MB 410-432683/1-A

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 432683

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid	ND		0.80	0.10	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoropentanoic acid	ND		0.40	0.10	ng/g		10/18/23 09:29	11/04/23 00:06	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-432683/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 439500

Prep Batch: 432683

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorohexanoic acid	ND		0.20	0.059	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoroheptanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorooctanoic acid	ND		0.20	0.051	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorononanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorodecanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoroundecanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorododecanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorotridecanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorotetradecanoic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorobutanesulfonic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoropentanesulfonic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorohexanesulfonic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoroheptanesulfonic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorooctanesulfonic acid	ND		0.20	0.051	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorononanesulfonic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorodecanesulfonic acid	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		0.80	0.20	ng/g		10/18/23 09:29	11/04/23 00:06	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.0	0.35	ng/g		10/18/23 09:29	11/04/23 00:06	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.0	0.35	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluorooctanesulfonamide	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
NMeFOSA	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
N-ethylperfluoro-1-octanesulfonamide	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
NMeFOSAA	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
NEtFOSAA	ND		0.20	0.050	ng/g		10/18/23 09:29	11/04/23 00:06	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g		10/18/23 09:29	11/04/23 00:06	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g		10/18/23 09:29	11/04/23 00:06	1
HFPO-DA	ND		0.80	0.051	ng/g		10/18/23 09:29	11/04/23 00:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.80	0.20	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoro-3-methoxypropanoic acid	ND		0.40	0.10	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoro(4-methoxybutanoic acid)	ND		0.40	0.10	ng/g		10/18/23 09:29	11/04/23 00:06	1
Perfluoro-3,6-dioxaheptanoic acid	ND		0.40	0.10	ng/g		10/18/23 09:29	11/04/23 00:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.80	0.20	ng/g		10/18/23 09:29	11/04/23 00:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.80	0.20	ng/g		10/18/23 09:29	11/04/23 00:06	1
PFEESA	ND		0.40	0.10	ng/g		10/18/23 09:29	11/04/23 00:06	1
3:3 FTCA	ND		1.0	0.25	ng/g		10/18/23 09:29	11/04/23 00:06	1
5:3 FTCA	ND		5.0	1.0	ng/g		10/18/23 09:29	11/04/23 00:06	1
7:3 FTCA	ND		5.0	1.0	ng/g		10/18/23 09:29	11/04/23 00:06	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	104		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C5 PFPeA	111		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C5 PFHxA	99.8		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C4 PFHpA	102		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C8 PFOA	90.9		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C9 PFNA	98.4		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C6 PFDA	98.1		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C7 PFUnA	96.3		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C2-PFDoDA	90.0		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C2 PFTeDA	82.7		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C3 PFBS	108		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C3 PFHxS	99.1		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C8 PFOS	97.1		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C8 FOSA	84.9		20 - 150	10/18/23 09:29	11/04/23 00:06	1
d3-NMeFOSAA	98.6		20 - 150	10/18/23 09:29	11/04/23 00:06	1
d5-NEtFOSAA	92.2		20 - 150	10/18/23 09:29	11/04/23 00:06	1
M2-4:2 FTS	102		20 - 150	10/18/23 09:29	11/04/23 00:06	1
M2-6:2 FTS	106		20 - 150	10/18/23 09:29	11/04/23 00:06	1
M2-8:2 FTS	115		20 - 150	10/18/23 09:29	11/04/23 00:06	1
13C3 HFPO-DA	104		20 - 150	10/18/23 09:29	11/04/23 00:06	1
d7-N-MeFOSE-M	90.6		20 - 150	10/18/23 09:29	11/04/23 00:06	1
d9-N-EtFOSE-M	85.8		20 - 150	10/18/23 09:29	11/04/23 00:06	1
d5-NEtPFOSA	70.8		20 - 150	10/18/23 09:29	11/04/23 00:06	1
d3-NMePFOSA	75.0		20 - 150	10/18/23 09:29	11/04/23 00:06	1

Lab Sample ID: LCS 410-432683/2-A

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid	5.01	5.62		ng/g		112	40 - 150
Perfluorohexanoic acid	2.50	2.71		ng/g		108	40 - 150
Perfluoroheptanoic acid	2.50	2.81		ng/g		112	40 - 150
Perfluorooctanoic acid	2.50	3.22		ng/g		129	40 - 150
Perfluorononanoic acid	2.50	3.14		ng/g		126	40 - 150
Perfluorodecanoic acid	2.50	2.83		ng/g		113	40 - 150
Perfluoroundecanoic acid	2.50	2.71		ng/g		108	40 - 150
Perfluorododecanoic acid	2.50	2.86		ng/g		114	40 - 150
Perfluorotridecanoic acid	2.50	2.87		ng/g		115	40 - 150
Perfluorotetradecanoic acid	2.50	2.86		ng/g		114	40 - 150
Perfluorobutanesulfonic acid	2.22	2.74		ng/g		123	40 - 150
Perfluoropentanesulfonic acid	2.36	2.48		ng/g		105	40 - 150
Perfluorohexanesulfonic acid	2.29	2.64		ng/g		115	40 - 150
Perfluoroheptanesulfonic acid	2.39	2.62		ng/g		110	40 - 150
Perfluorooctanesulfonic acid	2.32	2.41		ng/g		104	40 - 150
Perfluorononanesulfonic acid	2.41	2.52		ng/g		105	40 - 150
Perfluorodecanesulfonic acid	2.42	2.37		ng/g		98	40 - 150
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.33		ng/g		96	40 - 150
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	9.39	10.6		ng/g		113	40 - 150

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 410-432683/2-A

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	9.52	9.88		ng/g		104	40 - 150
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	9.62	10.3		ng/g		107	40 - 150
Perfluorooctanesulfonamide	2.50	2.59		ng/g		103	40 - 150
NMeFOSA	2.50	2.53		ng/g		101	40 - 150
N-ethylperfluoro-1-octanesulfonamide	2.50	2.58		ng/g		103	40 - 150
NMeFOSAA	2.50	2.69		ng/g		107	40 - 150
NEtFOSAA	2.50	2.97		ng/g		118	40 - 150
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	25.0	27.4		ng/g		110	40 - 150
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	25.0	28.0		ng/g		112	40 - 150
HFPO-DA	10.0	10.3		ng/g		103	40 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.45	10.7		ng/g		113	40 - 150
Perfluoro-3-methoxypropanoic acid	5.01	5.54		ng/g		111	40 - 150
Perfluoro(4-methoxybutanoic acid)	5.01	5.19		ng/g		104	40 - 150
Perfluoro-3,6-dioxaheptanoic acid	5.01	5.39		ng/g		108	40 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9.35	10.6		ng/g		114	40 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	9.45	9.68		ng/g		102	40 - 150
PFEESA	4.46	5.53		ng/g		124	40 - 150
3:3 FTCA	12.5	14.0		ng/g		112	40 - 150
5:3 FTCA	62.6	71.4		ng/g		114	40 - 150
7:3 FTCA	62.6	64.8		ng/g		104	40 - 150

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	106		20 - 150
13C5 PFPeA	111		20 - 150
13C5 PFHxA	105		20 - 150
13C4 PFHpA	109		20 - 150
13C8 PFOA	104		20 - 150
13C9 PFNA	103		20 - 150
13C6 PFDA	98.2		20 - 150
13C7 PFUnA	104		20 - 150
13C2-PFDoDA	95.2		20 - 150
13C2 PFTeDA	88.5		20 - 150
13C3 PFBS	108		20 - 150
13C3 PFHxS	106		20 - 150
13C8 PFOS	103		20 - 150
13C8 FOSA	93.9		20 - 150
d3-NMeFOSAA	104		20 - 150
d5-NEtFOSAA	96.5		20 - 150
M2-4:2 FTS	109		20 - 150

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 410-432683/2-A

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432683

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
M2-6:2 FTS	111		20 - 150
M2-8:2 FTS	100		20 - 150
13C3 HFPO-DA	104		20 - 150
d7-N-MeFOSE-M	90.0		20 - 150
d9-N-EtFOSE-M	89.3		20 - 150
d5-NEtPFOSA	76.5		20 - 150
d3-NMePFOSA	76.5		20 - 150

Lab Sample ID: LLCS 410-432683/3-A

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432683

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Perfluorobutanoic acid	1.60	1.79		ng/g		112	40 - 150
Perfluoropentanoic acid	0.800	1.00		ng/g		125	40 - 150
Perfluorohexanoic acid	0.400	0.511		ng/g		128	40 - 150
Perfluoroheptanoic acid	0.400	0.458		ng/g		114	40 - 150
Perfluorooctanoic acid	0.400	0.524		ng/g		131	40 - 150
Perfluorononanoic acid	0.400	0.509		ng/g		127	40 - 150
Perfluorodecanoic acid	0.400	0.426		ng/g		106	40 - 150
Perfluoroundecanoic acid	0.400	0.469		ng/g		117	40 - 150
Perfluorododecanoic acid	0.400	0.454		ng/g		113	40 - 150
Perfluorotridecanoic acid	0.400	0.488		ng/g		122	40 - 150
Perfluorotetradecanoic acid	0.400	0.489		ng/g		122	40 - 150
Perfluorobutanesulfonic acid	0.355	0.416		ng/g		117	40 - 150
Perfluoropentanesulfonic acid	0.376	0.483		ng/g		128	40 - 150
Perfluorohexanesulfonic acid	0.366	0.415		ng/g		113	40 - 150
Perfluoroheptanesulfonic acid	0.381	0.397		ng/g		104	40 - 150
Perfluorooctanesulfonic acid	0.371	0.389		ng/g		105	40 - 150
Perfluorononanesulfonic acid	0.385	0.368		ng/g		96	40 - 150
Perfluorodecanesulfonic acid	0.386	0.388		ng/g		100	40 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.377		ng/g		97	40 - 150
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	1.50	1.78		ng/g		118	40 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.52	1.64		ng/g		108	40 - 150
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	1.54	1.85		ng/g		121	40 - 150
Perfluorooctanesulfonamide	0.400	0.419		ng/g		105	40 - 150
NMeFOSA	0.400	0.425		ng/g		106	40 - 150
N-ethylperfluoro-1-octanesulfonamide	0.400	0.445		ng/g		111	40 - 150
NMeFOSAA	0.400	0.449		ng/g		112	40 - 150
NEtFOSAA	0.400	0.479		ng/g		120	40 - 150
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	4.00	4.58		ng/g		115	40 - 150
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	4.00	4.42		ng/g		110	40 - 150

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-432683/3-A

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 432683

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
HFPO-DA	1.60	1.64		ng/g		103	40 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.51	2.12	I	ng/g		140	40 - 150
Perfluoro-3-methoxypropanoic acid	0.800	0.945		ng/g		118	40 - 150
Perfluoro(4-methoxybutanoic acid)	0.800	0.882		ng/g		110	40 - 150
Perfluoro-3,6-dioxaheptanoic acid	0.800	0.691	I	ng/g		86	40 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.50	1.50		ng/g		100	40 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.51	1.64		ng/g		108	40 - 150
PFEESA	0.712	0.815		ng/g		114	40 - 150
3:3 FTCA	2.00	2.68		ng/g		134	40 - 150
5:3 FTCA	10.0	11.3		ng/g		113	40 - 150
7:3 FTCA	10.0	8.96		ng/g		89	40 - 150

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	106		20 - 150
13C5 PFPeA	99.0		20 - 150
13C5 PFHxA	105		20 - 150
13C4 PFHpA	102		20 - 150
13C8 PFOA	122		20 - 150
13C9 PFNA	102		20 - 150
13C6 PFDA	103		20 - 150
13C7 PFUnA	105		20 - 150
13C2-PFDoDA	98.3		20 - 150
13C2 PFTeDA	86.5		20 - 150
13C3 PFBS	114		20 - 150
13C3 PFHxS	103		20 - 150
13C8 PFOS	103		20 - 150
13C8 FOSA	92.7		20 - 150
d3-NMeFOSAA	102		20 - 150
d5-NEtFOSAA	96.9		20 - 150
M2-4:2 FTS	115		20 - 150
M2-6:2 FTS	110		20 - 150
M2-8:2 FTS	102		20 - 150
13C3 HFPO-DA	106		20 - 150
d7-N-MeFOSE-M	92.5		20 - 150
d9-N-EtFOSE-M	94.1		20 - 150
d5-NEtPFOSA	71.2		20 - 150
d3-NMePFOSA	69.5		20 - 150

Lab Sample ID: 410-147072-3 DU

Matrix: Solid

Analysis Batch: 439500

Client Sample ID: SED Comp 3

Prep Type: Total/NA

Prep Batch: 432683

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Perfluorobutanoic acid	ND		ND		ng/g	✱	NC	30

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: 410-147072-3 DU

Client Sample ID: SED Comp 3

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 439500

Prep Batch: 432683

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Perfluoropentanoic acid	ND		ND		ng/g	*	NC	30
Perfluorohexanoic acid	ND		ND		ng/g	*	NC	30
Perfluoroheptanoic acid	ND		ND		ng/g	*	NC	30
Perfluorooctanoic acid	ND		ND		ng/g	*	NC	30
Perfluorononanoic acid	ND		ND		ng/g	*	NC	30
Perfluorodecanoic acid	ND		ND		ng/g	*	NC	30
Perfluoroundecanoic acid	ND		ND		ng/g	*	NC	30
Perfluorododecanoic acid	ND		ND		ng/g	*	NC	30
Perfluorotridecanoic acid	ND		ND		ng/g	*	NC	30
Perfluorotetradecanoic acid	ND		ND		ng/g	*	NC	30
Perfluorobutanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluoropentanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluorohexanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluoroheptanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluorooctanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluorononanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluorodecanesulfonic acid	ND		ND		ng/g	*	NC	30
Perfluorododecanesulfonic acid (PFDoS)	ND		ND		ng/g	*	NC	30
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		ND		ng/g	*	NC	30
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		ND		ng/g	*	NC	30
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		ND		ng/g	*	NC	30
Perfluorooctanesulfonamide	ND		ND		ng/g	*	NC	30
NMeFOSA	ND		ND		ng/g	*	NC	30
N-ethylperfluoro-1-octanesulfonamide	ND		ND		ng/g	*	NC	30
NMeFOSAA	ND		ND		ng/g	*	NC	30
NEtFOSAA	ND		ND		ng/g	*	NC	30
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		ND		ng/g	*	NC	30
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		ND		ng/g	*	NC	30
HFPO-DA	ND		ND		ng/g	*	NC	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		ND		ng/g	*	NC	30
Perfluoro-3-methoxypropanoic acid	ND		ND		ng/g	*	NC	30
Perfluoro(4-methoxybutanoic acid)	ND		ND		ng/g	*	NC	30
Perfluoro-3,6-dioxaheptanoic acid	ND		ND		ng/g	*	NC	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		ND		ng/g	*	NC	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		ND		ng/g	*	NC	30
PFEESA	ND		ND		ng/g	*	NC	30
3:3 FTCA	ND		ND		ng/g	*	NC	30

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: 410-147072-3 DU

Client Sample ID: SED Comp 3

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 439500

Prep Batch: 432683

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
5:3 FTCA	ND		ND		ng/g	☼	NC	30
7:3 FTCA	ND		ND		ng/g	☼	NC	30
	<i>DU</i>	<i>DU</i>						
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					
13C4 PFBA	107		20 - 150					
13C5 PFPeA	103		20 - 150					
13C5 PFHxA	97.6		20 - 150					
13C4 PFHpA	104		20 - 150					
13C8 PFOA	121		20 - 150					
13C9 PFNA	99.3		20 - 150					
13C6 PFDA	95.2		20 - 150					
13C7 PFUnA	99.9		20 - 150					
13C2-PFDoDA	95.0		20 - 150					
13C2 PFTeDA	88.0		20 - 150					
13C3 PFBS	110		20 - 150					
13C3 PFHxS	101		20 - 150					
13C8 PFOS	101		20 - 150					
13C8 FOSA	92.8		20 - 150					
d3-NMeFOSAA	98.5		20 - 150					
d5-NEtFOSAA	95.8		20 - 150					
M2-4:2 FTS	116		20 - 150					
M2-6:2 FTS	112		20 - 150					
M2-8:2 FTS	115		20 - 150					
13C3 HFPO-DA	101		20 - 150					
d7-N-MeFOSE-M	82.7		20 - 150					
d9-N-EtFOSE-M	81.8		20 - 150					
d5-NEtPFOSA	78.3		20 - 150					
d3-NMePFOSA	82.6		20 - 150					

Lab Sample ID: MB 410-437922/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 440602

Prep Batch: 437922

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid	ND		8.0	2.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoropentanoic acid	ND		4.0	1.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoroheptanoic acid	ND		2.0	0.52	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorooctanoic acid	ND		2.0	0.64	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorobutanesulfonic acid	ND		2.0	0.30	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoroheptanesulfonic acid	ND		2.0	0.40	ng/L		10/31/23 15:05	11/07/23 23:33	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-437922/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 440602

Prep Batch: 437922

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorononanesulfonic acid	ND		2.0	0.40	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.90	ng/L		10/31/23 15:05	11/07/23 23:33	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		8.0	1.7	ng/L		10/31/23 15:05	11/07/23 23:33	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		8.0	2.5	ng/L		10/31/23 15:05	11/07/23 23:33	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		8.0	2.6	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluorooctanesulfonamide	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
NMeFOSA	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
N-ethylperfluoro-1-octanesulfonamide	ND		2.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
NMeFOSAA	ND		4.0	1.2	ng/L		10/31/23 15:05	11/07/23 23:33	1
NEtFOSAA	ND		2.0	0.70	ng/L		10/31/23 15:05	11/07/23 23:33	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		20	5.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		20	5.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
HFPO-DA	ND		8.0	2.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		8.0	1.5	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoro-3-methoxypropanoic acid	ND		4.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoro(4-methoxybutanoic acid)	ND		4.0	1.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
Perfluoro-3,6-dioxaheptanoic acid	ND		4.0	1.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		8.0	1.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		8.0	2.0	ng/L		10/31/23 15:05	11/07/23 23:33	1
PFEEA	ND		4.0	0.50	ng/L		10/31/23 15:05	11/07/23 23:33	1
3:3 FTCA	ND		10	1.5	ng/L		10/31/23 15:05	11/07/23 23:33	1
5:3 FTCA	ND		50	10	ng/L		10/31/23 15:05	11/07/23 23:33	1
7:3 FTCA	ND		50	10	ng/L		10/31/23 15:05	11/07/23 23:33	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	93.9		10 - 130	10/31/23 15:05	11/07/23 23:33	1
13C5 PFPeA	97.8		35 - 150	10/31/23 15:05	11/07/23 23:33	1
13C5 PFHxA	97.3		55 - 150	10/31/23 15:05	11/07/23 23:33	1
13C4 PFHpA	103		55 - 150	10/31/23 15:05	11/07/23 23:33	1
13C8 PFOA	94.8		60 - 140	10/31/23 15:05	11/07/23 23:33	1
13C9 PFNA	95.0		55 - 140	10/31/23 15:05	11/07/23 23:33	1
13C6 PFDA	88.3		50 - 140	10/31/23 15:05	11/07/23 23:33	1
13C7 PFUnA	72.1		30 - 140	10/31/23 15:05	11/07/23 23:33	1
13C2-PFDoDA	71.4		10 - 150	10/31/23 15:05	11/07/23 23:33	1
13C2 PFTeDA	71.4		10 - 130	10/31/23 15:05	11/07/23 23:33	1
13C3 PFBS	96.3		55 - 150	10/31/23 15:05	11/07/23 23:33	1
13C3 PFHxS	100		55 - 150	10/31/23 15:05	11/07/23 23:33	1
13C8 PFOS	92.2		45 - 140	10/31/23 15:05	11/07/23 23:33	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-437922/1-A

Matrix: Water

Analysis Batch: 440602

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 437922

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 FOSA	83.9		30 - 130	10/31/23 15:05	11/07/23 23:33	1
d3-NMeFOSAA	104		45 - 200	10/31/23 15:05	11/07/23 23:33	1
d5-NEtFOSAA	99.2		10 - 200	10/31/23 15:05	11/07/23 23:33	1
M2-4:2 FTS	109		60 - 200	10/31/23 15:05	11/07/23 23:33	1
M2-6:2 FTS	115		60 - 200	10/31/23 15:05	11/07/23 23:33	1
M2-8:2 FTS	90.4		50 - 200	10/31/23 15:05	11/07/23 23:33	1
13C3 HFPO-DA	99.2		25 - 160	10/31/23 15:05	11/07/23 23:33	1
d7-N-MeFOSE-M	68.4		10 - 150	10/31/23 15:05	11/07/23 23:33	1
d9-N-EtFOSE-M	66.5		10 - 150	10/31/23 15:05	11/07/23 23:33	1
d5-NEtPFOSA	47.3		10 - 130	10/31/23 15:05	11/07/23 23:33	1
d3-NMePFOSA	49.5		15 - 130	10/31/23 15:05	11/07/23 23:33	1

Lab Sample ID: LCS 410-437922/2-A

Matrix: Water

Analysis Batch: 440602

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 437922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Perfluorobutanoic acid	100	99.1		ng/L		99	58 - 148
Perfluoropentanoic acid	50.1	53.4		ng/L		107	54 - 152
Perfluorohexanoic acid	25.0	21.6		ng/L		86	55 - 152
Perfluoroheptanoic acid	25.0	25.9		ng/L		103	54 - 154
Perfluorooctanoic acid	25.0	29.2		ng/L		116	52 - 161
Perfluorononanoic acid	25.0	28.0		ng/L		112	59 - 149
Perfluorodecanoic acid	25.0	25.7		ng/L		103	52 - 147
Perfluoroundecanoic acid	25.0	31.0		ng/L		124	48 - 159
Perfluorododecanoic acid	25.0	28.7		ng/L		115	64 - 142
Perfluorotridecanoic acid	25.0	28.1		ng/L		112	49 - 148
Perfluorotetradecanoic acid	25.0	27.2		ng/L		109	47 - 161
Perfluorobutanesulfonic acid	22.2	22.9		ng/L		103	62 - 144
Perfluoropentanesulfonic acid	23.6	22.2		ng/L		94	59 - 151
Perfluorohexanesulfonic acid	22.9	22.7		ng/L		99	57 - 146
Perfluoroheptanesulfonic acid	23.9	24.6		ng/L		103	55 - 152
Perfluorooctanesulfonic acid	23.2	24.0		ng/L		103	58 - 149
Perfluorononanesulfonic acid	24.1	23.3		ng/L		97	52 - 148
Perfluorodecanesulfonic acid	24.2	23.9		ng/L		99	51 - 147
Perfluorododecanesulfonic acid (PFDoS)	24.3	23.8		ng/L		98	36 - 145
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	93.9	98.0		ng/L		104	67 - 146
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	95.2	97.7		ng/L		103	61 - 151
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	96.2	91.1		ng/L		95	63 - 152
Perfluorooctanesulfonamide	25.0	25.9		ng/L		103	61 - 148
NMeFOSA	25.0	29.7		ng/L		119	63 - 145
N-ethylperfluoro-1-octanesulfonamide	25.0	29.6		ng/L		118	65 - 139
NMeFOSAA	25.0	27.1		ng/L		108	58 - 144
NEtFOSAA	25.0	26.8		ng/L		107	59 - 146

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 410-437922/2-A

Matrix: Water

Analysis Batch: 440602

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 437922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	250	264		ng/L		105	71 - 136
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	250	282		ng/L		113	69 - 137
HFPO-DA	100	93.0		ng/L		93	63 - 144
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.2	93.2		ng/L		99	68 - 146
Perfluoro-3-methoxypropanoic acid	50.1	54.9		ng/L		110	51 - 145
Perfluoro(4-methoxybutanoic acid)	50.1	45.5		ng/L		91	55 - 148
Perfluoro-3,6-dioxaheptanoic acid	50.1	55.5		ng/L		111	48 - 161
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	93.2	86.3		ng/L		93	56 - 156
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	94.2	88.6		ng/L		94	46 - 156
PFEESA	44.6	38.1		ng/L		86	56 - 151
3:3 FTCA	125	151		ng/L		121	62 - 129
5:3 FTCA	626	606		ng/L		97	63 - 134
7:3 FTCA	626	587		ng/L		94	50 - 138

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	93.7		10 - 130
13C5 PFPeA	94.0		40 - 150
13C5 PFHxA	98.5		40 - 150
13C4 PFHpA	96.4		40 - 150
13C8 PFOA	97.5		30 - 140
13C9 PFNA	86.8		30 - 140
13C6 PFDA	86.2		20 - 140
13C7 PFUnA	72.5		20 - 140
13C2-PFDaDA	70.7		10 - 150
13C2 PFTeDA	73.5		10 - 130
13C3 PFBS	95.6		25 - 150
13C3 PFHxS	101		25 - 150
13C8 PFOS	91.7		20 - 140
13C8 FOSA	84.3		10 - 130
d3-NMeFOSAA	107		10 - 200
d5-NEtFOSAA	106		10 - 200
M2-4:2 FTS	120		25 - 200
M2-6:2 FTS	109		25 - 200
M2-8:2 FTS	109		25 - 200
13C3 HFPO-DA	91.9		25 - 160
d7-N-MeFOSE-M	79.4		10 - 150
d9-N-EtFOSE-M	77.2		10 - 150
d5-NEtPFOSA	52.4		10 - 130
d3-NMePFOSA	53.5		10 - 130

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-437922/3-A

Matrix: Water

Analysis Batch: 440602

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 437922

Analyte	Spike	LLCS	LLCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Perfluorobutanoic acid	16.0	15.2		ng/L		95	44 - 157
Perfluoropentanoic acid	8.00	7.81		ng/L		98	57 - 148
Perfluorohexanoic acid	4.00	3.28		ng/L		82	62 - 149
Perfluoroheptanoic acid	4.00	4.04		ng/L		101	56 - 150
Perfluorooctanoic acid	4.00	5.03		ng/L		126	57 - 161
Perfluorononanoic acid	4.00	4.43		ng/L		111	53 - 157
Perfluorodecanoic acid	4.00	3.85		ng/L		96	43 - 158
Perfluoroundecanoic acid	4.00	4.59		ng/L		115	50 - 155
Perfluorododecanoic acid	4.00	3.91		ng/L		98	60 - 141
Perfluorotridecanoic acid	4.00	3.97		ng/L		99	52 - 140
Perfluorotetradecanoic acid	4.00	3.72		ng/L		93	52 - 156
Perfluorobutanesulfonic acid	3.55	4.34		ng/L		122	63 - 145
Perfluoropentanesulfonic acid	3.76	3.60		ng/L		96	58 - 144
Perfluorohexanesulfonic acid	3.66	3.72		ng/L		102	44 - 158
Perfluoroheptanesulfonic acid	3.81	3.71		ng/L		97	51 - 150
Perfluorooctanesulfonic acid	3.71	3.57		ng/L		96	43 - 162
Perfluorononanesulfonic acid	3.85	3.54		ng/L		92	46 - 151
Perfluorodecanesulfonic acid	3.86	3.67		ng/L		95	50 - 144
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.78		ng/L		98	30 - 138
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	15.0	15.4		ng/L		103	52 - 158
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	15.2	13.0		ng/L		86	48 - 158
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	15.4	16.8		ng/L		109	46 - 165
Perfluorooctanesulfonamide	4.00	3.86		ng/L		96	47 - 163
NMeFOSA	4.00	4.32		ng/L		108	54 - 155
N-ethylperfluoro-1-octanesulfonamide	4.00	4.17		ng/L		104	49 - 156
NMeFOSAA	4.00	3.53	J	ng/L		88	32 - 160
NEtFOSAA	4.00	4.11		ng/L		103	51 - 154
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	40.0	39.4		ng/L		98	56 - 151
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	40.0	39.6		ng/L		99	60 - 147
HFPO-DA	16.0	15.2		ng/L		95	58 - 154
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	15.1	14.3		ng/L		95	61 - 148
Perfluoro-3-methoxypropanoic acid	8.00	7.40		ng/L		93	48 - 150
Perfluoro(4-methoxybutanoic acid)	8.00	6.32		ng/L		79	49 - 154
Perfluoro-3,6-dioxaheptanoic acid	8.00	7.22		ng/L		90	47 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	14.9	14.0		ng/L		94	44 - 167
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	15.1	13.9		ng/L		92	36 - 158
PFEESA	7.12	6.18		ng/L		87	56 - 144

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-437922/3-A

Matrix: Water

Analysis Batch: 440602

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 437922

Analyte	Spike Added	LLCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
3:3 FTCA	20.0	21.0		ng/L		105	32 - 161
5:3 FTCA	100	93.8		ng/L		94	39 - 156
7:3 FTCA	100	89.1		ng/L		89	36 - 149

Isotope Dilution	LLCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	94.6		10 - 130
13C5 PFPeA	106		40 - 150
13C5 PFHxA	103		40 - 150
13C4 PFHpA	106		40 - 150
13C8 PFOA	105		30 - 140
13C9 PFNA	107		30 - 140
13C6 PFDA	94.7		20 - 140
13C7 PFUnA	81.0		20 - 140
13C2-PFDoDA	82.4		10 - 150
13C2 PFTeDA	83.0		10 - 130
13C3 PFBS	86.5		25 - 150
13C3 PFHxS	94.8		25 - 150
13C8 PFOS	90.3		20 - 140
13C8 FOSA	86.7		10 - 130
d3-NMeFOSAA	111		10 - 200
d5-NEtFOSAA	113		10 - 200
M2-4:2 FTS	117		25 - 200
M2-6:2 FTS	111		25 - 200
M2-8:2 FTS	96.6		25 - 200
13C3 HFPO-DA	100		25 - 160
d7-N-MeFOSE-M	77.8		10 - 150
d9-N-EtFOSE-M	78.0		10 - 150
d5-NEtPFOSA	52.6		10 - 130
d3-NMePFOSA	53.6		10 - 130

Lab Sample ID: MB 410-440339/1-A

Matrix: Water

Analysis Batch: 443753

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 440339

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid	ND		8.0	2.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoropentanoic acid	ND		4.0	1.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoroheptanoic acid	ND		2.0	0.52	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorooctanoic acid	ND		2.0	0.64	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorobutanesulfonic acid	ND		2.0	0.30	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/07/23 07:22	11/16/23 03:31	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-440339/1-A

Matrix: Water

Analysis Batch: 443753

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 440339

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluoroheptanesulfonic acid	ND		2.0	0.40	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorononanesulfonic acid	ND		2.0	0.40	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.90	ng/L		11/07/23 07:22	11/16/23 03:31	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		8.0	1.7	ng/L		11/07/23 07:22	11/16/23 03:31	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		8.0	2.5	ng/L		11/07/23 07:22	11/16/23 03:31	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		8.0	2.6	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluorooctanesulfonamide	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
NMeFOSA	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
N-ethylperfluoro-1-octanesulfonamide	ND		2.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
NMeFOSAA	ND		4.0	1.2	ng/L		11/07/23 07:22	11/16/23 03:31	1
NEtFOSAA	ND		2.0	0.70	ng/L		11/07/23 07:22	11/16/23 03:31	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		20	5.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		20	5.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
HFPO-DA	ND		8.0	2.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		8.0	1.5	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoro-3-methoxypropanoic acid	ND		4.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoro(4-methoxybutanoic acid)	ND		4.0	1.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
Perfluoro-3,6-dioxaheptanoic acid	ND		4.0	1.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		8.0	1.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		8.0	2.0	ng/L		11/07/23 07:22	11/16/23 03:31	1
PFEEESA	ND		4.0	0.50	ng/L		11/07/23 07:22	11/16/23 03:31	1
3:3 FTCA	ND		10	1.5	ng/L		11/07/23 07:22	11/16/23 03:31	1
5:3 FTCA	ND		50	10	ng/L		11/07/23 07:22	11/16/23 03:31	1
7:3 FTCA	ND		50	10	ng/L		11/07/23 07:22	11/16/23 03:31	1
	MB	MB					Prepared	Analyzed	Dil Fac
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	76.8		10 - 130				11/07/23 07:22	11/16/23 03:31	1
13C5 PFPeA	81.0		35 - 150				11/07/23 07:22	11/16/23 03:31	1
13C5 PFHxA	83.8		55 - 150				11/07/23 07:22	11/16/23 03:31	1
13C4 PFHpA	91.4		55 - 150				11/07/23 07:22	11/16/23 03:31	1
13C8 PFOA	86.7		60 - 140				11/07/23 07:22	11/16/23 03:31	1
13C9 PFNA	77.4		55 - 140				11/07/23 07:22	11/16/23 03:31	1
13C6 PFDA	79.1		50 - 140				11/07/23 07:22	11/16/23 03:31	1
13C7 PFUnA	79.7		30 - 140				11/07/23 07:22	11/16/23 03:31	1
13C2-PFDoDA	76.6		10 - 150				11/07/23 07:22	11/16/23 03:31	1
13C2 PFTeDA	87.1		10 - 130				11/07/23 07:22	11/16/23 03:31	1
13C3 PFBS	75.6		55 - 150				11/07/23 07:22	11/16/23 03:31	1
13C3 PFHxS	83.8		55 - 150				11/07/23 07:22	11/16/23 03:31	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-440339/1-A

Matrix: Water

Analysis Batch: 443753

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 440339

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	78.3		45 - 140	11/07/23 07:22	11/16/23 03:31	1
13C8 FOSA	86.8		30 - 130	11/07/23 07:22	11/16/23 03:31	1
d3-NMeFOSAA	70.2		45 - 200	11/07/23 07:22	11/16/23 03:31	1
d5-NEtFOSAA	70.0		10 - 200	11/07/23 07:22	11/16/23 03:31	1
M2-4:2 FTS	79.2		60 - 200	11/07/23 07:22	11/16/23 03:31	1
M2-6:2 FTS	84.4		60 - 200	11/07/23 07:22	11/16/23 03:31	1
M2-8:2 FTS	84.1		50 - 200	11/07/23 07:22	11/16/23 03:31	1
13C3 HFPO-DA	88.2		25 - 160	11/07/23 07:22	11/16/23 03:31	1
d7-N-MeFOSE-M	72.9		10 - 150	11/07/23 07:22	11/16/23 03:31	1
d9-N-EtFOSE-M	73.0		10 - 150	11/07/23 07:22	11/16/23 03:31	1
d5-NEtPFOSA	66.3		10 - 130	11/07/23 07:22	11/16/23 03:31	1
d3-NMePFOSA	65.3		15 - 130	11/07/23 07:22	11/16/23 03:31	1

Lab Sample ID: LCS 410-440339/2-A

Matrix: Water

Analysis Batch: 444158

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 440339

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Perfluorobutanoic acid	100	122		ng/L		121	58 - 148
Perfluoropentanoic acid	50.1	70.3	I	ng/L		140	54 - 152
Perfluorohexanoic acid	25.0	32.4		ng/L		129	55 - 152
Perfluoroheptanoic acid	25.0	32.0		ng/L		128	54 - 154
Perfluorooctanoic acid	25.0	39.3		ng/L		157	52 - 161
Perfluorononanoic acid	25.0	38.2	*+	ng/L		153	59 - 149
Perfluorodecanoic acid	25.0	32.6		ng/L		130	52 - 147
Perfluoroundecanoic acid	25.0	31.7		ng/L		127	48 - 159
Perfluorododecanoic acid	25.0	32.7		ng/L		131	64 - 142
Perfluorotridecanoic acid	25.0	31.6		ng/L		126	49 - 148
Perfluorotetradecanoic acid	25.0	30.5		ng/L		122	47 - 161
Perfluorobutanesulfonic acid	22.2	29.5		ng/L		133	62 - 144
Perfluoropentanesulfonic acid	23.6	28.7		ng/L		122	59 - 151
Perfluorohexanesulfonic acid	22.9	28.9		ng/L		126	57 - 146
Perfluoroheptanesulfonic acid	23.9	31.3		ng/L		131	55 - 152
Perfluorooctanesulfonic acid	23.2	29.9		ng/L		129	58 - 149
Perfluorononanesulfonic acid	24.1	28.4		ng/L		118	52 - 148
Perfluorodecanesulfonic acid	24.2	31.6		ng/L		131	51 - 147
Perfluorododecanesulfonic acid (PFDoS)	24.3	32.6		ng/L		134	36 - 145
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	93.9	128		ng/L		136	67 - 146
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	95.2	113		ng/L		119	61 - 151
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	96.2	129		ng/L		134	63 - 152
Perfluorooctanesulfonamide	25.0	27.9		ng/L		111	61 - 148
NMeFOSA	25.0	30.8		ng/L		123	63 - 145
N-ethylperfluoro-1-octanesulfonamide	25.0	29.3		ng/L		117	65 - 139
NMeFOSAA	25.0	40.1	*+	ng/L		160	58 - 144
NEtFOSAA	25.0	34.2		ng/L		136	59 - 146

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 410-440339/2-A

Matrix: Water

Analysis Batch: 444158

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 440339

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	250	304		ng/L		121	71 - 136
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	250	340		ng/L		136	69 - 137
HFPO-DA	100	110		ng/L		110	63 - 144
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.2	109		ng/L		115	68 - 146
Perfluoro-3-methoxypropanoic acid	50.1	67.4		ng/L		135	51 - 145
Perfluoro(4-methoxybutanoic acid)	50.1	71.6		ng/L		143	55 - 148
Perfluoro-3,6-dioxaheptanoic acid	50.1	68.7		ng/L		137	48 - 161
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	93.2	113		ng/L		121	56 - 156
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	94.2	107		ng/L		114	46 - 156
PFEESA	44.6	59.4		ng/L		133	56 - 151
3:3 FTCA	125	177	*+	ng/L		142	62 - 129
5:3 FTCA	626	789		ng/L		126	63 - 134
7:3 FTCA	626	787		ng/L		126	50 - 138

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	91.6		10 - 130
13C5 PFPeA	86.4		40 - 150
13C5 PFHxA	90.3		40 - 150
13C4 PFHpA	92.6		40 - 150
13C8 PFOA	88.1		30 - 140
13C9 PFNA	107		30 - 140
13C6 PFDA	89.4		20 - 140
13C7 PFUnA	90.1		20 - 140
13C2-PFDaDA	91.2		10 - 150
13C2 PFTeDA	97.9		10 - 130
13C3 PFBS	92.9		25 - 150
13C3 PFHxS	96.2		25 - 150
13C8 PFOS	96.7		20 - 140
13C8 FOSA	101		10 - 130
d3-NMeFOSAA	76.5		10 - 200
d5-NEtFOSAA	91.6		10 - 200
M2-4:2 FTS	90.5		25 - 200
M2-6:2 FTS	112		25 - 200
M2-8:2 FTS	93.8		25 - 200
13C3 HFPO-DA	95.4		25 - 160
d7-N-MeFOSE-M	87.7		10 - 150
d9-N-EtFOSE-M	89.3		10 - 150
d5-NEtPFOSA	73.0		10 - 130
d3-NMePFOSA	74.3		10 - 130

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-440339/3-A

Matrix: Water

Analysis Batch: 443753

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 440339

Analyte	Spike	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Perfluorobutanoic acid	16.0	16.8		ng/L		105	44 - 157
Perfluoropentanoic acid	8.00	11.1		ng/L		139	57 - 148
Perfluorohexanoic acid	4.00	5.28		ng/L		132	62 - 149
Perfluoroheptanoic acid	4.00	4.91		ng/L		123	56 - 150
Perfluorooctanoic acid	4.00	5.32		ng/L		133	57 - 161
Perfluorononanoic acid	4.00	5.53		ng/L		138	53 - 157
Perfluorodecanoic acid	4.00	5.27		ng/L		132	43 - 158
Perfluoroundecanoic acid	4.00	4.94		ng/L		124	50 - 155
Perfluorododecanoic acid	4.00	4.92		ng/L		123	60 - 141
Perfluorotridecanoic acid	4.00	4.47		ng/L		112	52 - 140
Perfluorotetradecanoic acid	4.00	4.63		ng/L		116	52 - 156
Perfluorobutanesulfonic acid	3.55	4.08		ng/L		115	63 - 145
Perfluoropentanesulfonic acid	3.76	3.86		ng/L		102	58 - 144
Perfluorohexanesulfonic acid	3.66	4.24		ng/L		116	44 - 158
Perfluoroheptanesulfonic acid	3.81	4.70		ng/L		123	51 - 150
Perfluorooctanesulfonic acid	3.71	4.82		ng/L		130	43 - 162
Perfluorononanesulfonic acid	3.85	4.44		ng/L		116	46 - 151
Perfluorodecanesulfonic acid	3.86	4.59		ng/L		119	50 - 144
Perfluorododecanesulfonic acid (PFDoS)	3.88	4.87		ng/L		126	30 - 138
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	15.0	18.9		ng/L		126	52 - 158
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	15.2	16.8		ng/L		111	48 - 158
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	15.4	16.4		ng/L		107	46 - 165
Perfluorooctanesulfonamide	4.00	4.08		ng/L		102	47 - 163
NMeFOSA	4.00	4.35		ng/L		109	54 - 155
N-ethylperfluoro-1-octanesulfonamide	4.00	4.40		ng/L		110	49 - 156
NMeFOSAA	4.00	5.75		ng/L		144	32 - 160
NEtFOSAA	4.00	5.36		ng/L		134	51 - 154
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	40.0	47.0		ng/L		118	56 - 151
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	40.0	51.0		ng/L		127	60 - 147
HFPO-DA	16.0	17.3		ng/L		108	58 - 154
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	15.1	17.9		ng/L		119	61 - 148
Perfluoro-3-methoxypropanoic acid	8.00	10.5		ng/L		131	48 - 150
Perfluoro(4-methoxybutanoic acid)	8.00	11.3		ng/L		142	49 - 154
Perfluoro-3,6-dioxaheptanoic acid	8.00	9.33		ng/L		117	47 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	14.9	18.5		ng/L		124	44 - 167
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	15.1	17.9		ng/L		119	36 - 158
PFEESA	7.12	7.67		ng/L		108	56 - 144

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-440339/3-A
Matrix: Water
Analysis Batch: 443753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 440339

Analyte	Spike	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
3:3 FTCA	20.0	29.2		ng/L		146	32 - 161
5:3 FTCA	100	114		ng/L		114	39 - 156
7:3 FTCA	100	106		ng/L		106	36 - 149

Isotope Dilution	LLCS	LLCS	Limits
	%Recovery	Qualifier	
13C4 PFBA	92.3		10 - 130
13C5 PFPeA	82.9		40 - 150
13C5 PFHxA	96.7		40 - 150
13C4 PFHpA	96.7		40 - 150
13C8 PFOA	95.7		30 - 140
13C9 PFNA	86.4		30 - 140
13C6 PFDA	94.7		20 - 140
13C7 PFUnA	90.1		20 - 140
13C2-PFDoDA	88.5		10 - 150
13C2 PFTeDA	102		10 - 130
13C3 PFBS	98.7		25 - 150
13C3 PFHxS	98.8		25 - 150
13C8 PFOS	94.0		20 - 140
13C8 FOSA	98.1		10 - 130
d3-NMeFOSAA	82.8		10 - 200
d5-NEtFOSAA	88.4		10 - 200
M2-4:2 FTS	95.3		25 - 200
M2-6:2 FTS	109		25 - 200
M2-8:2 FTS	94.6		25 - 200
13C3 HFPO-DA	92.8		25 - 160
d7-N-MeFOSE-M	81.2		10 - 150
d9-N-EtFOSE-M	83.1		10 - 150
d5-NEtPFOSA	73.8		10 - 130
d3-NMePFOSA	76.8		10 - 130

Lab Sample ID: MB 410-442336/1-A
Matrix: Solid
Analysis Batch: 444874

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 442336

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid	ND		0.80	0.10	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoropentanoic acid	ND		0.40	0.10	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorohexanoic acid	ND		0.20	0.059	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoroheptanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorooctanoic acid	ND		0.20	0.051	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorononanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorodecanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoroundecanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorododecanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorotridecanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorotetradecanoic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorobutanesulfonic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoropentanesulfonic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorohexanesulfonic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-442336/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 444874

Prep Batch: 442336

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluoroheptanesulfonic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorooctanesulfonic acid	ND		0.20	0.051	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorononanesulfonic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorodecanesulfonic acid	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	ND		0.80	0.20	ng/g		11/11/23 09:46	11/17/23 22:14	1
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	ND		1.0	0.35	ng/g		11/11/23 09:46	11/17/23 22:14	1
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	ND		1.0	0.35	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluorooctanesulfonamide	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
NMeFOSA	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
N-ethylperfluoro-1-octanesulfonamide	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
NMeFOSAA	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
NETFOSAA	ND		0.20	0.050	ng/g		11/11/23 09:46	11/17/23 22:14	1
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g		11/11/23 09:46	11/17/23 22:14	1
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	ND		2.0	0.50	ng/g		11/11/23 09:46	11/17/23 22:14	1
HFPO-DA	ND		0.80	0.051	ng/g		11/11/23 09:46	11/17/23 22:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.80	0.20	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoro-3-methoxypropanoic acid	ND		0.40	0.10	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoro(4-methoxybutanoic acid)	ND		0.40	0.10	ng/g		11/11/23 09:46	11/17/23 22:14	1
Perfluoro-3,6-dioxaheptanoic acid	ND		0.40	0.10	ng/g		11/11/23 09:46	11/17/23 22:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		0.80	0.20	ng/g		11/11/23 09:46	11/17/23 22:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		0.80	0.20	ng/g		11/11/23 09:46	11/17/23 22:14	1
PFEESA	ND		0.40	0.10	ng/g		11/11/23 09:46	11/17/23 22:14	1
3:3 FTCA	ND		1.0	0.25	ng/g		11/11/23 09:46	11/17/23 22:14	1
5:3 FTCA	ND		5.0	1.0	ng/g		11/11/23 09:46	11/17/23 22:14	1
7:3 FTCA	ND		5.0	1.0	ng/g		11/11/23 09:46	11/17/23 22:14	1
	MB	MB					Prepared	Analyzed	Dil Fac
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	76.0		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C5 PFPeA	84.8		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C5 PFHxA	81.1		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C4 PFHpA	102		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C8 PFOA	87.2		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C9 PFNA	104		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C6 PFDA	99.6		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C7 PFUnA	85.9		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C2-PFDoDA	91.2		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C2 PFTeDA	87.3		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C3 PFBS	99.7		20 - 150				11/11/23 09:46	11/17/23 22:14	1
13C3 PFHxS	107		20 - 150				11/11/23 09:46	11/17/23 22:14	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: MB 410-442336/1-A

Matrix: Solid

Analysis Batch: 444874

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 442336

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	99.8		20 - 150	11/11/23 09:46	11/17/23 22:14	1
13C8 FOSA	118		20 - 150	11/11/23 09:46	11/17/23 22:14	1
d3-NMeFOSAA	81.9		20 - 150	11/11/23 09:46	11/17/23 22:14	1
d5-NEtFOSAA	91.9		20 - 150	11/11/23 09:46	11/17/23 22:14	1
M2-4:2 FTS	121		20 - 150	11/11/23 09:46	11/17/23 22:14	1
M2-6:2 FTS	127		20 - 150	11/11/23 09:46	11/17/23 22:14	1
M2-8:2 FTS	104		20 - 150	11/11/23 09:46	11/17/23 22:14	1
13C3 HFPO-DA	94.2		20 - 150	11/11/23 09:46	11/17/23 22:14	1
d7-N-MeFOSE-M	82.9		20 - 150	11/11/23 09:46	11/17/23 22:14	1
d9-N-EtFOSE-M	80.3		20 - 150	11/11/23 09:46	11/17/23 22:14	1
d5-NEtPFOSA	58.4		20 - 150	11/11/23 09:46	11/17/23 22:14	1
d3-NMePFOSA	65.9		20 - 150	11/11/23 09:46	11/17/23 22:14	1

Lab Sample ID: LCS 410-442336/2-A

Matrix: Solid

Analysis Batch: 445103

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 442336

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid	5.01	7.18		ng/g		143	40 - 150
Perfluorohexanoic acid	2.50	3.29		ng/g		131	40 - 150
Perfluoroheptanoic acid	2.50	3.24		ng/g		130	40 - 150
Perfluorooctanoic acid	2.50	3.66		ng/g		146	40 - 150
Perfluorononanoic acid	2.50	3.81	*+	ng/g		152	40 - 150
Perfluorodecanoic acid	2.50	3.06		ng/g		122	40 - 150
Perfluoroundecanoic acid	2.50	3.17		ng/g		127	40 - 150
Perfluorododecanoic acid	2.50	3.41		ng/g		136	40 - 150
Perfluorotridecanoic acid	2.50	3.25		ng/g		130	40 - 150
Perfluorotetradecanoic acid	2.50	3.20		ng/g		128	40 - 150
Perfluorobutanesulfonic acid	2.22	3.03		ng/g		137	40 - 150
Perfluoropentanesulfonic acid	2.36	2.91		ng/g		124	40 - 150
Perfluorohexanesulfonic acid	2.29	2.72		ng/g		119	40 - 150
Perfluoroheptanesulfonic acid	2.39	3.15		ng/g		132	40 - 150
Perfluorooctanesulfonic acid	2.32	2.90		ng/g		125	40 - 150
Perfluorononanesulfonic acid	2.41	2.93		ng/g		122	40 - 150
Perfluorodecanesulfonic acid	2.42	2.79		ng/g		115	40 - 150
Perfluorododecanesulfonic acid (PFDoS)	2.43	2.78		ng/g		115	40 - 150
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	9.39	13.5		ng/g		144	40 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	9.52	11.7		ng/g		123	40 - 150
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	9.62	12.6		ng/g		131	40 - 150
Perfluorooctanesulfonamide	2.50	2.88		ng/g		115	40 - 150
NMeFOSA	2.50	2.72		ng/g		109	40 - 150
N-ethylperfluoro-1-octanesulfonamide	2.50	2.69		ng/g		107	40 - 150
NMeFOSAA	2.50	3.35		ng/g		134	40 - 150
NEtFOSAA	2.50	3.45		ng/g		138	40 - 150

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LCS 410-442336/2-A

Matrix: Solid

Analysis Batch: 445103

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 442336

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	25.0	28.4		ng/g		113	40 - 150
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	25.0	31.6		ng/g		126	40 - 150
HFPO-DA	10.0	11.4		ng/g		114	40 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.42	11.8		ng/g		125	40 - 150
Perfluoro-3-methoxypropanoic acid	5.01	6.63		ng/g		132	40 - 150
Perfluoro(4-methoxybutanoic acid)	5.01	6.41		ng/g		128	40 - 150
Perfluoro-3,6-dioxaheptanoic acid	5.01	6.31		ng/g		126	40 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9.32	11.9		ng/g		127	40 - 150
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid	9.42	12.1		ng/g		128	40 - 150
PFEESA	4.46	5.15		ng/g		115	40 - 150
3:3 FTCA	12.5	17.4		ng/g		139	40 - 150
5:3 FTCA	62.6	68.3		ng/g		109	40 - 150
7:3 FTCA	62.6	75.0		ng/g		120	40 - 150

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	95.4		20 - 150
13C5 PFPeA	84.3		20 - 150
13C5 PFHxA	87.4		20 - 150
13C4 PFHpA	86.1		20 - 150
13C8 PFOA	107		20 - 150
13C9 PFNA	100		20 - 150
13C6 PFDA	97.6		20 - 150
13C7 PFUnA	91.8		20 - 150
13C2-PFDaDA	81.6		20 - 150
13C2 PFTeDA	83.6		20 - 150
13C3 PFBS	82.8		20 - 150
13C3 PFHxS	97.1		20 - 150
13C8 PFOS	97.1		20 - 150
13C8 FOSA	97.0		20 - 150
d3-NMeFOSAA	89.1		20 - 150
d5-NEtFOSAA	86.3		20 - 150
M2-4:2 FTS	98.6		20 - 150
M2-6:2 FTS	89.4		20 - 150
M2-8:2 FTS	92.5		20 - 150
13C3 HFPO-DA	85.5		20 - 150
d7-N-MeFOSE-M	75.8		20 - 150
d9-N-EtFOSE-M	73.2		20 - 150
d5-NEtPFOSA	58.2		20 - 150
d3-NMePFOSA	66.2		20 - 150

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-442336/3-A

Matrix: Solid

Analysis Batch: 444874

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 442336

Analyte	Spike	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Perfluorobutanoic acid	1.60	1.74		ng/g		109	40 - 150
Perfluoropentanoic acid	0.800	1.02	I	ng/g		128	40 - 150
Perfluorohexanoic acid	0.400	0.578		ng/g		145	40 - 150
Perfluoroheptanoic acid	0.400	0.489		ng/g		122	40 - 150
Perfluorooctanoic acid	0.400	0.549		ng/g		137	40 - 150
Perfluorononanoic acid	0.400	0.567		ng/g		142	40 - 150
Perfluorodecanoic acid	0.400	0.485		ng/g		121	40 - 150
Perfluoroundecanoic acid	0.400	0.525		ng/g		131	40 - 150
Perfluorododecanoic acid	0.400	0.464		ng/g		116	40 - 150
Perfluorotridecanoic acid	0.400	0.373		ng/g		93	40 - 150
Perfluorotetradecanoic acid	0.400	0.408		ng/g		102	40 - 150
Perfluorobutanesulfonic acid	0.355	0.377		ng/g		106	40 - 150
Perfluoropentanesulfonic acid	0.376	0.431		ng/g		115	40 - 150
Perfluorohexanesulfonic acid	0.366	0.383		ng/g		105	40 - 150
Perfluoroheptanesulfonic acid	0.381	0.445		ng/g		117	40 - 150
Perfluorooctanesulfonic acid	0.371	0.395		ng/g		106	40 - 150
Perfluorononanesulfonic acid	0.385	0.384		ng/g		100	40 - 150
Perfluorodecanesulfonic acid	0.386	0.368		ng/g		95	40 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.381		ng/g		98	40 - 150
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	1.50	1.73		ng/g		115	40 - 150
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	1.52	1.77		ng/g		116	40 - 150
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	1.54	1.83		ng/g		119	40 - 150
Perfluorooctanesulfonamide	0.400	0.390		ng/g		98	40 - 150
NMeFOSA	0.400	0.402		ng/g		101	40 - 150
N-ethylperfluoro-1-octanesulfonamide	0.400	0.405		ng/g		101	40 - 150
NMeFOSAA	0.400	0.474		ng/g		119	40 - 150
NEtFOSAA	0.400	0.500		ng/g		125	40 - 150
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	4.00	4.16		ng/g		104	40 - 150
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	4.00	4.42		ng/g		111	40 - 150
HFPO-DA	1.60	1.82		ng/g		114	40 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.51	1.76		ng/g		116	40 - 150
Perfluoro-3-methoxypropanoic acid	0.800	1.07		ng/g		133	40 - 150
Perfluoro(4-methoxybutanoic acid)	0.800	1.07		ng/g		133	40 - 150
Perfluoro-3,6-dioxaheptanoic acid	0.800	0.903		ng/g		113	40 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.49	1.65		ng/g		111	40 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.51	1.47		ng/g		97	40 - 150
PFEESA	0.712	0.974		ng/g		137	40 - 150

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1633 - Per- and Polyfluoroalkyl Substances by LC/MS/MS (Continued)

Lab Sample ID: LLCS 410-442336/3-A
Matrix: Solid
Analysis Batch: 444874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 442336

Analyte	Spike Added	LLCS	LLCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
3:3 FTCA	2.00	2.88		ng/g		144	40 - 150
5:3 FTCA	10.0	15.0		ng/g		150	40 - 150
7:3 FTCA	10.0	14.7		ng/g		146	40 - 150

Isotope Dilution	LLCS	LLCS	Limits
	%Recovery	Qualifier	
13C4 PFBA	97.2		20 - 150
13C5 PFPeA	84.7		20 - 150
13C5 PFHxA	76.7		20 - 150
13C4 PFHpA	101		20 - 150
13C8 PFOA	93.2		20 - 150
13C9 PFNA	90.1		20 - 150
13C6 PFDA	93.8		20 - 150
13C7 PFUnA	80.9		20 - 150
13C2-PFDoDA	94.4		20 - 150
13C2 PFTeDA	95.1		20 - 150
13C3 PFBS	102		20 - 150
13C3 PFHxS	104		20 - 150
13C8 PFOS	101		20 - 150
13C8 FOSA	112		20 - 150
d3-NMeFOSAA	81.9		20 - 150
d5-NEtFOSAA	77.7		20 - 150
M2-4:2 FTS	118		20 - 150
M2-6:2 FTS	121		20 - 150
M2-8:2 FTS	93.2		20 - 150
13C3 HFPO-DA	96.9		20 - 150
d7-N-MeFOSE-M	76.2		20 - 150
d9-N-EtFOSE-M	76.2		20 - 150
d5-NEtPFOSA	53.1		20 - 150
d3-NMePFOSA	56.6		20 - 150

Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 410-443481/1-A
Matrix: Water
Analysis Batch: 443605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 443481

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3,4,6,7,8-HpCDD	ND		25	4.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,4,6,7,8-HpCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,4,7,8-HxCDD	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,4,7,8-HxCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,4,7,8,9-HpCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,6,7,8-HxCDD	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,6,7,8-HxCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,7,8-PeCDD	ND		25	3.2	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,7,8-PeCDF	ND		25	2.8	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,7,8,9-HxCDD	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
1,2,3,7,8,9-HxCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
2,3,4,6,7,8-HxCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443481/1-A
Matrix: Water
Analysis Batch: 443605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 443481

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2,3,4,7,8-PeCDF	ND		25	2.5	pg/L		11/14/23 23:33	11/15/23 11:33	1
2,3,7,8-TCDD	ND		4.0	0.87	pg/L		11/14/23 23:33	11/15/23 11:33	1
2,3,7,8-TCDF	ND		5.0	0.81	pg/L		11/14/23 23:33	11/15/23 11:33	1
OCDD	ND		110	36	pg/L		11/14/23 23:33	11/15/23 11:33	1
OCDF	ND		50	6.2	pg/L		11/14/23 23:33	11/15/23 11:33	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,4,6,7,8-HpCDD	73		23 - 140	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,4,6,7,8-HpCDF	75		28 - 143	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,4,7,8-HxCDD	87		32 - 141	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,4,7,8-HxCDF	90		26 - 152	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,4,7,8,9-HpCDF	75		26 - 138	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,6,7,8-HxCDD	85		28 - 130	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,6,7,8-HxCDF	86		26 - 123	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,7,8-PeCDD	80		25 - 181	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,7,8-PeCDF	81		24 - 185	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,7,8,9-HxCDD	93		28 - 130	11/14/23 23:33	11/15/23 11:33	1
13C-1,2,3,7,8,9-HxCDF	79		29 - 147	11/14/23 23:33	11/15/23 11:33	1
13C-2,3,4,6,7,8-HxCDF	84		28 - 136	11/14/23 23:33	11/15/23 11:33	1
13C-2,3,4,7,8-PeCDF	81		21 - 178	11/14/23 23:33	11/15/23 11:33	1
13C-2,3,7,8-TCDD	91		25 - 164	11/14/23 23:33	11/15/23 11:33	1
13C-2,3,7,8-TCDF	76		24 - 169	11/14/23 23:33	11/15/23 11:33	1
13C-OCDD	74		17 - 157	11/14/23 23:33	11/15/23 11:33	1
13C-OCDF	70		17 - 157	11/14/23 23:33	11/15/23 11:33	1

Lab Sample ID: LCS 410-443481/2-A
Matrix: Water
Analysis Batch: 443605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 443481

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3,4,6,7,8-HpCDF	1000	879		pg/L		88	82 - 122
1,2,3,4,7,8-HxCDD	1000	982		pg/L		98	70 - 164
1,2,3,4,7,8-HxCDF	1000	965		pg/L		96	72 - 134
1,2,3,4,7,8,9-HpCDF	1000	819		pg/L		82	78 - 138
1,2,3,6,7,8-HxCDD	1000	962		pg/L		96	76 - 134
1,2,3,6,7,8-HxCDF	1000	915		pg/L		92	84 - 130
1,2,3,7,8-PeCDD	1000	958		pg/L		96	70 - 142
1,2,3,7,8-PeCDF	1000	982		pg/L		98	80 - 134
1,2,3,7,8,9-HxCDD	1000	965		pg/L		96	64 - 162
1,2,3,7,8,9-HxCDF	1000	902		pg/L		90	78 - 130
2,3,4,6,7,8-HxCDF	1000	934		pg/L		93	70 - 156
2,3,4,7,8-PeCDF	1000	970		pg/L		97	68 - 160
2,3,7,8-TCDD	200	185		pg/L		92	67 - 158
2,3,7,8-TCDF	200	197		pg/L		98	75 - 158
OCDD	2000	1620		pg/L		81	78 - 144
OCDF	2000	1790		pg/L		90	63 - 170

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,6,7,8-HpCDD	76		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	76		21 - 158
13C-1,2,3,4,7,8-HxCDD	86		21 - 193
13C-1,2,3,4,7,8-HxCDF	88		19 - 202
13C-1,2,3,4,7,8,9-HpCDF	76		20 - 186
13C-1,2,3,6,7,8-HxCDD	89		25 - 163
13C-1,2,3,6,7,8-HxCDF	89		21 - 159
13C-1,2,3,7,8-PeCDD	80		21 - 227
13C-1,2,3,7,8-PeCDF	79		21 - 192
13C-1,2,3,7,8,9-HxCDD	93		25 - 163
13C-1,2,3,7,8,9-HxCDF	83		17 - 205
13C-2,3,4,6,7,8-HxCDF	86		22 - 176
13C-2,3,4,7,8-PeCDF	81		13 - 328
13C-2,3,7,8-TCDD	93		20 - 175
13C-2,3,7,8-TCDF	79		22 - 152
13C-OCDD	74		13 - 199
13C-OCDF	68		13 - 199

Lab Sample ID: MB 410-443803/1-A
Matrix: Solid
Analysis Batch: 444249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 443803

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3,4,6,7,8-HpCDD	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,4,7,8-HxCDD	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,4,7,8-HxCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,6,7,8-HxCDD	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,6,7,8-HxCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,7,8-PeCDD	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,7,8-PeCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,7,8,9-HxCDD	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
1,2,3,7,8,9-HxCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
2,3,4,6,7,8-HxCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
2,3,4,7,8-PeCDF	ND		5.0	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
2,3,7,8-TCDD	ND		1.0	0.20	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
2,3,7,8-TCDF	ND		1.0	0.20	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
OCDD	3.02	J I	10	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1
OCDF	ND		10	2.0	ng/Kg		11/15/23 14:25	11/17/23 13:29	1

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,4,6,7,8-HpCDD	66		23 - 140	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,4,6,7,8-HpCDF	60		28 - 143	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,4,7,8-HxCDD	70		32 - 141	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,4,7,8-HxCDF	71		26 - 152	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,6,7,8-HxCDD	72		28 - 130	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,6,7,8-HxCDF	71		26 - 123	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,7,8-PeCDD	66		25 - 181	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,7,8-PeCDF	70		24 - 185	11/15/23 14:25	11/17/23 13:29	1
13C-1,2,3,7,8,9-HxCDD	77		28 - 130	11/15/23 14:25	11/17/23 13:29	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443803/1-A

Matrix: Solid

Analysis Batch: 444249

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 443803

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8,9-HxCDF	64		29 - 147	11/15/23 14:25	11/17/23 13:29	1
13C-2,3,4,6,7,8-HxCDF	68		28 - 136	11/15/23 14:25	11/17/23 13:29	1
13C-2,3,4,7,8-PeCDF	71		21 - 178	11/15/23 14:25	11/17/23 13:29	1
13C-2,3,7,8-TCDD	76		25 - 164	11/15/23 14:25	11/17/23 13:29	1
13C-2,3,7,8-TCDF	72		24 - 169	11/15/23 14:25	11/17/23 13:29	1
13C-OCDD	84		17 - 157	11/15/23 14:25	11/17/23 13:29	1
13C-OCDF	79		17 - 157	11/15/23 14:25	11/17/23 13:29	1

Lab Sample ID: LCS 410-443803/2-A

Matrix: Solid

Analysis Batch: 444249

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 443803

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3,4,6,7,8-HpCDF	100	90.6		ng/Kg		91	82 - 122
1,2,3,4,7,8-HxCDD	100	94.9		ng/Kg		95	70 - 164
1,2,3,4,7,8-HxCDF	100	93.2		ng/Kg		93	72 - 134
1,2,3,4,7,8,9-HpCDF	100	88.4		ng/Kg		88	78 - 138
1,2,3,6,7,8-HxCDD	100	94.6		ng/Kg		95	76 - 134
1,2,3,6,7,8-HxCDF	100	92.3		ng/Kg		92	84 - 130
1,2,3,7,8-PeCDD	100	105		ng/Kg		105	70 - 142
1,2,3,7,8-PeCDF	100	104		ng/Kg		104	80 - 134
1,2,3,7,8,9-HxCDD	100	96.3		ng/Kg		96	64 - 162
1,2,3,7,8,9-HxCDF	100	90.6		ng/Kg		91	78 - 130
2,3,4,6,7,8-HxCDF	100	88.1		ng/Kg		88	70 - 156
2,3,4,7,8-PeCDF	100	104		ng/Kg		104	68 - 160
2,3,7,8-TCDD	20.0	19.2		ng/Kg		96	67 - 158
2,3,7,8-TCDF	20.0	21.0		ng/Kg		105	75 - 158
OCDD	200	190		ng/Kg		95	78 - 144
OCDF	200	190		ng/Kg		95	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,6,7,8-HpCDD	68		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	61		21 - 158
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,4,7,8-HxCDF	72		19 - 202
13C-1,2,3,4,7,8,9-HpCDF	71		20 - 186
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,6,7,8-HxCDF	72		21 - 159
13C-1,2,3,7,8-PeCDD	66		21 - 227
13C-1,2,3,7,8-PeCDF	69		21 - 192
13C-1,2,3,7,8,9-HxCDD	77		25 - 163
13C-1,2,3,7,8,9-HxCDF	63		17 - 205
13C-2,3,4,6,7,8-HxCDF	71		22 - 176
13C-2,3,4,7,8-PeCDF	70		13 - 328
13C-2,3,7,8-TCDD	79		20 - 175
13C-2,3,7,8-TCDF	71		22 - 152
13C-OCDD	83		13 - 199
13C-OCDF	82		13 - 199

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS)

Lab Sample ID: MB 410-442274/1-A
Matrix: Water
Analysis Batch: 443285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 442274

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1	ND		200	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-10	ND		45	22	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-11	ND		300	110	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-12/13	ND		80	34	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-14	ND		45	20	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-15	ND		45	20	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-16	ND		40	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-17	ND		40	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-18/30	ND		80	24	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-19	ND		40	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-103	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-104	ND		80	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-105	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-106	ND		80	19	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-107	ND		80	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-108/124	ND		160	26	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-2	ND		200	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-110/115	ND		160	26	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-20/28	ND		80	28	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-111	ND		80	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-112	ND		80	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-114	ND		80	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-118	ND		80	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-120	ND		80	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-121	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-122	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-123	ND		80	22	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-126	ND		80	29	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-127	ND		80	7.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-21/33	ND		80	29	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-128/166	ND		160	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-22	ND		40	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-129/138/163	ND		240	29	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-23	ND		40	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-130	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-24	ND		40	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-131	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-25	ND		40	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-132	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-26/29	ND		80	36	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-133	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-27	ND		40	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-134	ND		80	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-3	ND		200	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-135/151	ND	cn	160	32	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-31	ND		40	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-136	ND	cn	80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-32	ND		40	8.0	pg/L		11/10/23 21:08	11/15/23 19:40	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-442274/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 443285

Prep Batch: 442274

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-137	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-34	ND		40	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-139/140	ND		160	19	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-35	ND		40	19	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-141	ND		80	6.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-36	ND		40	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-142	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-37	ND		40	8.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-143	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-38	ND		40	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-144	ND	cn	80	21	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-39	ND		40	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-145	ND		80	23	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-4	ND		45	22	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-146	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-40/71	ND		160	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-147/149	ND		160	20	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-41	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-148	ND		80	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-42	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-150	ND	cn	80	19	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-43	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-152	ND		80	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-44/47/65	ND		240	24	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-153/168	ND		160	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-45	ND		80	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-154	ND		200	45	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-46	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-155	ND		80	20	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-48	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-156/157	ND		160	29	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-49/69	ND		160	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-158	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-5	ND		45	20	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-159	ND		80	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-50/53	ND		300	91	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-160	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-51	ND		80	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-161	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-52	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-162	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-54	ND		80	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-164	ND		80	7.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-55	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-165	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-56	ND		80	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-167	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-57	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-169	ND		80	18	pg/L		11/10/23 21:08	11/15/23 19:40	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-442274/1-A
Matrix: Water
Analysis Batch: 443285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 442274

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-58	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-170	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-59/62/75	ND		240	25	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-171/173	ND		160	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-6	ND		40	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-172	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-60	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-174	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-61/70/74/76	ND		320	30	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-175	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-63	ND		80	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-176	ND		80	6.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-64	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-177	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-66	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-178	ND		80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-67	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-179	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-68	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-180/193	24.4	J	160	19	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-7	ND		40	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-181	ND		80	8.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-72	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-182	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-73	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-183/185	ND		160	22	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-77	ND		80	19	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-184	ND		80	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-78	ND		80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-186	ND		80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-79	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-187	20.0	J	80	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-8	ND		40	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-188	ND		200	47	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-80	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-189	ND		80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-81	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-190	ND		80	16	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-82	ND		80	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-191	ND		80	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-83	ND		80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-192	ND		80	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-84	ND		80	25	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-194	21.8	J	120	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-85/116/117	ND		240	34	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-195	ND		120	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-86/87/97/109/119/125	ND		480	150	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-196	ND		120	11	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-88	ND		80	17	pg/L		11/10/23 21:08	11/15/23 19:40	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-442274/1-A
Matrix: Water
Analysis Batch: 443285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 442274

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-197/200	ND		240	14	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-89	ND		80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-198/199	26.3	J	240	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-9	ND		40	17	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-201	ND		400	49	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-90/101/113	ND		240	40	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-202	ND		120	9.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-91	ND		80	15	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-203	14.7	J	120	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-92	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-204	ND		120	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-93/100	ND		160	25	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-205	ND		120	7.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-94	ND		80	13	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-206	22.5	J	120	7.0	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-95	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-207	ND		120	10	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-96	ND		80	18	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-208	ND		120	55	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-98/102	ND		200	29	pg/L		11/10/23 21:08	11/15/23 19:40	1
DCB Decachlorobiphenyl	ND		1000	240	pg/L		11/10/23 21:08	11/15/23 19:40	1
PCB-99	ND		80	12	pg/L		11/10/23 21:08	11/15/23 19:40	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-1L	20		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-3L	25		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-4L	32		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-8L	27		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-15L	36		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-19L	41		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-31L	36		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-32L	44		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-37L	45		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-47L	48		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-54L	49		5 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-60L	50		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-70L	46		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-77L	59		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-81L	58		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-85L	69		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-95L	54		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-104L	53		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-105L	47		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-114L	44		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-118L	46		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-123L	49		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-126L	50		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-127L	46		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-155L	73		10 - 145	11/10/23 21:08	11/15/23 19:40	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-442274/1-A
Matrix: Water
Analysis Batch: 443285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 442274

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-156L/157L	57		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-167L	50		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-169L	54		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-180L	58		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-188L	67		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-189L	52		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-202L	69		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-205L	74		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-206L	76		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-208L	73		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-209L	75		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-128L	68		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-133L	62		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-141L	66		10 - 145	11/10/23 21:08	11/15/23 19:40	1
PCB-162L	50		10 - 145	11/10/23 21:08	11/15/23 19:40	1

Lab Sample ID: LCS 410-442274/2-A
Matrix: Water
Analysis Batch: 443285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 442274

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
PCB-1	1000	891	cn	pg/L		89	60 - 135
PCB-15	1000	884	cn	pg/L		88	60 - 135
PCB-19	1000	879	cn	pg/L		88	60 - 135
PCB-104	1000	1040	cn	pg/L		104	60 - 135
PCB-105	1000	1000	cn	pg/L		100	60 - 135
PCB-114	1000	1090	cn	pg/L		109	60 - 135
PCB-118	1000	1010	cn	pg/L		101	60 - 135
PCB-123	1000	1030	cn	pg/L		103	60 - 135
PCB-126	1000	1050	cn	pg/L		105	60 - 135
PCB-3	1000	862	cn	pg/L		86	60 - 135
PCB-37	1000	1000	cn	pg/L		100	60 - 135
PCB-4	1000	856	cn	pg/L		86	60 - 135
PCB-155	1000	1050	cn	pg/L		105	60 - 135
PCB-156/157	2000	2050	cn	pg/L		103	60 - 135
PCB-54	1000	878	cn	pg/L		88	60 - 135
PCB-167	1000	1030	cn	pg/L		103	60 - 135
PCB-169	1000	1000	cn	pg/L		100	60 - 135
PCB-77	1000	997	cn	pg/L		100	60 - 135
PCB-188	1000	883	cn	pg/L		88	60 - 135
PCB-189	1000	1030	cn	pg/L		103	60 - 135
PCB-81	1000	1090	cn	pg/L		109	60 - 135
PCB-202	1000	980	cn	pg/L		98	60 - 135
PCB-205	1000	942	cn	pg/L		94	60 - 135
PCB-206	1000	872	cn	pg/L		87	60 - 135
PCB-208	1000	829	cn	pg/L		83	60 - 135
DCB Decachlorobiphenyl	1000	963	J cn	pg/L		96	60 - 135

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
PCB-1L	15	cn	15 - 145
PCB-3L	17	cn	15 - 145
PCB-4L	21	cn	15 - 145
PCB-8L	18	cn	15 - 145
PCB-15L	23	cn	15 - 145
PCB-19L	26	cn	15 - 145
PCB-31L	26	cn	15 - 145
PCB-32L	30	cn	15 - 145
PCB-37L	30	cn	15 - 145
PCB-47L	29	cn	15 - 145
PCB-54L	30	cn	15 - 145
PCB-60L	34	*5- cn	40 - 145
PCB-70L	29	*5- cn	40 - 145
PCB-77L	36	*5- cn	40 - 145
PCB-81L	39	*5- cn	40 - 145
PCB-85L	44	cn	40 - 145
PCB-95L	34	*5- cn	40 - 145
PCB-104L	32	*5- cn	40 - 145
PCB-105L	29	*5- cn	40 - 145
PCB-114L	30	*5- cn	40 - 145
PCB-118L	30	*5- cn	40 - 145
PCB-123L	34	*5- cn	40 - 145
PCB-126L	31	*5- cn	40 - 145
PCB-127L	33	*5- cn	40 - 145
PCB-155L	53	cn	40 - 145
PCB-156L/157L	40	cn	40 - 145
PCB-167L	42	cn	40 - 145
PCB-169L	44	cn	40 - 145
PCB-180L	49	cn	40 - 145
PCB-188L	56	cn	40 - 145
PCB-189L	41	cn	40 - 145
PCB-202L	60	cn	40 - 145
PCB-205L	49	cn	40 - 145
PCB-206L	60	cn	40 - 145
PCB-208L	58	cn	40 - 145
PCB-209L	59	cn	40 - 145
PCB-128L	49	cn	40 - 145
PCB-133L	46	cn	40 - 145
PCB-141L	46	cn	40 - 145
PCB-162L	38	*5- cn	40 - 145

Lab Sample ID: MB 410-443808/1-B
Matrix: Solid
Analysis Batch: 444881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 443808

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-1	ND		15	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-10	ND		15	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-11	ND		67	33	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-12/13	ND		16	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-14	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-15	ND		11	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443808/1-B

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 444881

Prep Batch: 443808

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-16	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-17	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-18/30	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-19	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-103	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-104	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-105	ND		13	6.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-106	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-107	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-108/124	ND		16	6.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-2	ND		15	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-110/115	ND		17	8.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-20/28	ND		16	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-111	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-112	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-114	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-118	ND		19	9.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-120	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-121	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-122	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-123	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-126	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-127	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-21/33	ND		16	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-128/166	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-22	ND		13	6.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-129/138/163	ND		24	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-23	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-130	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-24	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-131	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-25	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-132	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-26/29	ND		23	11	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-133	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-27	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-134	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-3	ND		21	10	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-135/151	ND		16	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-31	ND		11	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-136	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-32	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-137	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-34	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-139/140	ND		16	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-35	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-141	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-36	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-142	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443808/1-B

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 444881

Prep Batch: 443808

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-37	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-143	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-38	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-144	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-39	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-145	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-4	ND		19	9.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-146	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-40/71	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-147/149	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-41	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-148	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-42	ND		17	8.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-150	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-43	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-152	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-44/47/65	ND		24	9.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-153/168	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-45	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-154	ND		41	20	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-46	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-155	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-48	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-156/157	ND		16	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-49/69	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-158	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-5	ND		19	9.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-159	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-50/53	ND		27	13	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-160	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-51	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-161	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-52	ND		15	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-162	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-54	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-164	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-55	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-165	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-56	ND		31	15	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-167	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-57	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-169	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-58	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-170	ND		11	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-59/62/75	ND		24	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-171/173	ND		16	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-6	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-172	ND		15	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-60	ND		27	13	ng/Kg		11/15/23 14:31	11/17/23 23:29	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443808/1-B

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 444881

Prep Batch: 443808

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-174	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-61/70/74/76	ND		32	14	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-175	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-63	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-176	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-64	ND		33	16	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-177	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-66	ND		29	14	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-178	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-67	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-179	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-68	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-180/193	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-7	ND		11	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-181	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-72	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-182	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-73	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-183/185	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-77	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-184	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-78	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-186	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-79	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-187	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-8	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-188	ND		49	24	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-80	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-189	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-81	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-190	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-82	ND		17	8.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-191	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-83	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-192	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-84	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-194	4.16	J	9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-85/116/117	ND		24	7.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-195	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-86/87/97/109/119/125	ND		48	19	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-196	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-88	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-197/200	ND		16	5.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-89	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-198/199	4.33	J	16	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-9	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-201	ND		45	22	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-90/101/113	ND		24	6.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-202	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443808/1-B

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 444881

Prep Batch: 443808

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
PCB-91	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-203	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-92	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-204	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-93/100	ND		16	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-205	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-94	ND		8.0	3.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-206	2.31	J I	8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-95	ND		13	6.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-207	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-96	ND		8.0	2.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-208	ND		21	10	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-98/102	ND		16	6.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
DCB Decachlorobiphenyl	ND		59	29	ng/Kg		11/15/23 14:31	11/17/23 23:29	1
PCB-99	ND		9.0	4.0	ng/Kg		11/15/23 14:31	11/17/23 23:29	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-1L	43		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-3L	44		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-4L	55		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-8L	45		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-15L	52		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-19L	59		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-31L	48		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-32L	61		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-37L	61		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-47L	57		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-54L	71		5 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-60L	66		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-70L	68		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-77L	77		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-81L	72		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-85L	80		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-95L	67		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-104L	66		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-105L	75		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-114L	70		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-118L	67		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-123L	72		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-126L	73		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-127L	68		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-155L	80		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-156L/157L	80		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-167L	74		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-169L	79		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-180L	76		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-188L	89		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-189L	75		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-202L	87		10 - 145	11/15/23 14:31	11/17/23 23:29	1

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: MB 410-443808/1-B

Matrix: Solid

Analysis Batch: 444881

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 443808

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
PCB-205L	86		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-206L	99		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-208L	88		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-209L	101		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-128L	83		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-133L	76		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-141L	78		10 - 145	11/15/23 14:31	11/17/23 23:29	1
PCB-162L	66		10 - 145	11/15/23 14:31	11/17/23 23:29	1

Lab Sample ID: LCS 410-443808/2-B

Matrix: Solid

Analysis Batch: 444881

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 443808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-15	100	95.0		ng/Kg		95	60 - 135
PCB-19	100	85.0		ng/Kg		85	60 - 135
PCB-104	100	99.6		ng/Kg		100	60 - 135
PCB-105	100	97.8		ng/Kg		98	60 - 135
PCB-114	100	107		ng/Kg		107	60 - 135
PCB-118	100	102		ng/Kg		102	60 - 135
PCB-123	100	104		ng/Kg		104	60 - 135
PCB-126	100	105		ng/Kg		105	60 - 135
PCB-3	100	87.2		ng/Kg		87	60 - 135
PCB-37	100	104		ng/Kg		104	60 - 135
PCB-4	100	83.8		ng/Kg		84	60 - 135
PCB-155	100	100		ng/Kg		100	60 - 135
PCB-156/157	200	202		ng/Kg		101	60 - 135
PCB-54	100	83.2		ng/Kg		83	60 - 135
PCB-167	100	109		ng/Kg		109	60 - 135
PCB-169	100	101		ng/Kg		101	60 - 135
PCB-77	100	99.7		ng/Kg		100	60 - 135
PCB-188	100	89.1		ng/Kg		89	60 - 135
PCB-189	100	103		ng/Kg		103	60 - 135
PCB-81	100	113		ng/Kg		113	60 - 135
PCB-202	100	98.2		ng/Kg		98	60 - 135
PCB-205	100	93.6		ng/Kg		94	60 - 135
PCB-206	100	84.9		ng/Kg		85	60 - 135
PCB-208	100	82.3		ng/Kg		82	60 - 135
DCB Decachlorobiphenyl	100	99.2		ng/Kg		99	60 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
PCB-1L	33		15 - 145
PCB-3L	44		15 - 145
PCB-4L	54		15 - 145
PCB-8L	39		15 - 145
PCB-15L	43		15 - 145
PCB-19L	49		15 - 145
PCB-31L	47		15 - 145

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 1668C - Chlorinated Biphenyl Congeners (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 410-443808/2-B

Matrix: Solid

Analysis Batch: 444881

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 443808

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
PCB-32L	52		15 - 145
PCB-37L	57		15 - 145
PCB-47L	56		15 - 145
PCB-54L	66		15 - 145
PCB-60L	68		40 - 145
PCB-70L	53		40 - 145
PCB-77L	74		40 - 145
PCB-81L	66		40 - 145
PCB-85L	63		40 - 145
PCB-95L	58		40 - 145
PCB-104L	55		40 - 145
PCB-105L	61		40 - 145
PCB-114L	59		40 - 145
PCB-118L	54		40 - 145
PCB-123L	59		40 - 145
PCB-126L	62		40 - 145
PCB-127L	59		40 - 145
PCB-155L	79		40 - 145
PCB-156L/157L	71		40 - 145
PCB-167L	69		40 - 145
PCB-169L	76		40 - 145
PCB-180L	70		40 - 145
PCB-188L	74		40 - 145
PCB-189L	73		40 - 145
PCB-202L	79		40 - 145
PCB-205L	82		40 - 145
PCB-206L	90		40 - 145
PCB-208L	92		40 - 145
PCB-209L	92		40 - 145
PCB-128L	77		40 - 145
PCB-133L	73		40 - 145
PCB-141L	61		40 - 145
PCB-162L	64		40 - 145

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 410-431930/1-A ^2

Matrix: Solid

Analysis Batch: 435552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 431930

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		20	9.9	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Antimony	ND		0.20	0.080	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Arsenic	ND		0.40	0.13	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Barium	ND		0.40	0.18	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Beryllium	ND		0.10	0.024	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Cadmium	ND		0.10	0.040	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Calcium	ND		40	20	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Chromium	ND		0.40	0.19	mg/Kg		10/16/23 20:17	10/25/23 08:28	2

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

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

Lab Sample ID: MB 410-431930/1-A ^2
Matrix: Solid
Analysis Batch: 435552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431930

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cobalt	ND		0.20	0.080	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Copper	ND		0.40	0.18	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Iron	ND		20	9.2	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Lead	ND		0.20	0.076	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Magnesium	ND		10	4.9	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Manganese	ND		0.40	0.20	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Nickel	ND		0.40	0.19	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Potassium	ND		40	16	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Selenium	ND		0.40	0.10	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Silver	ND		0.10	0.041	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Sodium	ND		50	24	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Thallium	ND		0.10	0.039	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Zinc	ND		30	4.0	mg/Kg		10/16/23 20:17	10/25/23 08:28	2
Vanadium	ND		0.80	0.20	mg/Kg		10/16/23 20:17	10/25/23 08:28	2

Lab Sample ID: LCS 410-431930/2-A ^2
Matrix: Solid
Analysis Batch: 435552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431930

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aluminum	500	546		mg/Kg		109	80 - 120
Antimony	10.0	11.0		mg/Kg		110	80 - 120
Arsenic	50.0	53.6		mg/Kg		107	80 - 120
Barium	50.0	55.9		mg/Kg		112	80 - 120
Beryllium	5.00	5.37		mg/Kg		107	80 - 120
Cadmium	5.00	5.67		mg/Kg		113	80 - 120
Calcium	500	530		mg/Kg		106	80 - 120
Chromium	50.0	54.4		mg/Kg		109	80 - 120
Cobalt	50.0	52.7		mg/Kg		105	80 - 120
Copper	50.0	52.0		mg/Kg		104	80 - 120
Iron	500	541		mg/Kg		108	80 - 120
Lead	5.00	5.58		mg/Kg		112	80 - 120
Magnesium	500	543		mg/Kg		109	80 - 120
Manganese	50.0	54.0		mg/Kg		108	80 - 120
Nickel	50.0	54.8		mg/Kg		110	80 - 120
Potassium	500	532		mg/Kg		106	80 - 120
Selenium	10.0	10.8		mg/Kg		108	80 - 120
Silver	5.00	5.55		mg/Kg		111	80 - 120
Sodium	500	530		mg/Kg		106	80 - 120
Thallium	10.0	10.9		mg/Kg		109	80 - 120
Zinc	50.0	54.7		mg/Kg		109	80 - 120
Vanadium	50.0	53.7		mg/Kg		107	80 - 120

Lab Sample ID: MB 410-432369/1-A
Matrix: Water
Analysis Batch: 435755

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 432369

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	ND		25	12	ug/L		10/17/23 17:16	10/25/23 11:26	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

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

Lab Sample ID: MB 410-432369/1-A
Matrix: Water
Analysis Batch: 435755

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 432369

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		1.0	0.20	ug/L		10/17/23 17:16	10/25/23 11:26	1
Arsenic	ND		2.0	0.68	ug/L		10/17/23 17:16	10/25/23 11:26	1
Barium	ND		2.0	0.75	ug/L		10/17/23 17:16	10/25/23 11:26	1
Beryllium	ND		0.50	0.12	ug/L		10/17/23 17:16	10/25/23 11:26	1
Cadmium	ND		0.50	0.15	ug/L		10/17/23 17:16	10/25/23 11:26	1
Calcium	ND		120	50	ug/L		10/17/23 17:16	10/25/23 11:26	1
Chromium	ND		2.0	0.55	ug/L		10/17/23 17:16	10/25/23 11:26	1
Cobalt	ND		0.50	0.16	ug/L		10/17/23 17:16	10/25/23 11:26	1
Copper	ND		1.0	0.36	ug/L		10/17/23 17:16	10/25/23 11:26	1
Iron	ND		50	20	ug/L		10/17/23 17:16	10/25/23 11:26	1
Lead	ND		0.50	0.12	ug/L		10/17/23 17:16	10/25/23 11:26	1
Magnesium	ND		50	16	ug/L		10/17/23 17:16	10/25/23 11:26	1
Manganese	ND		2.0	0.95	ug/L		10/17/23 17:16	10/25/23 11:26	1
Nickel	ND		1.0	0.40	ug/L		10/17/23 17:16	10/25/23 11:26	1
Potassium	ND		200	65	ug/L		10/17/23 17:16	10/25/23 11:26	1
Selenium	ND		1.0	0.28	ug/L		10/17/23 17:16	10/25/23 11:26	1
Silver	ND		0.50	0.10	ug/L		10/17/23 17:16	10/25/23 11:26	1
Sodium	ND		200	90	ug/L		10/17/23 17:16	10/25/23 11:26	1
Thallium	ND		0.50	0.13	ug/L		10/17/23 17:16	10/25/23 11:26	1
Zinc	ND		10	4.0	ug/L		10/17/23 17:16	10/25/23 11:26	1
Vanadium	ND		4.0	0.79	ug/L		10/17/23 17:16	10/25/23 11:26	1

Lab Sample ID: LCS 410-432369/2-A
Matrix: Water
Analysis Batch: 435755

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 432369

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aluminum	5000	5230		ug/L		105	87 - 119
Antimony	100	104		ug/L		104	80 - 120
Arsenic	500	522		ug/L		104	85 - 120
Barium	500	515		ug/L		103	80 - 120
Beryllium	50.0	51.6		ug/L		103	90 - 112
Cadmium	50.0	52.1		ug/L		104	86 - 113
Calcium	5000	5290		ug/L		106	85 - 120
Chromium	500	522		ug/L		104	90 - 115
Cobalt	500	527		ug/L		105	90 - 113
Copper	500	530		ug/L		106	80 - 120
Iron	5000	5210		ug/L		104	88 - 119
Lead	50.0	52.3		ug/L		105	90 - 115
Magnesium	5000	5210		ug/L		104	90 - 112
Manganese	500	522		ug/L		104	89 - 120
Nickel	500	532		ug/L		106	90 - 114
Potassium	5000	5220		ug/L		104	90 - 112
Selenium	100	102		ug/L		102	80 - 120
Silver	50.0	51.3		ug/L		103	88 - 113
Sodium	5000	5180		ug/L		104	89 - 112
Thallium	100	103		ug/L		103	80 - 120
Zinc	500	530		ug/L		106	90 - 115
Vanadium	500	521		ug/L		104	90 - 115

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-433557/1-A
Matrix: Water
Analysis Batch: 433850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.079	ug/L		10/20/23 00:29	10/20/23 09:35	1

Lab Sample ID: LCS 410-433557/2-A
Matrix: Water
Analysis Batch: 433850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	1.05		ug/L		105	80 - 118

Lab Sample ID: MB 410-434803/1-A
Matrix: Water
Analysis Batch: 435116

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434803

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.079	ug/L		10/24/23 06:08	10/24/23 13:03	1

Lab Sample ID: LCS 410-434803/2-A
Matrix: Water
Analysis Batch: 435116

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434803

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	0.948		ug/L		95	80 - 118

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 410-431940/1-A
Matrix: Solid
Analysis Batch: 432291

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 431940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.036	0.012	mg/Kg		10/16/23 21:15	10/17/23 13:21	1

Lab Sample ID: LCS 410-431940/2-A
Matrix: Solid
Analysis Batch: 432291

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 431940

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.100	0.107		mg/Kg		107	80 - 120

Method: 2540C - 2015 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 410-431548/1
Matrix: Water
Analysis Batch: 431548

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		30	12	mg/L			10/16/23 07:33	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 2540C - 2015 - Total Dissolved Solids (Dried at 180 °C) (Continued)

Lab Sample ID: LCS 410-431548/2
Matrix: Water
Analysis Batch: 431548

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	200	198		mg/L		99	90 - 110

Lab Sample ID: MB 410-431995/1
Matrix: Water
Analysis Batch: 431995

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		30	12	mg/L			10/17/23 06:47	1

Lab Sample ID: LCS 410-431995/2
Matrix: Water
Analysis Batch: 431995

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	200	199		mg/L		100	90 - 110

Lab Sample ID: LCSD 410-431995/3
Matrix: Water
Analysis Batch: 431995

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	200	197		mg/L		99	90 - 110	1	10

Method: 365.1 - Phosphorus, Total

Lab Sample ID: MB 410-440418/1-A
Matrix: Solid
Analysis Batch: 441664

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 440418

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		40	20	mg/Kg		11/07/23 08:54	11/09/23 13:35	1
Total Phosphorus as PO4	ND		120	61	mg/Kg		11/07/23 08:54	11/09/23 13:35	1

Lab Sample ID: LCS 410-440418/2-A
Matrix: Solid
Analysis Batch: 441664

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 440418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Phosphorus as P	250	273		mg/Kg		109	90 - 111
Total Phosphorus as PO4	766	836		mg/Kg		109	90 - 111

Method: 4500 P F-2011 - Phosphate, Total

Lab Sample ID: MB 410-435534/1-A
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 435534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	ND		0.10	0.050	mg/L		10/25/23 14:00	10/26/23 12:02	1
Total Phosphorus as PO4	ND		0.31	0.25	mg/L		10/25/23 14:00	10/26/23 12:02	1

QC Sample Results

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method: 4500 P F-2011 - Phosphate, Total (Continued)

Lab Sample ID: LCS 410-435534/2-A
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 435534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Total Phosphorus as P	1.43	1.40		mg/L		98	90 - 110	
Total Phosphorus as PO4	4.38	4.29		mg/L		98	90 - 110	

Lab Sample ID: 410-147027-6 MS
Matrix: Water
Analysis Batch: 436242

Client Sample ID: SW Comp 3
Prep Type: Total/NA
Prep Batch: 435534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Total Phosphorus as P	ND		2.00	2.05		mg/L		102	90 - 110	
Total Phosphorus as PO4	ND		6.13	6.27		mg/L		102	90 - 110	

Lab Sample ID: 410-147027-6 DU
Matrix: Water
Analysis Batch: 436242

Client Sample ID: SW Comp 3
Prep Type: Total/NA
Prep Batch: 435534

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit	
Total Phosphorus as P	ND		ND		mg/L		NC	4	
Total Phosphorus as PO4	ND		ND		mg/L		NC	4	

Method: 5310 C-2014 - Total Organic Carbon/Persulfate - Ultrav

Lab Sample ID: MB 410-434796/68
Matrix: Water
Analysis Batch: 434796

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Lab Sample ID: LCS 410-434796/67
Matrix: Water
Analysis Batch: 434796

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Total Organic Carbon	25.0	25.2		mg/L		101	91 - 113	

Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 410-432501/4
Matrix: Solid
Analysis Batch: 432501

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Lab Sample ID: LCS 410-432501/3
Matrix: Solid
Analysis Batch: 432501

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Total Organic Carbon	3920	4560		mg/Kg		116	36 - 163	

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

GC/MS Semi VOA

Prep Batch: 432041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	3510C	
410-147027-5	SW Comp 2	Total/NA	Water	3510C	
410-147027-6	SW Comp 3	Total/NA	Water	3510C	
MB 410-432041/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-432041/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 410-432041/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 432561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	3546	
410-147027-2	SED Comp 2	Total/NA	Solid	3546	
410-147027-3	SED Comp 3	Total/NA	Solid	3546	
MB 410-432561/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-432561/2-A	Lab Control Sample	Total/NA	Solid	3546	
410-147027-1 MS	SED Comp 1	Total/NA	Solid	3546	
410-147027-1 MSD	SED Comp 1	Total/NA	Solid	3546	

Analysis Batch: 432573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	8270E SIM	432041
410-147027-5	SW Comp 2	Total/NA	Water	8270E SIM	432041
410-147027-6	SW Comp 3	Total/NA	Water	8270E SIM	432041
MB 410-432041/1-A	Method Blank	Total/NA	Water	8270E SIM	432041
LCS 410-432041/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	432041
LCSD 410-432041/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	432041

Analysis Batch: 433060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	8270E SIM	432561
410-147027-2	SED Comp 2	Total/NA	Solid	8270E SIM	432561
410-147027-3	SED Comp 3	Total/NA	Solid	8270E SIM	432561
MB 410-432561/1-A	Method Blank	Total/NA	Solid	8270E SIM	432561
LCS 410-432561/2-A	Lab Control Sample	Total/NA	Solid	8270E SIM	432561
410-147027-1 MS	SED Comp 1	Total/NA	Solid	8270E SIM	432561
410-147027-1 MSD	SED Comp 1	Total/NA	Solid	8270E SIM	432561

Prep Batch: 434657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1 - RE	SED Comp 1	Total/NA	Solid	3546	
410-147027-2 - RE	SED Comp 2	Total/NA	Solid	3546	
410-147027-3 - RE	SED Comp 3	Total/NA	Solid	3546	
MB 410-434657/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-434657/2-A	Lab Control Sample	Total/NA	Solid	3546	
410-147027-1 MS - RE	SED Comp 1	Total/NA	Solid	3546	
410-147027-1 MSD - RE	SED Comp 1	Total/NA	Solid	3546	

Analysis Batch: 434809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1 - RE	SED Comp 1	Total/NA	Solid	8270E SIM	434657
410-147027-2 - RE	SED Comp 2	Total/NA	Solid	8270E SIM	434657
410-147027-3 - RE	SED Comp 3	Total/NA	Solid	8270E SIM	434657

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

GC/MS Semi VOA (Continued)

Analysis Batch: 434809 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-434657/1-A	Method Blank	Total/NA	Solid	8270E SIM	434657
LCS 410-434657/2-A	Lab Control Sample	Total/NA	Solid	8270E SIM	434657
410-147027-1 MS - RE	SED Comp 1	Total/NA	Solid	8270E SIM	434657
410-147027-1 MSD - RE	SED Comp 1	Total/NA	Solid	8270E SIM	434657

GC Semi VOA

Prep Batch: 432062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	3510C	
MB 410-432062/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-432062/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 432474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	8081B	432062
MB 410-432062/1-A	Method Blank	Total/NA	Water	8081B	432062
LCS 410-432062/2-A	Lab Control Sample	Total/NA	Water	8081B	432062

Prep Batch: 432569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-5	SW Comp 2	Total/NA	Water	3510C	
410-147027-6	SW Comp 3	Total/NA	Water	3510C	
MB 410-432569/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-432569/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 433050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-5	SW Comp 2	Total/NA	Water	8081B	432569
410-147027-6	SW Comp 3	Total/NA	Water	8081B	432569
MB 410-432569/1-A	Method Blank	Total/NA	Water	8081B	432569
LCS 410-432569/2-A	Lab Control Sample	Total/NA	Water	8081B	432569

Prep Batch: 433154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	3546	
410-147027-2	SED Comp 2	Total/NA	Solid	3546	
410-147027-3	SED Comp 3	Total/NA	Solid	3546	
MB 410-433154/1-A	Method Blank	Total/NA	Solid	3546	
LCS 410-433154/2-A	Lab Control Sample	Total/NA	Solid	3546	
410-147027-1 MS	SED Comp 1	Total/NA	Solid	3546	
410-147027-1 MSD	SED Comp 1	Total/NA	Solid	3546	

Analysis Batch: 433563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	8081B	433154
410-147027-2	SED Comp 2	Total/NA	Solid	8081B	433154
410-147027-3	SED Comp 3	Total/NA	Solid	8081B	433154
MB 410-433154/1-A	Method Blank	Total/NA	Solid	8081B	433154
LCS 410-433154/2-A	Lab Control Sample	Total/NA	Solid	8081B	433154
410-147027-1 MS	SED Comp 1	Total/NA	Solid	8081B	433154

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

GC Semi VOA (Continued)

Analysis Batch: 433563 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1 MSD	SED Comp 1	Total/NA	Solid	8081B	433154

LCMS

Prep Batch: 432683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-1	SED Comp 1	Total/NA	Solid	1633 Shake	
410-147072-2 - DL	SED Comp 2	Total/NA	Solid	1633 Shake	
410-147072-2	SED Comp 2	Total/NA	Solid	1633 Shake	
410-147072-3	SED Comp 3	Total/NA	Solid	1633 Shake	
MB 410-432683/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 410-432683/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 410-432683/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
410-147072-3 DU	SED Comp 3	Total/NA	Solid	1633 Shake	

Prep Batch: 437922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-4	SW Comp 1	Total/NA	Water	1633	
MB 410-437922/1-A	Method Blank	Total/NA	Water	1633	
LCS 410-437922/2-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 410-437922/3-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 439500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-1	SED Comp 1	Total/NA	Solid	1633	432683
410-147072-2	SED Comp 2	Total/NA	Solid	1633	432683
410-147072-3	SED Comp 3	Total/NA	Solid	1633	432683
MB 410-432683/1-A	Method Blank	Total/NA	Solid	1633	432683
LCS 410-432683/2-A	Lab Control Sample	Total/NA	Solid	1633	432683
LLCS 410-432683/3-A	Lab Control Sample	Total/NA	Solid	1633	432683
410-147072-3 DU	SED Comp 3	Total/NA	Solid	1633	432683

Analysis Batch: 439950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-2 - DL	SED Comp 2	Total/NA	Solid	1633	432683

Prep Batch: 440339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-5	SW Comp 2	Total/NA	Water	1633	
410-147072-6	SW Comp 3	Total/NA	Water	1633	
410-147072-7	Field Blank	Total/NA	Water	1633	
MB 410-440339/1-A	Method Blank	Total/NA	Water	1633	
LCS 410-440339/2-A	Lab Control Sample	Total/NA	Water	1633	
LLCS 410-440339/3-A	Lab Control Sample	Total/NA	Water	1633	

Analysis Batch: 440602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-437922/1-A	Method Blank	Total/NA	Water	1633	437922
LCS 410-437922/2-A	Lab Control Sample	Total/NA	Water	1633	437922
LLCS 410-437922/3-A	Lab Control Sample	Total/NA	Water	1633	437922

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

LCMS

Prep Batch: 442336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-2 - RE	SED Comp 2	Total/NA	Solid	1633 Shake	
MB 410-442336/1-A	Method Blank	Total/NA	Solid	1633 Shake	
LCS 410-442336/2-A	Lab Control Sample	Total/NA	Solid	1633 Shake	
LLCS 410-442336/3-A	Lab Control Sample	Total/NA	Solid	1633 Shake	

Analysis Batch: 443142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-4	SW Comp 1	Total/NA	Water	1633	437922

Analysis Batch: 443753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-5	SW Comp 2	Total/NA	Water	1633	440339
410-147072-6	SW Comp 3	Total/NA	Water	1633	440339
410-147072-7	Field Blank	Total/NA	Water	1633	440339
MB 410-440339/1-A	Method Blank	Total/NA	Water	1633	440339
LLCS 410-440339/3-A	Lab Control Sample	Total/NA	Water	1633	440339

Analysis Batch: 444158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-440339/2-A	Lab Control Sample	Total/NA	Water	1633	440339

Analysis Batch: 444874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-2 - RE	SED Comp 2	Total/NA	Solid	1633	442336
MB 410-442336/1-A	Method Blank	Total/NA	Solid	1633	442336
LLCS 410-442336/3-A	Lab Control Sample	Total/NA	Solid	1633	442336

Analysis Batch: 445103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-442336/2-A	Lab Control Sample	Total/NA	Solid	1633	442336

Specialty Organics

Prep Batch: 442274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	1668C	
410-147027-5	SW Comp 2	Total/NA	Water	1668C	
410-147027-6	SW Comp 3	Total/NA	Water	1668C	
MB 410-442274/1-A	Method Blank	Total/NA	Water	1668C	
LCS 410-442274/2-A	Lab Control Sample	Total/NA	Water	1668C	

Analysis Batch: 443285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	1668C	442274
410-147027-5	SW Comp 2	Total/NA	Water	1668C	442274
410-147027-6	SW Comp 3	Total/NA	Water	1668C	442274
MB 410-442274/1-A	Method Blank	Total/NA	Water	1668C	442274
LCS 410-442274/2-A	Lab Control Sample	Total/NA	Water	1668C	442274

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Specialty Organics

Analysis Batch: 443369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	1613B	443481
410-147027-5	SW Comp 2	Total/NA	Water	1613B	443481
410-147027-6	SW Comp 3	Total/NA	Water	1613B	443481

Prep Batch: 443481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	1613B	
410-147027-5	SW Comp 2	Total/NA	Water	1613B	
410-147027-6	SW Comp 3	Total/NA	Water	1613B	
MB 410-443481/1-A	Method Blank	Total/NA	Water	1613B	
LCS 410-443481/2-A	Lab Control Sample	Total/NA	Water	1613B	

Analysis Batch: 443605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-443481/1-A	Method Blank	Total/NA	Water	1613B	443481
LCS 410-443481/2-A	Lab Control Sample	Total/NA	Water	1613B	443481

Prep Batch: 443803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	1613B	
410-147027-2	SED Comp 2	Total/NA	Solid	1613B	
410-147027-3	SED Comp 3	Total/NA	Solid	1613B	
MB 410-443803/1-A	Method Blank	Total/NA	Solid	1613B	
LCS 410-443803/2-A	Lab Control Sample	Total/NA	Solid	1613B	

Prep Batch: 443808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	1668C	
410-147027-2	SED Comp 2	Total/NA	Solid	1668C	
410-147027-3	SED Comp 3	Total/NA	Solid	1668C	
MB 410-443808/1-B	Method Blank	Total/NA	Solid	1668C	
LCS 410-443808/2-B	Lab Control Sample	Total/NA	Solid	1668C	

Analysis Batch: 444249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	1613B	443803
410-147027-2	SED Comp 2	Total/NA	Solid	1613B	443803
410-147027-3	SED Comp 3	Total/NA	Solid	1613B	443803
MB 410-443803/1-A	Method Blank	Total/NA	Solid	1613B	443803
LCS 410-443803/2-A	Lab Control Sample	Total/NA	Solid	1613B	443803

Cleanup Batch: 444443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	3640A	443808
410-147027-2	SED Comp 2	Total/NA	Solid	3640A	443808
410-147027-3	SED Comp 3	Total/NA	Solid	3640A	443808
MB 410-443808/1-B	Method Blank	Total/NA	Solid	3640A	443808
LCS 410-443808/2-B	Lab Control Sample	Total/NA	Solid	3640A	443808

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Specialty Organics

Analysis Batch: 444881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	1668C	444443
410-147027-2	SED Comp 2	Total/NA	Solid	1668C	444443
410-147027-3	SED Comp 3	Total/NA	Solid	1668C	444443
MB 410-443808/1-B	Method Blank	Total/NA	Solid	1668C	444443
LCS 410-443808/2-B	Lab Control Sample	Total/NA	Solid	1668C	444443

Metals

Prep Batch: 431930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	3050B	
410-147027-2	SED Comp 2	Total/NA	Solid	3050B	
410-147027-3	SED Comp 3	Total/NA	Solid	3050B	
MB 410-431930/1-A ^2	Method Blank	Total/NA	Solid	3050B	
LCS 410-431930/2-A ^2	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 431940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	7471B	
410-147027-2	SED Comp 2	Total/NA	Solid	7471B	
410-147027-3	SED Comp 3	Total/NA	Solid	7471B	
MB 410-431940/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 410-431940/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 432291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	7471B	431940
410-147027-2	SED Comp 2	Total/NA	Solid	7471B	431940
410-147027-3	SED Comp 3	Total/NA	Solid	7471B	431940
MB 410-431940/1-A	Method Blank	Total/NA	Solid	7471B	431940
LCS 410-431940/2-A	Lab Control Sample	Total/NA	Solid	7471B	431940

Prep Batch: 432369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total Recoverable	Water	3005A	
410-147027-5	SW Comp 2	Total Recoverable	Water	3005A	
410-147027-6	SW Comp 3	Total Recoverable	Water	3005A	
MB 410-432369/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 410-432369/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 433557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	7470A	
410-147027-5	SW Comp 2	Total/NA	Water	7470A	
MB 410-433557/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-433557/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 433850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	7470A	433557
410-147027-5	SW Comp 2	Total/NA	Water	7470A	433557

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Metals (Continued)

Analysis Batch: 433850 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-433557/1-A	Method Blank	Total/NA	Water	7470A	433557
LCS 410-433557/2-A	Lab Control Sample	Total/NA	Water	7470A	433557

Prep Batch: 434803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-6	SW Comp 3	Total/NA	Water	7470A	
MB 410-434803/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-434803/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 435116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-6	SW Comp 3	Total/NA	Water	7470A	434803
MB 410-434803/1-A	Method Blank	Total/NA	Water	7470A	434803
LCS 410-434803/2-A	Lab Control Sample	Total/NA	Water	7470A	434803

Analysis Batch: 435552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	6020B	431930
410-147027-1	SED Comp 1	Total/NA	Solid	6020B	431930
410-147027-2	SED Comp 2	Total/NA	Solid	6020B	431930
410-147027-2	SED Comp 2	Total/NA	Solid	6020B	431930
410-147027-3	SED Comp 3	Total/NA	Solid	6020B	431930
MB 410-431930/1-A ^2	Method Blank	Total/NA	Solid	6020B	431930
LCS 410-431930/2-A ^2	Lab Control Sample	Total/NA	Solid	6020B	431930

Analysis Batch: 435755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total Recoverable	Water	6020B	432369
410-147027-4	SW Comp 1	Total Recoverable	Water	6020B	432369
410-147027-4	SW Comp 1	Total Recoverable	Water	6020B	432369
410-147027-5	SW Comp 2	Total Recoverable	Water	6020B	432369
410-147027-5	SW Comp 2	Total Recoverable	Water	6020B	432369
410-147027-5	SW Comp 2	Total Recoverable	Water	6020B	432369
410-147027-5	SW Comp 2	Total Recoverable	Water	6020B	432369
410-147027-6	SW Comp 3	Total Recoverable	Water	6020B	432369
410-147027-6	SW Comp 3	Total Recoverable	Water	6020B	432369
410-147027-6	SW Comp 3	Total Recoverable	Water	6020B	432369
MB 410-432369/1-A	Method Blank	Total Recoverable	Water	6020B	432369
LCS 410-432369/2-A	Lab Control Sample	Total Recoverable	Water	6020B	432369

General Chemistry

Analysis Batch: 431390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	Moisture	
410-147027-2	SED Comp 2	Total/NA	Solid	Moisture	
410-147027-3	SED Comp 3	Total/NA	Solid	Moisture	

Analysis Batch: 431548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	2540C - 2015	

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

General Chemistry (Continued)

Analysis Batch: 431548 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-5	SW Comp 2	Total/NA	Water	2540C - 2015	
MB 410-431548/1	Method Blank	Total/NA	Water	2540C - 2015	
LCS 410-431548/2	Lab Control Sample	Total/NA	Water	2540C - 2015	

Analysis Batch: 431734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147072-1	SED Comp 1	Total/NA	Solid	Moisture	
410-147072-2	SED Comp 2	Total/NA	Solid	Moisture	
410-147072-3	SED Comp 3	Total/NA	Solid	Moisture	

Analysis Batch: 431995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-6	SW Comp 3	Total/NA	Water	2540C - 2015	
MB 410-431995/1	Method Blank	Total/NA	Water	2540C - 2015	
LCS 410-431995/2	Lab Control Sample	Total/NA	Water	2540C - 2015	
LCSD 410-431995/3	Lab Control Sample Dup	Total/NA	Water	2540C - 2015	

Analysis Batch: 432501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	Lloyd Kahn	
410-147027-2	SED Comp 2	Total/NA	Solid	Lloyd Kahn	
410-147027-3	SED Comp 3	Total/NA	Solid	Lloyd Kahn	
MB 410-432501/4	Method Blank	Total/NA	Solid	Lloyd Kahn	
LCS 410-432501/3	Lab Control Sample	Total/NA	Solid	Lloyd Kahn	

Analysis Batch: 434796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	5310 C-2014	
410-147027-5	SW Comp 2	Total/NA	Water	5310 C-2014	
410-147027-6	SW Comp 3	Total/NA	Water	5310 C-2014	
MB 410-434796/68	Method Blank	Total/NA	Water	5310 C-2014	
LCS 410-434796/67	Lab Control Sample	Total/NA	Water	5310 C-2014	

Prep Batch: 435534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	4500 P B-2011	
410-147027-5	SW Comp 2	Total/NA	Water	4500 P B-2011	
410-147027-6	SW Comp 3	Total/NA	Water	4500 P B-2011	
MB 410-435534/1-A	Method Blank	Total/NA	Water	365.1	
LCS 410-435534/2-A	Lab Control Sample	Total/NA	Water	365.1	
410-147027-6 MS	SW Comp 3	Total/NA	Water	4500 P B-2011	
410-147027-6 DU	SW Comp 3	Total/NA	Water	4500 P B-2011	

Analysis Batch: 436242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-4	SW Comp 1	Total/NA	Water	4500 P F-2011	435534
410-147027-5	SW Comp 2	Total/NA	Water	4500 P F-2011	435534
410-147027-6	SW Comp 3	Total/NA	Water	4500 P F-2011	435534
MB 410-435534/1-A	Method Blank	Total/NA	Water	4500 P F-2011	435534
LCS 410-435534/2-A	Lab Control Sample	Total/NA	Water	4500 P F-2011	435534
410-147027-6 MS	SW Comp 3	Total/NA	Water	4500 P F-2011	435534

Eurofins Lancaster Laboratories Environment Testing, LLC

QC Association Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

General Chemistry (Continued)

Analysis Batch: 436242 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-6 DU	SW Comp 3	Total/NA	Water	4500 P F-2011	435534

Prep Batch: 440418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	365.1	
410-147027-2	SED Comp 2	Total/NA	Solid	365.1	
410-147027-3	SED Comp 3	Total/NA	Solid	365.1	
MB 410-440418/1-A	Method Blank	Total/NA	Solid	365.1	
LCS 410-440418/2-A	Lab Control Sample	Total/NA	Solid	365.1	

Analysis Batch: 441664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	365.1	440418
410-147027-2	SED Comp 2	Total/NA	Solid	365.1	440418
410-147027-3	SED Comp 3	Total/NA	Solid	365.1	440418
MB 410-440418/1-A	Method Blank	Total/NA	Solid	365.1	440418
LCS 410-440418/2-A	Lab Control Sample	Total/NA	Solid	365.1	440418

Geotechnical

Analysis Batch: 441629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-147027-1	SED Comp 1	Total/NA	Solid	D422	
410-147027-2	SED Comp 2	Total/NA	Solid	D422	
410-147027-3	SED Comp 3	Total/NA	Solid	D422	

Lab Chronicle

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			433154	PQ6J	ELLE	10/19/23 07:57
Total/NA	Analysis	8081B		1	433563	UAMZ	ELLE	10/20/23 09:46
Total/NA	Prep	3050B			431930	UAMX	ELLE	10/16/23 20:17
Total/NA	Analysis	6020B		2	435552	F7JF	ELLE	10/25/23 09:21
Total/NA	Prep	3050B			431930	UAMX	ELLE	10/16/23 20:17
Total/NA	Analysis	6020B		10	435552	F7JF	ELLE	10/25/23 09:23
Total/NA	Prep	7471B			431940	UAMX	ELLE	10/16/23 21:19
Total/NA	Analysis	7471B		1	432291	UEFS	ELLE	10/17/23 14:23
Total/NA	Analysis	Lloyd Kahn		1	432501	P684	ELLE	10/17/23 15:50
Total/NA	Analysis	Moisture		1	431390	K9VH	ELLE	10/14/23 16:09
Total/NA	Analysis	D422		1	441629	UDS7	ELLE	10/31/23 10:31

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147027-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 48.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			432561	PQ6J	ELLE	10/18/23 07:58
Total/NA	Analysis	8270E SIM		1	433060	UJM0	ELLE	10/19/23 08:26
Total/NA	Prep	3546	RE		434657	ZB3H	ELLE	10/23/23 16:20
Total/NA	Analysis	8270E SIM	RE	1	434809	UJM0	ELLE	10/24/23 11:29
Total/NA	Prep	1613B			443803	RGA5	ELLE	11/15/23 14:25
Total/NA	Analysis	1613B		1	444249	UC8F	ELLE	11/17/23 16:50
Total/NA	Prep	1668C			443808	RGA5	ELLE	11/15/23 14:31
Total/NA	Cleanup	3640A			444443	TJK2	ELLE	11/16/23 16:39
Total/NA	Analysis	1668C		1	444881	DZ6A	ELLE	11/17/23 22:12
Total/NA	Prep	365.1			440418	PQ9E	ELLE	11/07/23 08:54 - 11/03/23 16:00 ¹
Total/NA	Analysis	365.1		1	441664	JCG7	ELLE	11/09/23 13:39

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147027-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			433154	PQ6J	ELLE	10/19/23 07:57
Total/NA	Analysis	8081B		1	433563	UAMZ	ELLE	10/20/23 10:06
Total/NA	Prep	3050B			431930	UAMX	ELLE	10/16/23 20:17
Total/NA	Analysis	6020B		2	435552	F7JF	ELLE	10/25/23 09:13
Total/NA	Prep	3050B			431930	UAMX	ELLE	10/16/23 20:17
Total/NA	Analysis	6020B		10	435552	F7JF	ELLE	10/25/23 09:15
Total/NA	Prep	7471B			431940	UAMX	ELLE	10/16/23 21:19
Total/NA	Analysis	7471B		1	432291	UEFS	ELLE	10/17/23 14:20
Total/NA	Analysis	Lloyd Kahn		1	432501	P684	ELLE	10/17/23 15:53
Total/NA	Analysis	Moisture		1	431390	K9VH	ELLE	10/14/23 16:09

Lab Chronicle

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 2

Date Collected: 10/11/23 11:30

Date Received: 10/13/23 17:37

Lab Sample ID: 410-147027-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	D422		1	441629	UDS7	ELLE	10/31/23 10:31

Client Sample ID: SED Comp 2

Date Collected: 10/11/23 11:30

Date Received: 10/13/23 17:37

Lab Sample ID: 410-147027-2

Matrix: Solid

Percent Solids: 65.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			432561	PQ6J	ELLE	10/18/23 07:58
Total/NA	Analysis	8270E SIM		1	433060	UJM0	ELLE	10/19/23 06:57
Total/NA	Prep	3546	RE		434657	ZB3H	ELLE	10/23/23 16:20
Total/NA	Analysis	8270E SIM	RE	1	434809	UJM0	ELLE	10/24/23 10:01
Total/NA	Prep	1613B			443803	RGA5	ELLE	11/15/23 14:25
Total/NA	Analysis	1613B		1	444249	UC8F	ELLE	11/17/23 17:41
Total/NA	Prep	1668C			443808	RGA5	ELLE	11/15/23 14:31
Total/NA	Cleanup	3640A			444443	TJK2	ELLE	11/16/23 16:39
Total/NA	Analysis	1668C		1	444881	DZ6A	ELLE	11/17/23 20:55
Total/NA	Prep	365.1			440418	PQ9E	ELLE	11/07/23 10:01 - 11/07/23 08:54 ¹
Total/NA	Analysis	365.1		1	441664	JCG7	ELLE	11/09/23 13:43

Client Sample ID: SED Comp 3

Date Collected: 10/12/23 11:30

Date Received: 10/13/23 17:37

Lab Sample ID: 410-147027-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			433154	PQ6J	ELLE	10/19/23 07:57
Total/NA	Analysis	8081B		1	433563	UAMZ	ELLE	10/20/23 10:27
Total/NA	Prep	3050B			431930	UAMX	ELLE	10/16/23 20:17
Total/NA	Analysis	6020B		2	435552	F7JF	ELLE	10/25/23 09:03
Total/NA	Prep	7471B			431940	UAMX	ELLE	10/16/23 21:15
Total/NA	Analysis	7471B		1	432291	UEFS	ELLE	10/17/23 14:14
Total/NA	Analysis	Lloyd Kahn		1	432501	P684	ELLE	10/17/23 15:56
Total/NA	Analysis	Moisture		1	431390	K9VH	ELLE	10/14/23 16:09
Total/NA	Analysis	D422		1	441629	UDS7	ELLE	10/31/23 10:31

Client Sample ID: SED Comp 3

Date Collected: 10/12/23 11:30

Date Received: 10/13/23 17:37

Lab Sample ID: 410-147027-3

Matrix: Solid

Percent Solids: 71.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3546			432561	PQ6J	ELLE	10/18/23 07:58
Total/NA	Analysis	8270E SIM		1	433060	UJM0	ELLE	10/19/23 07:41
Total/NA	Prep	3546	RE		434657	ZB3H	ELLE	10/23/23 16:20
Total/NA	Analysis	8270E SIM	RE	1	434809	UJM0	ELLE	10/24/23 10:45
Total/NA	Prep	1613B			443803	RGA5	ELLE	11/15/23 14:25
Total/NA	Analysis	1613B		1	444249	UC8F	ELLE	11/17/23 18:31

Lab Chronicle

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147027-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 71.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1668C			443808	RGA5	ELLE	11/15/23 14:31
Total/NA	Cleanup	3640A			444443	TJK2	ELLE	11/16/23 16:39
Total/NA	Analysis	1668C		1	444881	DZ6A	ELLE	11/17/23 19:39
Total/NA	Prep	365.1			440418	PQ9E	ELLE	11/07/23 10:01 - 11/07/23 08:54 ¹
Total/NA	Analysis	365.1		1	441664	JCG7	ELLE	11/09/23 13:43

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147027-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			432041	U7CG	ELLE	10/17/23 09:03
Total/NA	Analysis	8270E SIM		1	432573	UJM0	ELLE	10/18/23 12:23
Total/NA	Prep	3510C			432062	QKX3	ELLE	10/17/23 08:15
Total/NA	Analysis	8081B		1	432474	UAMZ	ELLE	10/18/23 17:04
Total/NA	Prep	1613B			443481	SJ7Z	ELLE	11/14/23 23:33
Total/NA	Analysis	1613B		1	443369	UC8F	ELLE	11/15/23 12:20
Total/NA	Prep	1668C			442274	SJ7Z	ELLE	11/10/23 21:08
Total/NA	Analysis	1668C		1	443285	DZ6A	ELLE	11/15/23 15:49
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		1	435755	UCIG	ELLE	10/25/23 12:34
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		10	435755	UCIG	ELLE	10/25/23 18:30
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		100	435755	UCIG	ELLE	10/25/23 18:33
Total/NA	Prep	7470A			433557	UAMX	ELLE	10/20/23 00:29
Total/NA	Analysis	7470A		1	433850	UEFS	ELLE	10/20/23 10:14
Total/NA	Analysis	2540C - 2015		1	431548	M98K	ELLE	10/16/23 07:33 - 10/17/23 09:35 ¹
Total/NA	Prep	4500 P B-2011			435534	PQ9E	ELLE	10/25/23 14:00 - 10/25/23 15:00 ¹
Total/NA	Analysis	4500 P F-2011		1	436242	JCG7	ELLE	10/26/23 12:06
Total/NA	Analysis	5310 C-2014		1	434796	P684	ELLE	10/21/23 13:22

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			432041	U7CG	ELLE	10/17/23 09:03
Total/NA	Analysis	8270E SIM		1	432573	UJM0	ELLE	10/18/23 13:08
Total/NA	Prep	3510C			432569	QKX3	ELLE	10/18/23 08:05
Total/NA	Analysis	8081B		1	433050	UAMZ	ELLE	10/19/23 15:10
Total/NA	Prep	1613B			443481	SJ7Z	ELLE	11/14/23 23:33
Total/NA	Analysis	1613B		1	443369	UC8F	ELLE	11/15/23 13:13
Total/NA	Prep	1668C			442274	SJ7Z	ELLE	11/10/23 21:08
Total/NA	Analysis	1668C		1	443285	DZ6A	ELLE	11/15/23 17:06

Lab Chronicle

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147027-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		1	435755	UCIG	ELLE	10/25/23 12:24
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		10	435755	UCIG	ELLE	10/25/23 18:22
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		100	435755	UCIG	ELLE	10/25/23 18:24
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		250	435755	UCIG	ELLE	10/25/23 18:36
Total/NA	Prep	7470A			433557	UAMX	ELLE	10/20/23 00:29
Total/NA	Analysis	7470A		1	433850	UEFS	ELLE	10/20/23 10:12
Total/NA	Analysis	2540C - 2015		1	431548	M98K	ELLE	10/16/23 07:33 - 10/17/23 09:35 ¹
Total/NA	Prep	4500 P B-2011			435534	PQ9E	ELLE	10/25/23 14:00 - 10/25/23 15:00 ¹
Total/NA	Analysis	4500 P F-2011		1	436242	JCG7	ELLE	10/26/23 12:09
Total/NA	Analysis	5310 C-2014		1	434796	P684	ELLE	10/21/23 13:42

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147027-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3510C			432041	U7CG	ELLE	10/17/23 09:03
Total/NA	Analysis	8270E SIM		1	432573	UJM0	ELLE	10/18/23 13:52
Total/NA	Prep	3510C			432569	QKX3	ELLE	10/18/23 08:05
Total/NA	Analysis	8081B		1	433050	UAMZ	ELLE	10/19/23 15:30
Total/NA	Prep	1613B			443481	SJ7Z	ELLE	11/14/23 23:33
Total/NA	Analysis	1613B		1	443369	UC8F	ELLE	11/15/23 14:06
Total/NA	Prep	1668C			442274	SJ7Z	ELLE	11/10/23 21:08
Total/NA	Analysis	1668C		1	443285	DZ6A	ELLE	11/15/23 18:23
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		1	435755	UCIG	ELLE	10/25/23 12:32
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		10	435755	UCIG	ELLE	10/25/23 18:26
Total Recoverable	Prep	3005A			432369	UAMX	ELLE	10/17/23 17:16
Total Recoverable	Analysis	6020B		100	435755	UCIG	ELLE	10/25/23 18:28
Total/NA	Prep	7470A			434803	UAMX	ELLE	10/24/23 06:08
Total/NA	Analysis	7470A		1	435116	UEFS	ELLE	10/24/23 14:03
Total/NA	Analysis	2540C - 2015		1	431995	M98K	ELLE	10/17/23 06:47 - 10/18/23 09:45 ¹
Total/NA	Prep	4500 P B-2011			435534	PQ9E	ELLE	10/25/23 14:00 - 10/25/23 15:00 ¹
Total/NA	Analysis	4500 P F-2011		1	436242	JCG7	ELLE	10/26/23 12:06
Total/NA	Analysis	5310 C-2014		1	434796	P684	ELLE	10/21/23 14:01

Lab Chronicle

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147072-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	431734	UVJN	ELLE	10/16/23 11:36

Client Sample ID: SED Comp 1

Lab Sample ID: 410-147072-1

Date Collected: 10/10/23 13:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 42.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633 Shake			432683	BX2W	ELLE	10/18/23 09:29
Total/NA	Analysis	1633		1	439500	UCD3	ELLE	11/04/23 01:18

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147072-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	431734	UVJN	ELLE	10/16/23 11:36

Client Sample ID: SED Comp 2

Lab Sample ID: 410-147072-2

Date Collected: 10/11/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 56.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633 Shake			432683	BX2W	ELLE	10/18/23 09:29
Total/NA	Analysis	1633		1	439500	UCD3	ELLE	11/04/23 01:30
Total/NA	Prep	1633 Shake	DL		432683	BX2W	ELLE	10/18/23 09:29
Total/NA	Analysis	1633	DL	10	439950	UCD3	ELLE	11/06/23 18:19
Total/NA	Prep	1633 Shake	RE		442336	S7AC	ELLE	11/11/23 09:46
Total/NA	Analysis	1633	RE	1	444874	UCD3	ELLE	11/17/23 22:53

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147072-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	431734	UVJN	ELLE	10/16/23 11:36

Client Sample ID: SED Comp 3

Lab Sample ID: 410-147072-3

Date Collected: 10/12/23 11:30

Matrix: Solid

Date Received: 10/13/23 17:37

Percent Solids: 64.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633 Shake			432683	BX2W	ELLE	10/18/23 09:29
Total/NA	Analysis	1633		1	439500	UCD3	ELLE	11/04/23 01:42

Lab Chronicle

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Client Sample ID: SW Comp 1

Lab Sample ID: 410-147072-4

Date Collected: 10/10/23 13:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			437922	BX2W	ELLE	10/31/23 15:05
Total/NA	Analysis	1633		1	443142	KQ3F	ELLE	11/15/23 04:34

Client Sample ID: SW Comp 2

Lab Sample ID: 410-147072-5

Date Collected: 10/11/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			440339	RC3V	ELLE	11/07/23 07:22
Total/NA	Analysis	1633		1	443753	UUV6	ELLE	11/16/23 04:10

Client Sample ID: SW Comp 3

Lab Sample ID: 410-147072-6

Date Collected: 10/12/23 11:30

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			440339	RC3V	ELLE	11/07/23 07:22
Total/NA	Analysis	1633		1	443753	UUV6	ELLE	11/16/23 04:23

Client Sample ID: Field Blank

Lab Sample ID: 410-147072-7

Date Collected: 10/12/23 11:15

Matrix: Water

Date Received: 10/13/23 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	1633			440339	RC3V	ELLE	11/07/23 07:22
Total/NA	Analysis	1633		1	443753	UUV6	ELLE	11/16/23 04:36

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1613B	1613B	Solid	1,2,3,4,6,7,8-HpCDD
1613B	1613B	Solid	1,2,3,4,6,7,8-HpCDF
1613B	1613B	Solid	1,2,3,4,7,8,9-HpCDF
1613B	1613B	Solid	1,2,3,4,7,8-HxCDD
1613B	1613B	Solid	1,2,3,4,7,8-HxCDF
1613B	1613B	Solid	1,2,3,6,7,8-HxCDD
1613B	1613B	Solid	1,2,3,6,7,8-HxCDF
1613B	1613B	Solid	1,2,3,7,8,9-HxCDD
1613B	1613B	Solid	1,2,3,7,8,9-HxCDF
1613B	1613B	Solid	1,2,3,7,8-PeCDD
1613B	1613B	Solid	1,2,3,7,8-PeCDF
1613B	1613B	Solid	2,3,4,6,7,8-HxCDF
1613B	1613B	Solid	2,3,4,7,8-PeCDF
1613B	1613B	Solid	2,3,7,8-TCDD
1613B	1613B	Solid	2,3,7,8-TCDF
1613B	1613B	Solid	OCDD
1613B	1613B	Solid	OCDF
1613B	1613B	Water	1,2,3,4,6,7,8-HpCDD
1613B	1613B	Water	1,2,3,4,6,7,8-HpCDF
1613B	1613B	Water	1,2,3,4,7,8,9-HpCDF
1613B	1613B	Water	1,2,3,4,7,8-HxCDD
1613B	1613B	Water	1,2,3,4,7,8-HxCDF
1613B	1613B	Water	1,2,3,6,7,8-HxCDD
1613B	1613B	Water	1,2,3,6,7,8-HxCDF
1613B	1613B	Water	1,2,3,7,8,9-HxCDD
1613B	1613B	Water	1,2,3,7,8,9-HxCDF
1613B	1613B	Water	1,2,3,7,8-PeCDD
1613B	1613B	Water	1,2,3,7,8-PeCDF
1613B	1613B	Water	2,3,4,6,7,8-HxCDF
1613B	1613B	Water	2,3,4,7,8-PeCDF
1613B	1613B	Water	2,3,7,8-TCDD
1613B	1613B	Water	2,3,7,8-TCDF
1613B	1613B	Water	OCDD
1613B	1613B	Water	OCDF
1633	1633	Water	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid
1633	1633	Water	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)
1633	1633	Water	1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)
1633	1633	Water	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)
1633	1633	Water	2-(N-ethylperfluoro-1-octanesulfonamido) ethanol
1633	1633	Water	2-(N-methylperfluoro-1-octanesulfonamido) ethanol

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
1633	1633	Water	3:3 FTCA
1633	1633	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
1633	1633	Water	5:3 FTCA
1633	1633	Water	7:3 FTCA
1633	1633	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
1633	1633	Water	HFPO-DA
1633	1633	Water	NEtFOSAA
1633	1633	Water	N-ethylperfluoro-1-octanesulfonamide
1633	1633	Water	NMeFOSA
1633	1633	Water	NMeFOSAA
1633	1633	Water	Perfluoro(4-methoxybutanoic acid)
1633	1633	Water	Perfluoro-3,6-dioxaheptanoic acid
1633	1633	Water	Perfluoro-3-methoxypropanoic acid
1633	1633	Water	Perfluorobutanesulfonic acid
1633	1633	Water	Perfluorobutanoic acid
1633	1633	Water	Perfluorodecanesulfonic acid
1633	1633	Water	Perfluorodecanoic acid
1633	1633	Water	Perfluorododecanesulfonic acid (PFDoS)
1633	1633	Water	Perfluorododecanoic acid
1633	1633	Water	Perfluoroheptanesulfonic acid
1633	1633	Water	Perfluoroheptanoic acid
1633	1633	Water	Perfluorohexanesulfonic acid
1633	1633	Water	Perfluorohexanoic acid
1633	1633	Water	Perfluorononanesulfonic acid
1633	1633	Water	Perfluorononanoic acid
1633	1633	Water	Perfluorooctanesulfonamide
1633	1633	Water	Perfluorooctanesulfonic acid
1633	1633	Water	Perfluorooctanoic acid
1633	1633	Water	Perfluoropentanesulfonic acid
1633	1633	Water	Perfluoropentanoic acid
1633	1633	Water	Perfluorotetradecanoic acid
1633	1633	Water	Perfluorotridecanoic acid
1633	1633	Water	Perfluoroundecanoic acid
1633	1633	Water	PFEESA
1633	1633 Shake	Solid	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid
1633	1633 Shake	Solid	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)
1633	1633 Shake	Solid	1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)
1633	1633 Shake	Solid	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)
1633	1633 Shake	Solid	2-(N-ethylperfluoro-1-octanesulfonamido) ethanol
1633	1633 Shake	Solid	2-(N-methylperfluoro-1-octanesulfonamido) ethanol

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1633	1633 Shake	Solid	3:3 FTCA
1633	1633 Shake	Solid	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
1633	1633 Shake	Solid	5:3 FTCA
1633	1633 Shake	Solid	7:3 FTCA
1633	1633 Shake	Solid	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid
1633	1633 Shake	Solid	HFPO-DA
1633	1633 Shake	Solid	NEtFOSAA
1633	1633 Shake	Solid	N-ethylperfluoro-1-octanesulfonamide
1633	1633 Shake	Solid	NMeFOSA
1633	1633 Shake	Solid	NMeFOSA
1633	1633 Shake	Solid	Perfluoro(4-methoxybutanoic acid)
1633	1633 Shake	Solid	Perfluoro-3,6-dioxaheptanoic acid
1633	1633 Shake	Solid	Perfluoro-3-methoxypropanoic acid
1633	1633 Shake	Solid	Perfluorobutanesulfonic acid
1633	1633 Shake	Solid	Perfluorobutanoic acid
1633	1633 Shake	Solid	Perfluorodecanesulfonic acid
1633	1633 Shake	Solid	Perfluorodecanoic acid
1633	1633 Shake	Solid	Perfluorododecanesulfonic acid (PFDoS)
1633	1633 Shake	Solid	Perfluorododecanoic acid
1633	1633 Shake	Solid	Perfluoroheptanesulfonic acid
1633	1633 Shake	Solid	Perfluoroheptanoic acid
1633	1633 Shake	Solid	Perfluorohexanesulfonic acid
1633	1633 Shake	Solid	Perfluorohexanoic acid
1633	1633 Shake	Solid	Perfluorononanesulfonic acid
1633	1633 Shake	Solid	Perfluorononanoic acid
1633	1633 Shake	Solid	Perfluorooctanesulfonamide
1633	1633 Shake	Solid	Perfluorooctanesulfonic acid
1633	1633 Shake	Solid	Perfluorooctanoic acid
1633	1633 Shake	Solid	Perfluoropentanesulfonic acid
1633	1633 Shake	Solid	Perfluoropentanoic acid
1633	1633 Shake	Solid	Perfluorotetradecanoic acid
1633	1633 Shake	Solid	Perfluorotridecanoic acid
1633	1633 Shake	Solid	Perfluoroundecanoic acid
1633	1633 Shake	Solid	PFEESA
1668C	1668C	Solid	DCB Decachlorobiphenyl
1668C	1668C	Solid	PCB-1
1668C	1668C	Solid	PCB-10
1668C	1668C	Solid	PCB-103
1668C	1668C	Solid	PCB-104
1668C	1668C	Solid	PCB-105
1668C	1668C	Solid	PCB-106
1668C	1668C	Solid	PCB-107
1668C	1668C	Solid	PCB-108/124
1668C	1668C	Solid	PCB-11
1668C	1668C	Solid	PCB-110/115

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Solid	PCB-111
1668C	1668C	Solid	PCB-112
1668C	1668C	Solid	PCB-114
1668C	1668C	Solid	PCB-118
1668C	1668C	Solid	PCB-12/13
1668C	1668C	Solid	PCB-120
1668C	1668C	Solid	PCB-121
1668C	1668C	Solid	PCB-122
1668C	1668C	Solid	PCB-123
1668C	1668C	Solid	PCB-126
1668C	1668C	Solid	PCB-127
1668C	1668C	Solid	PCB-128/166
1668C	1668C	Solid	PCB-129/138/163
1668C	1668C	Solid	PCB-130
1668C	1668C	Solid	PCB-131
1668C	1668C	Solid	PCB-132
1668C	1668C	Solid	PCB-133
1668C	1668C	Solid	PCB-134
1668C	1668C	Solid	PCB-135/151
1668C	1668C	Solid	PCB-136
1668C	1668C	Solid	PCB-137
1668C	1668C	Solid	PCB-139/140
1668C	1668C	Solid	PCB-14
1668C	1668C	Solid	PCB-141
1668C	1668C	Solid	PCB-142
1668C	1668C	Solid	PCB-143
1668C	1668C	Solid	PCB-144
1668C	1668C	Solid	PCB-145
1668C	1668C	Solid	PCB-146
1668C	1668C	Solid	PCB-147/149
1668C	1668C	Solid	PCB-148
1668C	1668C	Solid	PCB-15
1668C	1668C	Solid	PCB-150
1668C	1668C	Solid	PCB-152
1668C	1668C	Solid	PCB-153/168
1668C	1668C	Solid	PCB-154
1668C	1668C	Solid	PCB-155
1668C	1668C	Solid	PCB-156/157
1668C	1668C	Solid	PCB-158
1668C	1668C	Solid	PCB-159
1668C	1668C	Solid	PCB-16
1668C	1668C	Solid	PCB-160
1668C	1668C	Solid	PCB-161
1668C	1668C	Solid	PCB-162
1668C	1668C	Solid	PCB-164
1668C	1668C	Solid	PCB-165
1668C	1668C	Solid	PCB-167



Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Solid	PCB-169
1668C	1668C	Solid	PCB-17
1668C	1668C	Solid	PCB-170
1668C	1668C	Solid	PCB-171/173
1668C	1668C	Solid	PCB-172
1668C	1668C	Solid	PCB-174
1668C	1668C	Solid	PCB-175
1668C	1668C	Solid	PCB-176
1668C	1668C	Solid	PCB-177
1668C	1668C	Solid	PCB-178
1668C	1668C	Solid	PCB-179
1668C	1668C	Solid	PCB-18/30
1668C	1668C	Solid	PCB-180/193
1668C	1668C	Solid	PCB-181
1668C	1668C	Solid	PCB-182
1668C	1668C	Solid	PCB-183/185
1668C	1668C	Solid	PCB-184
1668C	1668C	Solid	PCB-186
1668C	1668C	Solid	PCB-187
1668C	1668C	Solid	PCB-188
1668C	1668C	Solid	PCB-189
1668C	1668C	Solid	PCB-19
1668C	1668C	Solid	PCB-190
1668C	1668C	Solid	PCB-191
1668C	1668C	Solid	PCB-192
1668C	1668C	Solid	PCB-194
1668C	1668C	Solid	PCB-195
1668C	1668C	Solid	PCB-196
1668C	1668C	Solid	PCB-197/200
1668C	1668C	Solid	PCB-198/199
1668C	1668C	Solid	PCB-2
1668C	1668C	Solid	PCB-20/28
1668C	1668C	Solid	PCB-201
1668C	1668C	Solid	PCB-202
1668C	1668C	Solid	PCB-203
1668C	1668C	Solid	PCB-204
1668C	1668C	Solid	PCB-205
1668C	1668C	Solid	PCB-206
1668C	1668C	Solid	PCB-207
1668C	1668C	Solid	PCB-208
1668C	1668C	Solid	PCB-21/33
1668C	1668C	Solid	PCB-22
1668C	1668C	Solid	PCB-23
1668C	1668C	Solid	PCB-24
1668C	1668C	Solid	PCB-25
1668C	1668C	Solid	PCB-26/29
1668C	1668C	Solid	PCB-27



Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Solid	PCB-3
1668C	1668C	Solid	PCB-31
1668C	1668C	Solid	PCB-32
1668C	1668C	Solid	PCB-34
1668C	1668C	Solid	PCB-35
1668C	1668C	Solid	PCB-36
1668C	1668C	Solid	PCB-37
1668C	1668C	Solid	PCB-38
1668C	1668C	Solid	PCB-39
1668C	1668C	Solid	PCB-4
1668C	1668C	Solid	PCB-40/71
1668C	1668C	Solid	PCB-41
1668C	1668C	Solid	PCB-42
1668C	1668C	Solid	PCB-43
1668C	1668C	Solid	PCB-44/47/65
1668C	1668C	Solid	PCB-45
1668C	1668C	Solid	PCB-46
1668C	1668C	Solid	PCB-48
1668C	1668C	Solid	PCB-49/69
1668C	1668C	Solid	PCB-5
1668C	1668C	Solid	PCB-50/53
1668C	1668C	Solid	PCB-51
1668C	1668C	Solid	PCB-52
1668C	1668C	Solid	PCB-54
1668C	1668C	Solid	PCB-55
1668C	1668C	Solid	PCB-56
1668C	1668C	Solid	PCB-57
1668C	1668C	Solid	PCB-58
1668C	1668C	Solid	PCB-59/62/75
1668C	1668C	Solid	PCB-6
1668C	1668C	Solid	PCB-60
1668C	1668C	Solid	PCB-61/70/74/76
1668C	1668C	Solid	PCB-63
1668C	1668C	Solid	PCB-64
1668C	1668C	Solid	PCB-66
1668C	1668C	Solid	PCB-67
1668C	1668C	Solid	PCB-68
1668C	1668C	Solid	PCB-7
1668C	1668C	Solid	PCB-72
1668C	1668C	Solid	PCB-73
1668C	1668C	Solid	PCB-77
1668C	1668C	Solid	PCB-78
1668C	1668C	Solid	PCB-79
1668C	1668C	Solid	PCB-8
1668C	1668C	Solid	PCB-80
1668C	1668C	Solid	PCB-81
1668C	1668C	Solid	PCB-82

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Solid	PCB-83
1668C	1668C	Solid	PCB-84
1668C	1668C	Solid	PCB-85/116/117
1668C	1668C	Solid	PCB-86/87/97/109/119/125
1668C	1668C	Solid	PCB-88
1668C	1668C	Solid	PCB-89
1668C	1668C	Solid	PCB-9
1668C	1668C	Solid	PCB-90/101/113
1668C	1668C	Solid	PCB-91
1668C	1668C	Solid	PCB-92
1668C	1668C	Solid	PCB-93/100
1668C	1668C	Solid	PCB-94
1668C	1668C	Solid	PCB-95
1668C	1668C	Solid	PCB-96
1668C	1668C	Solid	PCB-98/102
1668C	1668C	Solid	PCB-99
1668C	1668C	Water	DCB Decachlorobiphenyl
1668C	1668C	Water	PCB-1
1668C	1668C	Water	PCB-10
1668C	1668C	Water	PCB-103
1668C	1668C	Water	PCB-104
1668C	1668C	Water	PCB-105
1668C	1668C	Water	PCB-106
1668C	1668C	Water	PCB-107
1668C	1668C	Water	PCB-108/124
1668C	1668C	Water	PCB-11
1668C	1668C	Water	PCB-110/115
1668C	1668C	Water	PCB-111
1668C	1668C	Water	PCB-112
1668C	1668C	Water	PCB-114
1668C	1668C	Water	PCB-118
1668C	1668C	Water	PCB-12/13
1668C	1668C	Water	PCB-120
1668C	1668C	Water	PCB-121
1668C	1668C	Water	PCB-122
1668C	1668C	Water	PCB-123
1668C	1668C	Water	PCB-126
1668C	1668C	Water	PCB-127
1668C	1668C	Water	PCB-128/166
1668C	1668C	Water	PCB-129/138/163
1668C	1668C	Water	PCB-130
1668C	1668C	Water	PCB-131
1668C	1668C	Water	PCB-132
1668C	1668C	Water	PCB-133
1668C	1668C	Water	PCB-134
1668C	1668C	Water	PCB-135/151
1668C	1668C	Water	PCB-136



Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Water	PCB-137
1668C	1668C	Water	PCB-139/140
1668C	1668C	Water	PCB-14
1668C	1668C	Water	PCB-141
1668C	1668C	Water	PCB-142
1668C	1668C	Water	PCB-143
1668C	1668C	Water	PCB-144
1668C	1668C	Water	PCB-145
1668C	1668C	Water	PCB-146
1668C	1668C	Water	PCB-147/149
1668C	1668C	Water	PCB-148
1668C	1668C	Water	PCB-15
1668C	1668C	Water	PCB-150
1668C	1668C	Water	PCB-152
1668C	1668C	Water	PCB-153/168
1668C	1668C	Water	PCB-154
1668C	1668C	Water	PCB-155
1668C	1668C	Water	PCB-156/157
1668C	1668C	Water	PCB-158
1668C	1668C	Water	PCB-159
1668C	1668C	Water	PCB-16
1668C	1668C	Water	PCB-160
1668C	1668C	Water	PCB-161
1668C	1668C	Water	PCB-162
1668C	1668C	Water	PCB-164
1668C	1668C	Water	PCB-165
1668C	1668C	Water	PCB-167
1668C	1668C	Water	PCB-169
1668C	1668C	Water	PCB-17
1668C	1668C	Water	PCB-170
1668C	1668C	Water	PCB-171/173
1668C	1668C	Water	PCB-172
1668C	1668C	Water	PCB-174
1668C	1668C	Water	PCB-175
1668C	1668C	Water	PCB-176
1668C	1668C	Water	PCB-177
1668C	1668C	Water	PCB-178
1668C	1668C	Water	PCB-179
1668C	1668C	Water	PCB-18/30
1668C	1668C	Water	PCB-180/193
1668C	1668C	Water	PCB-181
1668C	1668C	Water	PCB-182
1668C	1668C	Water	PCB-183/185
1668C	1668C	Water	PCB-184
1668C	1668C	Water	PCB-186
1668C	1668C	Water	PCB-187
1668C	1668C	Water	PCB-188

Eurofins Lancaster Laboratories Environment Testing, LLC

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Water	PCB-189
1668C	1668C	Water	PCB-19
1668C	1668C	Water	PCB-190
1668C	1668C	Water	PCB-191
1668C	1668C	Water	PCB-192
1668C	1668C	Water	PCB-194
1668C	1668C	Water	PCB-195
1668C	1668C	Water	PCB-196
1668C	1668C	Water	PCB-197/200
1668C	1668C	Water	PCB-198/199
1668C	1668C	Water	PCB-2
1668C	1668C	Water	PCB-20/28
1668C	1668C	Water	PCB-201
1668C	1668C	Water	PCB-202
1668C	1668C	Water	PCB-203
1668C	1668C	Water	PCB-204
1668C	1668C	Water	PCB-205
1668C	1668C	Water	PCB-206
1668C	1668C	Water	PCB-207
1668C	1668C	Water	PCB-208
1668C	1668C	Water	PCB-21/33
1668C	1668C	Water	PCB-22
1668C	1668C	Water	PCB-23
1668C	1668C	Water	PCB-24
1668C	1668C	Water	PCB-25
1668C	1668C	Water	PCB-26/29
1668C	1668C	Water	PCB-27
1668C	1668C	Water	PCB-3
1668C	1668C	Water	PCB-31
1668C	1668C	Water	PCB-32
1668C	1668C	Water	PCB-34
1668C	1668C	Water	PCB-35
1668C	1668C	Water	PCB-36
1668C	1668C	Water	PCB-37
1668C	1668C	Water	PCB-38
1668C	1668C	Water	PCB-39
1668C	1668C	Water	PCB-4
1668C	1668C	Water	PCB-40/71
1668C	1668C	Water	PCB-41
1668C	1668C	Water	PCB-42
1668C	1668C	Water	PCB-43
1668C	1668C	Water	PCB-44/47/65
1668C	1668C	Water	PCB-45
1668C	1668C	Water	PCB-46
1668C	1668C	Water	PCB-48
1668C	1668C	Water	PCB-49/69
1668C	1668C	Water	PCB-5



Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1668C	1668C	Water	PCB-50/53
1668C	1668C	Water	PCB-51
1668C	1668C	Water	PCB-52
1668C	1668C	Water	PCB-54
1668C	1668C	Water	PCB-55
1668C	1668C	Water	PCB-56
1668C	1668C	Water	PCB-57
1668C	1668C	Water	PCB-58
1668C	1668C	Water	PCB-59/62/75
1668C	1668C	Water	PCB-6
1668C	1668C	Water	PCB-60
1668C	1668C	Water	PCB-61/70/74/76
1668C	1668C	Water	PCB-63
1668C	1668C	Water	PCB-64
1668C	1668C	Water	PCB-66
1668C	1668C	Water	PCB-67
1668C	1668C	Water	PCB-68
1668C	1668C	Water	PCB-7
1668C	1668C	Water	PCB-72
1668C	1668C	Water	PCB-73
1668C	1668C	Water	PCB-77
1668C	1668C	Water	PCB-78
1668C	1668C	Water	PCB-79
1668C	1668C	Water	PCB-8
1668C	1668C	Water	PCB-80
1668C	1668C	Water	PCB-81
1668C	1668C	Water	PCB-82
1668C	1668C	Water	PCB-83
1668C	1668C	Water	PCB-84
1668C	1668C	Water	PCB-85/116/117
1668C	1668C	Water	PCB-86/87/97/109/119/125
1668C	1668C	Water	PCB-88
1668C	1668C	Water	PCB-89
1668C	1668C	Water	PCB-9
1668C	1668C	Water	PCB-90/101/113
1668C	1668C	Water	PCB-91
1668C	1668C	Water	PCB-92
1668C	1668C	Water	PCB-93/100
1668C	1668C	Water	PCB-94
1668C	1668C	Water	PCB-95
1668C	1668C	Water	PCB-96
1668C	1668C	Water	PCB-98/102
1668C	1668C	Water	PCB-99
2540C - 2015		Water	Total Dissolved Solids
365.1	365.1	Solid	Total Phosphorus as P
365.1	365.1	Solid	Total Phosphorus as PO4
4500 P F-2011	4500 P B-2011	Water	Total Phosphorus as P

Eurofins Lancaster Laboratories Environment Testing, LLC



Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
4500 P F-2011	4500 P B-2011	Water	Total Phosphorus as PO4
5310 C-2014		Water	Total Organic Carbon
6020B	3005A	Water	Aluminum
6020B	3005A	Water	Antimony
6020B	3005A	Water	Arsenic
6020B	3005A	Water	Barium
6020B	3005A	Water	Beryllium
6020B	3005A	Water	Cadmium
6020B	3005A	Water	Calcium
6020B	3005A	Water	Chromium
6020B	3005A	Water	Cobalt
6020B	3005A	Water	Copper
6020B	3005A	Water	Iron
6020B	3005A	Water	Lead
6020B	3005A	Water	Magnesium
6020B	3005A	Water	Manganese
6020B	3005A	Water	Nickel
6020B	3005A	Water	Potassium
6020B	3005A	Water	Selenium
6020B	3005A	Water	Silver
6020B	3005A	Water	Sodium
6020B	3005A	Water	Thallium
6020B	3005A	Water	Vanadium
6020B	3005A	Water	Zinc
6020B	3050B	Solid	Aluminum
6020B	3050B	Solid	Antimony
6020B	3050B	Solid	Arsenic
6020B	3050B	Solid	Barium
6020B	3050B	Solid	Beryllium
6020B	3050B	Solid	Cadmium
6020B	3050B	Solid	Calcium
6020B	3050B	Solid	Chromium
6020B	3050B	Solid	Cobalt
6020B	3050B	Solid	Copper
6020B	3050B	Solid	Iron
6020B	3050B	Solid	Lead
6020B	3050B	Solid	Magnesium
6020B	3050B	Solid	Manganese
6020B	3050B	Solid	Nickel
6020B	3050B	Solid	Potassium
6020B	3050B	Solid	Selenium
6020B	3050B	Solid	Silver
6020B	3050B	Solid	Sodium
6020B	3050B	Solid	Thallium
6020B	3050B	Solid	Vanadium
6020B	3050B	Solid	Zinc
7470A	7470A	Water	Mercury



Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
7471B	7471B	Solid	Mercury
8081B	3510C	Water	Aldrin (1C)
8081B	3510C	Water	alpha-BHC (1C)
8081B	3510C	Water	alpha-Chlordane (1C)
8081B	3510C	Water	beta-BHC (1C)
8081B	3510C	Water	delta-BHC (1C)
8081B	3510C	Water	Dieldrin (1C)
8081B	3510C	Water	Endosulfan I (1C)
8081B	3510C	Water	Endosulfan II (1C)
8081B	3510C	Water	Endosulfan sulfate (1C)
8081B	3510C	Water	Endrin (1C)
8081B	3510C	Water	Endrin (2C)
8081B	3510C	Water	Endrin aldehyde (1C)
8081B	3510C	Water	Endrin ketone (1C)
8081B	3510C	Water	gamma-BHC (Lindane) (1C)
8081B	3510C	Water	gamma-Chlordane (1C)
8081B	3510C	Water	Heptachlor (1C)
8081B	3510C	Water	Heptachlor epoxide (1C)
8081B	3510C	Water	Heptachlor epoxide (2C)
8081B	3510C	Water	Methoxychlor (1C)
8081B	3510C	Water	p,p'-DDD (1C)
8081B	3510C	Water	p,p'-DDE (1C)
8081B	3510C	Water	p,p'-DDT (1C)
8081B	3510C	Water	p,p'-DDT (2C)
8081B	3510C	Water	Toxaphene (1C)
8081B	3510C	Water	Toxaphene (2C)
8081B	3546	Solid	Aldrin (1C)
8081B	3546	Solid	alpha-BHC (1C)
8081B	3546	Solid	alpha-Chlordane (1C)
8081B	3546	Solid	beta-BHC (1C)
8081B	3546	Solid	delta-BHC (1C)
8081B	3546	Solid	Dieldrin (1C)
8081B	3546	Solid	Endosulfan I (1C)
8081B	3546	Solid	Endosulfan II (1C)
8081B	3546	Solid	Endosulfan sulfate (1C)
8081B	3546	Solid	Endrin (1C)
8081B	3546	Solid	Endrin aldehyde (1C)
8081B	3546	Solid	Endrin ketone (1C)
8081B	3546	Solid	gamma-BHC (Lindane) (1C)
8081B	3546	Solid	gamma-Chlordane (1C)
8081B	3546	Solid	Heptachlor (1C)
8081B	3546	Solid	Heptachlor epoxide (1C)
8081B	3546	Solid	Methoxychlor (1C)
8081B	3546	Solid	p,p'-DDD (1C)
8081B	3546	Solid	p,p'-DDE (1C)
8081B	3546	Solid	p,p'-DDT (1C)
8081B	3546	Solid	Toxaphene (1C)

Eurofins Lancaster Laboratories Environment Testing, LLC

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
<p>The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.</p>			
Analysis Method	Prep Method	Matrix	Analyte
8270E SIM	3510C	Water	2-Methylnaphthalene
8270E SIM	3510C	Water	Acenaphthene
8270E SIM	3510C	Water	Acenaphthylene
8270E SIM	3510C	Water	Anthracene
8270E SIM	3510C	Water	Benzo[a]anthracene
8270E SIM	3510C	Water	Benzo[a]pyrene
8270E SIM	3510C	Water	Benzo[b]fluoranthene
8270E SIM	3510C	Water	Benzo[e]pyrene
8270E SIM	3510C	Water	Benzo[g,h,i]perylene
8270E SIM	3510C	Water	Benzo[k]fluoranthene
8270E SIM	3510C	Water	C1-Benzo(a)anthracenes/Chrysenes
8270E SIM	3510C	Water	C1-Fluoranthene/Pyrenes
8270E SIM	3510C	Water	C1-Fluorenes
8270E SIM	3510C	Water	C1-Naphthalenes
8270E SIM	3510C	Water	C1-Phenanthrenes/Anthracenes
8270E SIM	3510C	Water	C2-Benzo(a)anthracenes/Chrysenes
8270E SIM	3510C	Water	C2-Fluoranthenes/Pyrene
8270E SIM	3510C	Water	C2-Fluorenes
8270E SIM	3510C	Water	C2-Naphthalenes
8270E SIM	3510C	Water	C2-Phenanthrenes/Anthracenes
8270E SIM	3510C	Water	C3-Benzo(a)Anthracenes/Chrysenes
8270E SIM	3510C	Water	C3-Fluoranthenes/Pyrene
8270E SIM	3510C	Water	C3-Fluorenes
8270E SIM	3510C	Water	C3-Naphthalenes
8270E SIM	3510C	Water	C3-Phenanthrenes/Anthracenes
8270E SIM	3510C	Water	C4-Benzo(a)anthracenes/Chrysenes
8270E SIM	3510C	Water	C4-Naphthalenes
8270E SIM	3510C	Water	C4-Phenanthrenes/Anthracenes
8270E SIM	3510C	Water	Chrysene
8270E SIM	3510C	Water	Dibenz(a,h)anthracene
8270E SIM	3510C	Water	Dibenzofuran
8270E SIM	3510C	Water	Fluoranthene
8270E SIM	3510C	Water	Fluorene
8270E SIM	3510C	Water	Indeno[1,2,3-cd]pyrene
8270E SIM	3510C	Water	Naphthalene
8270E SIM	3510C	Water	Perylene
8270E SIM	3510C	Water	Phenanthrene
8270E SIM	3510C	Water	Pyrene
8270E SIM	3546	Solid	2-Methylnaphthalene
8270E SIM	3546	Solid	Acenaphthene
8270E SIM	3546	Solid	Acenaphthylene
8270E SIM	3546	Solid	Anthracene
8270E SIM	3546	Solid	Benzo[a]anthracene
8270E SIM	3546	Solid	Benzo[a]pyrene
8270E SIM	3546	Solid	Benzo[b]fluoranthene
8270E SIM	3546	Solid	Benzo[e]pyrene
8270E SIM	3546	Solid	Benzo[g,h,i]perylene

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8270E SIM	3546	Solid	Benzo[k]fluoranthene
8270E SIM	3546	Solid	C1-Benzo(a)anthracenes/Chrysenes
8270E SIM	3546	Solid	C1-Fluoranthene/Pyrenes
8270E SIM	3546	Solid	C1-Fluorenes
8270E SIM	3546	Solid	C1-Naphthalenes
8270E SIM	3546	Solid	C1-Phenanthrenes/Anthracenes
8270E SIM	3546	Solid	C2-Benzo(a)anthracenes/Chrysenes
8270E SIM	3546	Solid	C2-Fluoranthenes/Pyrene
8270E SIM	3546	Solid	C2-Fluorenes
8270E SIM	3546	Solid	C2-Naphthalenes
8270E SIM	3546	Solid	C2-Phenanthrenes/Anthracenes
8270E SIM	3546	Solid	C3-Benzo(a)Anthracenes/Chrysenes
8270E SIM	3546	Solid	C3-Fluoranthenes/Pyrene
8270E SIM	3546	Solid	C3-Fluorenes
8270E SIM	3546	Solid	C3-Naphthalenes
8270E SIM	3546	Solid	C3-Phenanthrenes/Anthracenes
8270E SIM	3546	Solid	C4-Benzo(a)anthracenes/Chrysenes
8270E SIM	3546	Solid	C4-Naphthalenes
8270E SIM	3546	Solid	C4-Phenanthrenes/Anthracenes
8270E SIM	3546	Solid	Chrysene
8270E SIM	3546	Solid	Dibenz(a,h)anthracene
8270E SIM	3546	Solid	Dibenzofuran
8270E SIM	3546	Solid	Fluoranthene
8270E SIM	3546	Solid	Fluorene
8270E SIM	3546	Solid	Indeno[1,2,3-cd]pyrene
8270E SIM	3546	Solid	Naphthalene
8270E SIM	3546	Solid	Perylene
8270E SIM	3546	Solid	Phenanthrene
8270E SIM	3546	Solid	Pyrene
D422		Solid	0.075 mm (Sieve Size #200)
D422		Solid	0.15 mm (Sieve Size #100)
D422		Solid	0.18 mm (Sieve Size #80)
D422		Solid	0.25 mm (Sieve Size #60)
D422		Solid	0.425 mm (Sieve Size #40)
D422		Solid	0.85 mm (Sieve Size #20)
D422		Solid	1.4 um (Hydrometer Reading 7)
D422		Solid	13.4 um (Hydrometer Reading 3)
D422		Solid	19 mm (Sieve Size 0.75 inch)
D422		Solid	2 mm (Sieve Size #10)
D422		Solid	22.9 um (Hydrometer Reading 2)
D422		Solid	25 mm (Sieve Size 1 inch)
D422		Solid	3.3 um (Hydrometer Reading 6)
D422		Solid	36.1 um (Hydrometer Reading 1)
D422		Solid	37.5 mm (Sieve Size 1.5 inch)
D422		Solid	4.75 mm (Sieve Size #4)
D422		Solid	50 mm (Sieve Size 2 inch)
D422		Solid	6.7 um (Hydrometer Reading 5)

Accreditation/Certification Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D422		Solid	9.5 mm (Sieve Size 0.375 inch)
D422		Solid	9.8 um (Hydrometer Reading 4)
D422		Solid	Clay
D422		Solid	Coarse Sand
D422		Solid	Fine Sand
D422		Solid	Gravel
D422		Solid	Medium Sand
D422		Solid	Sand
D422		Solid	Silt
Lloyd Kahn		Solid	Total Organic Carbon
Moisture		Solid	Percent Moisture



Method Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Method	Method Description	Protocol	Laboratory
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	ELLE
8081B	Organochlorine Pesticides (GC)	SW846	ELLE
1633	Per- and Polyfluoroalkyl Substances by LC/MS/MS	EPA	ELLE
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	ELLE
1668C	Chlorinated Biphenyl Congeners (HRGC/HRMS)	EPA	ELLE
6020B	Metals (ICP/MS)	SW846	ELLE
7470A	Mercury (CVAA)	SW846	ELLE
7471B	Mercury (CVAA)	SW846	ELLE
2540C - 2015	Total Dissolved Solids (Dried at 180 °C)	SM	ELLE
365.1	Phosphorus, Total	EPA	ELLE
4500 P F-2011	Phosphate, Total	SM	ELLE
5310 C-2014	Total Organic Carbon/Persulfate - Ultrav	SM	ELLE
Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
D422	Grain Size	ASTM	ELLE
1613B	Separatory Funnel (Liquid-Liquid) Extraction	EPA	ELLE
1613B	Soxhlet Extraction	EPA	ELLE
1633	Solid-Phase Extraction (SPE)	EPA	ELLE
1633 Shake	Shake Extraction with SPE	EPA	ELLE
1668C	Separatory Funnel (Liquid-Liquid) Extraction	EPA	ELLE
1668C	Soxhlet Extraction	EPA	ELLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ELLE
3050B	Preparation, Metals	SW846	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
3546	Microwave Extraction	SW846	ELLE
3640A	Gel-Permeation Cleanup	SW846	ELLE
365.1	Sample Digestion for Total Phosphorus	MCAWW	ELLE
4500 P B-2011	Phosphorus, Total and Ortho	SM	ELLE
7470A	Preparation, Mercury	SW846	ELLE
7471B	Preparation, Mercury	SW846	ELLE

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SM = "Standard Methods For The Examination Of Water And Wastewater"
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

- ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Hill Consulting, Inc.
Project/Site: IRB

Job ID: 410-147027-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-147027-1	SED Comp 1	Solid	10/10/23 13:30	10/13/23 17:37
410-147027-2	SED Comp 2	Solid	10/11/23 11:30	10/13/23 17:37
410-147027-3	SED Comp 3	Solid	10/12/23 11:30	10/13/23 17:37
410-147027-4	SW Comp 1	Water	10/10/23 13:30	10/13/23 17:37
410-147027-5	SW Comp 2	Water	10/11/23 11:30	10/13/23 17:37
410-147027-6	SW Comp 3	Water	10/12/23 11:30	10/13/23 17:37
410-147072-1	SED Comp 1	Solid	10/10/23 13:30	10/13/23 17:37
410-147072-2	SED Comp 2	Solid	10/11/23 11:30	10/13/23 17:37
410-147072-3	SED Comp 3	Solid	10/12/23 11:30	10/13/23 17:37
410-147072-4	SW Comp 1	Water	10/10/23 13:30	10/13/23 17:37
410-147072-5	SW Comp 2	Water	10/11/23 11:30	10/13/23 17:37
410-147072-6	SW Comp 3	Water	10/12/23 11:30	10/13/23 17:37
410-147072-7	Field Blank	Water	10/12/23 11:15	10/13/23 17:37





410-147027 Chain of Custody

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Chain of Custody Record



Environment Testing

Client Contact: Rolf Hill		Sampler: D. ROLF HILL		Lab PM: Carter, Amek		Carrier Tracking No(s):		COC No: 410-99479-28290.1	
Company: Hill Consulting, Inc.		Phone: 410-279-6950		E-Mail: Loran.Carter@et.eurofinsus.com		State of Origin: DE		Page: Page 1 of 1	
Address: 107 Old Crossing Lane		Due Date Requested:		Analysis Requested		Job #:		Preservation Codes:	
City: Annapolis		TAT Requested (days): Std		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 8081 B-TCL OC Pest 544500 - Phosphorus, Toke 6000B/7470A TAL-Metals + Hg 1613 B 17 Isomers 1668 C-PCB Congeners Full List 8270E-SIM Parent+Alky PAH 5310C TOC 1633 TSS for PFAS 2440 TDS Routine Gross size D422 See Attached list		A - HCL		M - Hexane	
State, Zip: MD, 21401		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No				B - NaOH		N - None	
Phone: 410-279-6950(Tel)		PO #				C - Zn Acetate		O - AsNaO2	
Email: drofhill@gmail.com		Purchase Order Requested				D - Nitric Acid		P - Na2O4S	
Project Name: Delaware HSCA Screening Levels Sampling		Project #: 41016916		E - NaHSO4		Q - Na2SO3		R - Na2S2O3	
Site: IRB		SSOWN#:		F - MeOH		S - H2SO4		T - TSP Dodecahydrate	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)	
								Total Number of containers	
								Special Instructions/Note:	
SED Comp 1		10/10/23		1330		C		S	
SED Comp 2		10/11/23		1130		C		S	
SED Comp 3		10/12/23		1136		C		S	
SW Comp 1		10/10/23		1330		C		W	
SW Comp 2		10/11/23		1130		C		W	
SW Comp 3		10/12/23		1136		C		W	
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: 10/13/23 05:30		Company: HCF		Received by: <i>[Signature]</i>		Date/Time: 10/13/23 15:15	
Relinquished by: <i>[Signature]</i>		Date/Time: 10/13/23 17:57		Company:		Received by: <i>[Signature]</i>		Date/Time: _____	
Relinquished by: <i>[Signature]</i>		Date/Time: 17:37		Company:		Received by: <i>[Signature]</i>		Date/Time: 10/13/23 18:00	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.2-2.8/0.3-2.9 1737					

SMS



Order Information

Bottle Order: Delaware HSCA Screening Levels Sampling
 Bottle Order #: 28290
 Request From Client: 9/29/2023
 Date Order Posted: 9/29/2023 12:23:14PM
 Order Status: Ready To Process
 Prepared By: Amek Carter
 Deliver By Date: 10/3/2023 4:00:00PM
 Lab Project Number: 41016916
 PWSID:

Order Completion Information

Creator: Amek Carter
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
3	2	6	Amber Glass 250ml - unpreserved	None	8081B - TCL OC Pesticides	Water	Normal		
3	1	3	Plastic 250ml - with Sulfuric Acid	Sulfuric Acid	SM4500_P_F - Phosphorus, Total	Water	Normal		
3	1	3	Plastic 250ml - with Nitric Acid	Nitric Acid	6020B - TAL Metals 7470A - Mercury	Water Water	Normal Normal		
3	2	6	Amber Glass 1 liter - unpreserved	None	1613B - 1613 17 Isomers	Water	Normal		
3	2	6	Amber Glass 1 liter - unpreserved	None	1668C - PCB Congeners Full List	Water	Normal		
3	2	6	Amber Glass 1 liter - unpreserved	None	8270E_SIM_ALK - Parent & Alkyl PAHs	Water	Normal		
3	2	6	Voa Vial 40mL Amber - H3PO4	Phosphoric Acid	5310C - Total Organic Carbon	Water	Normal		
3	1	3	Plastic 125mL - unpreserved	None	1633_DRAFT_TSS - Percent Suspend Solids for Analysis PFAS	Water	Normal		
3	1	3	Plastic 500ml - unpreserved	None	2540C_Calcd - Solids, Total Dissolved (TDS)	Water	Normal		
3	2	6	Soil jar 4oz - clear glass	None	1668C - PCB Congeners Full List 8081B - TCL OC Pesticides 6020B - TAL Metals 7471B - Mercury 1613B - 1613 17 Isomers 8270E_SIM_ALK - Parent & Alkyl PAHs Lloyd_Kahn - TOC 365.1 - Phosphorus, Total	Solid Solid Solid Solid Solid Solid Solid	Normal Normal Normal Normal Normal Normal Normal		
3	1	3	Soil jar 16oz - clear glass	None	D422 - Routine Grainsize	Solid	Normal		

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Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



410-147027 Chain of Custody

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Chain of Custody Record



Environment Testing

Client Contact: Rolf Hill		Sampler: D. ROLF HILL		Lab PM: Carter, Amek		Carrier Tracking No(s):		COC No: 410-99479-28290.1	
Company: Hill Consulting, Inc.		Phone: 410-279-6950		E-Mail: Loran.Carter@et.eurofinsus.com		State of Origin: DE		Page: Page 1 of 1	
Address: 107 Old Crossing Lane		Due Date Requested:		Analysis Requested		Job #:		Preservation Codes:	
City: Annapolis		TAT Requested (days): Std		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 8081 B-TCL OC Pest 544500 - Phosphorus, Toke 6000B/7470A TAL-Metals + Hg 1613 B 17 Isomers 1668 C-PCB Congeners Full List 8270E-SIM Parent+Alky PAH 5310C TOC 1633 TSS for PFAS 2440 TDS Routine Gravimetric D422 See Attached list		A - HCL		M - Hexane	
State, Zip: MD, 21401		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No				B - NaOH		N - None	
Phone: 410-279-6950(Tel)		PO #:				C - Zn Acetate		O - AsNaO2	
Email: drofhill@gmail.com		Purchase Order Requested				D - Nitric Acid		P - Na2O4S	
Project Name: Delaware HSCA Screening Levels Sampling		Project #: 41016916		E - NaHSO4		Q - Na2SO3		R - Na2S2O3	
Site: IRB		SSOWN#:		F - MeOH		S - H2SO4		T - TSP Dodecahydrate	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)	
								Total Number of containers	
								Special Instructions/Note:	
SED Comp 1		10/10/23		1330		C		S	
SED Comp 2		10/11/23		1130		C		S	
SED Comp 3		10/12/23		1130		C		S	
SW Comp 1		10/10/23		1330		C		W	
SW Comp 2		10/11/23		1130		C		W	
SW Comp 3		10/12/23		1130		C		W	
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: 10/13/23 05:30		Company: HCF		Received by: <i>[Signature]</i>		Date/Time: 10/13/23 15:15	
Relinquished by: <i>[Signature]</i>		Date/Time: 10/13/23 17:57		Company:		Received by: <i>[Signature]</i>		Date/Time:	
Relinquished by: <i>[Signature]</i>		Date/Time: 17:37		Company:		Received by: <i>[Signature]</i>		Date/Time: 10/13/23 18:00	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.2-2.8/0.3-2.9 1737					

SMS



Order Information

Bottle Order: Delaware HSCA Screening Levels Sampling
 Bottle Order #: 28290
 Request From Client: 9/29/2023
 Date Order Posted: 9/29/2023 12:23:14PM
 Order Status: Ready To Process
 Prepared By: Amek Carter
 Deliver By Date: 10/3/2023 4:00:00PM
 Lab Project Number: 41016916
 PWSID:

Order Completion Information

Creator: Amek Carter
 Filled by:
 Sent Date:
 Sent Via:
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
3	2	6	Amber Glass 250ml - unpreserved	None	8081B - TCL OC Pesticides	Water	Normal		
3	1	3	Plastic 250ml - with Sulfuric Acid	Sulfuric Acid	SM4500_P_F - Phosphorus, Total	Water	Normal		
3	1	3	Plastic 250ml - with Nitric Acid	Nitric Acid	6020B - TAL Metals 7470A - Mercury	Water Water	Normal Normal		
3	2	6	Amber Glass 1 liter - unpreserved	None	1613B - 1613 17 Isomers	Water	Normal		
3	2	6	Amber Glass 1 liter - unpreserved	None	1668C - PCB Congeners Full List	Water	Normal		
3	2	6	Amber Glass 1 liter - unpreserved	None	8270E_SIM_ALK - Parent & Alkyl PAHs	Water	Normal		
3	2	6	Voa Vial 40mL Amber - H3PO4	Phosphoric Acid	5310C - Total Organic Carbon	Water	Normal		
3	1	3	Plastic 125mL - unpreserved	None	1633_DRAFT_TSS - Percent Suspend Solids for Analysis PFAS	Water	Normal		
3	1	3	Plastic 500ml - unpreserved	None	2540C_Calcd - Solids, Total Dissolved (TDS)	Water	Normal		
3	2	6	Soil jar 4oz - clear glass	None	1668C - PCB Congeners Full List 8081B - TCL OC Pesticides 6020B - TAL Metals 7471B - Mercury 1613B - 1613 17 Isomers 8270E_SIM_ALK - Parent & Alkyl PAHs Lloyd_Kahn - TOC 365.1 - Phosphorus, Total	Solid Solid Solid Solid Solid Solid Solid	Normal Normal Normal Normal Normal Normal Normal		
3	1	3	Soil jar 16oz - clear glass	None	D422 - Routine Grainsize	Solid	Normal		

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Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.



410-147072 Chain of Custody

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Chain of Custody Record

Sampler: D. ROLF HILL	Lab PM: Carter, Amek	Carrier Tracking No(s):	COC No: 410-99530-28299.1
Phone: 410-279-6950	E-Mail: Lorán.Carter@et.euofinsus.com	State of Origin: DE	Page: Page 1 of 1

Rolf Hill Company: Hill Consulting, Inc. Address: 107 Old Crossing Lane City: Annapolis State, Zip: MD, 21401 Phone: 410-279-6950(Tel) Email: drofhill@gmail.com Project Name: Delaware HSCA Screening Levels Sampling Site: IRB		PWSID:	Analysis Requested										Job #:								
Due Date Requested:		TAT Requested (days): Std		<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform MS/MSD (Yes or No)</td> <td rowspan="3">Total Number of containers</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>										Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers					Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers																			
Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		PO #																			
Purchase Order Requested		WO #:		Project #		SSOW#:		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastelol, BT=Tissue, A=Air)		Preservation Code:		Special Instructions/Note:			
SED Comp 1		10/10/23		1330		C		S													
SED Comp 2		10/11/23		1130		C		S													
SED Comp 3		10/12/23		1130		C		S													
SW Comp 1		10/10/23		1330		C		W													
SW Comp 2		10/11/23		1130		C		W													
SW Comp 3		10/12/23		1130		C		W													
Field Blank		10/12/23		1115		G		W													

Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: D. ROLF HILL		Date/Time: 10/13/23 05:30		Company: HCF		Received by: [Signature]	
Relinquished by: [Signature]		Date/Time: 10/13/23 11:57		Company: ELLE		Received by: [Signature]	
Relinquished by: [Signature]		Date/Time: 10/13/23 17:37		Company: []		Received by: [Signature]	

Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.2-2.8/0.3-2.9 1737
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Login Sample Receipt Checklist

Client: Hill Consulting, Inc.

Job Number: 410-147027-1

Login Number: 147027

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Wrye, Shaun

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	



Login Sample Receipt Checklist

Client: Hill Consulting, Inc.

Job Number: 410-147027-1

Login Number: 147072

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Number: 1

Creator: Miller, Wesley R

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	True	
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	





APPENDIX D

RAIS RISK CALCULATOR OUTPUT

Site-specific Risk Resident Soil Inputs

Variable	Resident Soil Default Value	Site-Specific Value
A (PEF Dispersion Constant)	16.2302	16.2302
A (VF Dispersion Constant)	11.911	11.911
A (VF Dispersion Constant - mass limit)	11.911	11.911
B (PEF Dispersion Constant)	18.7762	18.7762
B (VF Dispersion Constant)	18.4385	18.4385
B (VF Dispersion Constant - mass limit)	18.4385	18.4385
City (PEF Climate Zone) Selection	Default	Default
City (VF Climate Zone) Selection	Default	Default
C (PEF Dispersion Constant)	216.108	216.108
C (VF Dispersion Constant)	209.7845	209.7845
C (VF Dispersion Constant - mass limit)	209.7845	209.7845
foc (fraction organic carbon in soil) g/g	0.006	0.006
F(x) (function dependent on U_{crit}/U_i) unitless	0.194	0.194
n (total soil porosity) L_{pore}/L_{crit}	0.43396	0.43396
ρ_b (dry soil bulk density) g/cm ³	1.5	1.5
ρ_b (dry soil bulk density - mass limit) g/cm ³	1.5	1.5
PEF (particulate emission factor) m ³ /kg	1359344438	1359344438
ρ_s (soil particle density) g/cm ³	2.65	2.65
Q/C_{wind} (g/m ² -s per kg/m ³)	93.77	93.77
Q/C_{vent} (g/m ² -s per kg/m ³)	68.18	68.18
Q/C_{vent} (g/m ² -s per kg/m ³ - mass limit)	68.18	68.18
A_e (PEF acres)	0.5	0.5
A_e (VF acres)	0.5	0.5
A_e (VF mass-limit acres)	0.5	0.5
$AF_{1.7}$ (mutagenic skin adherence factor) mg/cm ²	0.2	0.2
$AF_{2.6}$ (mutagenic skin adherence factor) mg/cm ²	0.2	0.2
$AF_{6.16}$ (mutagenic skin adherence factor) mg/cm ²	0.07	0.07
$AF_{16.26}$ (mutagenic skin adherence factor) mg/cm ²	0.07	0.07
AF_{res-ad} (skin adherence factor - adult) mg/cm ²	0.07	0.07
AF_{res-ch} (skin adherence factor - child) mg/cm ²	0.2	0.2
AT_{res} (averaging time - resident carcinogenic)	365	365

Site-specific Risk Resident Soil Inputs

Variable	Resident Soil Default Value	Site-Specific Value
BW _{n,7} (mutagenic body weight) kg	15	15
BW _{7,6} (mutagenic body weight) kg	15	15
BW _{6,16} (mutagenic body weight) kg	80	80
BW _{16,76} (mutagenic body weight) kg	80	80
BW _{res-a} (body weight - adult) kg	80	80
BW _{res-r} (body weight - child) kg	15	15
DFS _{res-adj} (age-adjusted soil dermal factor) mg/kg	103390	103390
DFS _{res-adj} (mutagenic age-adjusted soil dermal factor) mg/kg	428260	428260
ED _{res} (exposure duration) years	26	26
ED _{n,7} (mutagenic exposure duration) years	2	2
ED _{7,6} (mutagenic exposure duration) years	4	4
ED _{6,16} (mutagenic exposure duration) years	10	10
ED _{16,76} (mutagenic exposure duration) years	10	10
ED _{res-a} (exposure duration - adult) years	20	20
ED _{res-r} (exposure duration - child) years	6	6
EF _{res} (exposure frequency) days/year	350	350
EF _{n,7} (mutagenic exposure frequency) days/year	350	350
EF _{7,6} (mutagenic exposure frequency) days/year	350	350
EF _{6,16} (mutagenic exposure frequency) days/year	350	350
EF _{16,76} (mutagenic exposure frequency) days/year	350	350
EF _{res-a} (exposure frequency - adult) days/year	350	350
EF _{res-r} (exposure frequency - child) days/year	350	350
ET _{res} (exposure time) hours/day	24	24
ET _{n,7} (mutagenic exposure time) hours/day	24	24
ET _{7,6} (mutagenic exposure time) hours/day	24	24
ET _{6,16} (mutagenic exposure time) hours/day	24	24
ET _{16,76} (mutagenic exposure time) hours/day	24	24
ET _{res-a} (adult exposure time) hours/day	24	24
ET _{res-r} (child exposure time) hours/day	24	24
IFS _{res-adj} (age-adjusted soil ingestion factor) mg/kg	36750	36750
IFS _{res-adj} (mutagenic age-adjusted soil ingestion factor) mg/kg	166833.3	166833.3

Site-specific Risk

Resident Soil Inputs

Variable	Resident Soil Default Value	Site-Specific Value
IRS _{n,r} (mutagenic soil intake rate) mg/day	200	200
IRS _{r,r} (mutagenic soil intake rate) mg/day	200	200
IRS _{r,1r} (mutagenic soil intake rate) mg/day	100	100
IRS _{1r,r} (mutagenic soil intake rate) mg/day	100	100
IRS _{rsc,a} (soil intake rate - adult) mg/day	100	100
IRS _{rsc,r} (soil intake rate - child) mg/day	200	200
LT (lifetime) years	70	70
SA _{n,r} (mutagenic skin surface area) cm ² /day	2373	2373
SA _{r,r} (mutagenic skin surface area) cm ² /day	2373	2373
SA _{r,1r} (mutagenic skin surface area) cm ² /day	6032	6032
SA _{1r,r} (mutagenic skin surface area) cm ² /day	6032	6032
SA _{rsc,a} (skin surface area - adult) cm ² /day	6032	6032
SA _{rsc,r} (skin surface area - child) cm ² /day	2373	2373
T _w (groundwater temperature) Celsius	25	25
Theta _a (air-filled soil porosity) L _{air} /L _{cnil}	0.28396	0.28396
Theta _w (water-filled soil porosity) L _{water} /L _{cnil}	0.15	0.15
T (exposure interval) s	819936000	819936000
T (exposure interval) yr	26	26
U _m (mean annual wind speed) m/s	4.69	4.69
U _i (equivalent threshold value)	11.32	11.32
V (fraction of vegetative cover) unitless	0.5	0.5

Site-specific Risk

Resident for Soil

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Chemical	CAS Number	Mutagen?	VOC?	RfD (mg/kg-day)	RfD Ref	RfC (mg/m ³)	RfC Ref	SF _o (mg/kg-day) ⁻¹	SF _o Ref (ug/m ³) ⁻¹	IUR	IUR Ref	ABS _{ci}	ABS _{derm}	Volatilization Factor Unlimited Reservoir (m ³ /kg)	Volatilization Factor Mass Limit (m ³ /kg)
Thallium (Soluble Salts)	7440-28-0	No	No	1.00E-05	XC	-		-		-		1	-	-	-
<i>*Total Risk/HL</i>				-		-		-		-		-	-	-	-

Site-specific Risk

Resident for Soil

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Volatilization Factor Selected (m ³ /kg)	DA	Particulate Emission Factor (m ³ /kg)	Soil Saturation Concentration (mg/kg)	RBA	HLC (atm-m ³ /mole)	Henry's Law Constant (unitless)	H' and HLC Ref	Henry's Law Constant Used in Calcs (unitless)	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T _c (K)	T _c Ref	D _{ia} (cm ² /s)
-	-	1.36E+09	-	1	-	-		-	1.73E+03	PHYSPROP	4.65E+03	YAWS	-
-	-	-	-	-	-	-		-	-		-		-

Site-specific Risk

Resident for Soil

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

D_{iw} (cm^2/s)	Soil Concentration (mg/kg)	Child Ingestion Noncarcinogenic CDI (mg/kg-day)	Child Dermal Noncarcinogenic CDI (mg/kg-day)	Child Inhalation Noncarcinogenic CDI (mg/m^3)	Adult Ingestion Noncarcinogenic CDI (mg/kg-day)	Adult Dermal Noncarcinogenic CDI (mg/kg-day)	Adult Inhalation Noncarcinogenic CDI (mg/m^3)
-	0.13	1.66E-06	-	9.17E-11	1.56E-07	-	9.17E-11
-	-	-	-	-	-	-	-

Site-specific Risk

Resident for Soil

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Adjusted Ingestion Noncarcinogenic CDI (mg/kg-day)	Adjusted Dermal Noncarcinogenic CDI (mg/kg-day)	Adjusted Inhalation Noncarcinogenic CDI (mg/m ³)	Ingestion Carcinogenic CDI (mg/kg-day)	Dermal Carcinogenic CDI (mg/kg-day)	Inhalation Carcinogenic CDI (ug/m ³)	Child Ingestion HQ	Child Dermal HQ	Child Inhalation HQ	Child Total HI	Adult Ingestion HQ
5.03E-07	-	9.17E-11	1.87E-07	-	3.41E-08	1.66E-01	-	-	1.66E-01	1.56E-02
-	-	-	-	-	-	1.66E-01	-	-	1.66E-01	1.56E-02

Site-specific Risk

Resident for Soil

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Adult Dermal HQ	Adult Inhalation HQ	Adult Total HI	Adjusted Ingestion HQ	Adjusted Dermal HQ	Adjusted Inhalation HQ	Adjusted Total HI	Ingestion Risk	Dermal Risk	Inhalation Risk	Total Risk
-	-	1.56E-02	5.03E-02	-	-	5.03E-02	-	-	-	-
-	-	1.56E-02	5.03E-02	-	-	5.03E-02	-	-	-	-

Site-specific Risk Recreator Soil/Sediment Inputs

Variable	Recreator Soil/Sediment Default Value	Site-Specific Value
A (PEF Dispersion Constant)	16.2302	16.2302
A (VF Dispersion Constant)	11.911	11.911
A (VF Dispersion Constant - mass limit)	11.911	11.911
B (PEF Dispersion Constant)	18.7762	18.7762
B (VF Dispersion Constant)	18.4385	18.4385
B (VF Dispersion Constant - mass limit)	18.4385	18.4385
City (PEF Climate Zone) Selection	Default	Default
City (VF Climate Zone) Selection	Default	Default
C (PEF Dispersion Constant)	216.108	216.108
C (VF Dispersion Constant)	209.7845	209.7845
C (VF Dispersion Constant - mass limit)	209.7845	209.7845
foc (fraction organic carbon in soil) g/g	0.006	0.006
F(x) (function dependent on U_{crit}/U_i) unitless	0.194	0.194
n (total soil porosity) L_{pore}/L_{crit}	0.43396	0.43396
ρ_n (dry soil bulk density) g/cm ³	1.5	1.5
ρ_n (dry soil bulk density - mass limit) g/cm ³	1.5	1.5
PEF (particulate emission factor) m ³ /kg	1359344438	1359344438
ρ_s (soil particle density) g/cm ³	2.65	2.65
Q/C_{wind} (g/m ² -s per kg/m ³)	93.77	93.77
Q/C_{crit} (g/m ² -s per kg/m ³)	68.18	68.18
Q/C_{crit} (g/m ² -s per kg/m ³ - mass limit)	68.18	68.18
A_e (PEF acres)	0.5	0.5
A_e (VF acres)	0.5	0.5
A_e (VF mass-limit acres)	0.5	0.5
$AF_{n,2}$ (skin adherence factor) mg/cm ²	0.2	0.2
$AF_{2,6}$ (skin adherence factor) mg/cm ²	0.2	0.2
$AF_{6,16}$ (skin adherence factor) mg/cm ²	0.07	0.07
$AF_{16,20}$ (skin adherence factor) mg/cm ²	0.07	0.07
$AF_{rec,a}$ (skin adherence factor - adult) mg/cm ²	0.07	0.07
$AF_{rec,c}$ (skin adherence factor - child) mg/cm ²	0.2	0.2
AT_{rec} (averaging time)	365	365

Site-specific Risk

Recreator Soil/Sediment Inputs

Variable	Recreator Soil/Sediment Default Value	Site-Specific Value
BW ₀₋₂ (body weight) kg	15	15
BW ₂₋₆ (body weight) kg	15	15
BW ₆₋₁₆ (body weight) kg	80	80
BW ₁₆₋₂₀ (body weight) kg	80	80
BW _{rec-a} (body weight - adult) kg	80	80
BW _{rec-r} (body weight - child) kg	15	15
DFS _{rec-adi} (age-adjusted soil dermal factor) mg/kg	22155	22155
DFS _M _{rec-adi} (mutagenic age-adjusted soil dermal factor) mg/kg	91770	91770
ED _{rec} (exposure duration - recreator) years	26	26
ED ₀₋₂ (exposure duration) year	2	2
ED ₂₋₆ (exposure duration) year	4	4
ED ₆₋₁₆ (exposure duration) year	10	10
ED ₁₆₋₂₀ (exposure duration) year	10	10
ED _{rec-r} (exposure duration - child) years	6	6
EF _{rec} (exposure frequency) days/year	75	75
EF ₀₋₂ (exposure frequency) days/year	75	75
EF ₂₋₆ (exposure frequency) days/year	75	75
EF ₆₋₁₆ (exposure frequency) days/year	75	75
EF ₁₆₋₂₀ (exposure frequency) days/year	75	75
EF _{rec-a} (exposure frequency - adult) days/year	75	75
EF _{rec-r} (exposure frequency - child) days/year	75	75
ET _{rec} (exposure time - recreator) hours/day	1	1
ET ₀₋₂ (exposure time) hours/day	1	1
ET ₂₋₆ (exposure time) hours/day	1	1
ET ₆₋₁₆ (exposure time) hours/day	1	1
ET ₁₆₋₂₀ (exposure time) hours/day	1	1
ET _{rec-a} (adult exposure time) hours/day	1	1
ET _{rec-r} (child exposure time) hours/day	1	1
IFS _{rec-adi} (age-adjusted soil ingestion factor) mg/kg	7875	7875
IFSM _{rec-adi} (mutagenic age-adjusted soil ingestion factor) mg/kg	35750	35750
IRS ₀₋₂ (soil intake rate) mg/day	200	200

Site-specific Risk

Recreator Soil/Sediment Inputs

Variable	Recreator Soil/Sediment Default Value	Site-Specific Value
IRS _{γ,c} (soil intake rate) mg/day	200	200
IRS _{δ,1δ} (soil intake rate) mg/day	100	100
IRS _{1δ,2δ} (soil intake rate) mg/day	100	100
IRS _{rec,a} (soil intake rate - adult) mg/day	100	100
IRS _{rec,r} (soil intake rate - child) mg/day	200	200
LT (lifetime - recreator) years	70	70
SA _{γ,c} (skin surface area) cm ² /day	2373	2373
SA _{δ,δ} (skin surface area) cm ² /day	2373	2373
SA _{δ,1δ} (skin surface area) cm ² /day	6032	6032
SA _{1δ,2δ} (skin surface area) cm ² /day	6032	6032
SA _{rec,a} (skin surface area - adult) cm ² /day	6032	6032
SA _{rec,r} (skin surface area - child) cm ² /day	2373	2373
T _w (groundwater temperature) Celsius	25	25
Theta _a (air-filled soil porosity) L _{air} /L _{cnil}	0.28396	0.28396
Theta _w (water-filled soil porosity) L _{water} /L _{cnil}	0.15	0.15
T (exposure interval) s	819936000	819936000
T (exposure interval) yr	26	26
U _m (mean annual wind speed) m/s	4.69	4.69
U _i (equivalent threshold value)	11.32	11.32
V (fraction of vegetative cover) unitless	0.5	0.5

Site-specific Risk

Recreator for Soil/Sediment

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Chemical	CAS Number	Mutagen?	VOC?	RfD (mg/kg-day)	RfD Ref	RfC (mg/m ³)	RfC Ref	SF _o (mg/kg-day) ⁻¹	SF _o Ref (ug/m ³) ⁻¹	IUR	IUR Ref	ABS _{ci}	ABS _{derm}	Volatilization Factor Unlimited Reservoir (m ³ /kg)	Volatilization Factor Mass Limit (m ³ /kg)
Thallium (Soluble Salts)	7440-28-0	No	No	1.00E-05	XC	-		-		-		1	-	-	-
<i>*Total Risk/HL</i>															
				-		-		-		-		-	-	-	-

Site-specific Risk

Recreator for Soil/Sediment

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Volatilization Factor Selected (m ³ /kg)	DA	Particulate Emission Factor (m ³ /kg)	Soil Saturation Concentration (mg/kg)	RBA	HLC (atm-m ³ /mole)	Henry's Law Constant (unitless)	H' and HLC Ref	Henry's Law Constant Used in Calcs (unitless)	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T _c (K)	T _c Ref	D _{ia} (cm ² /s)
-	-	1.36E+09	-	1	-	-		-	1.73E+03	PHYSPROP	4.65E+03	YAWS	-
-	-	-	-	-	-	-		-	-		-		-

Site-specific Risk

Recreator for Soil/Sediment

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

D_{iw} (cm^2/s)	Soil Concentration (mg/kg)	Child Ingestion Noncarcinogenic CDI (mg/kg-day)	Child Dermal Noncarcinogenic CDI (mg/kg-day)	Child Inhalation Noncarcinogenic CDI (mg/m^3)	Adult Ingestion Noncarcinogenic CDI (mg/kg-day)	Adult Dermal Noncarcinogenic CDI (mg/kg-day)	Adult Inhalation Noncarcinogenic CDI (mg/m^3)
-	0.13	3.56E-07	-	8.19E-13	3.34E-08	-	8.19E-13
-	-	-	-	-	-	-	-

Site-specific Risk

Recreator for Soil/Sediment

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Adjusted Ingestion Noncarcinogenic CDI (mg/kg-day)	Adjusted Dermal Noncarcinogenic CDI (mg/kg-day)	Adjusted Inhalation Noncarcinogenic CDI (mg/m ³)	Ingestion Carcinogenic CDI (mg/kg-day)	Dermal Carcinogenic CDI (mg/kg-day)	Inhalation Carcinogenic CDI (ug/m ³)	Child Ingestion HQ	Child Dermal HQ	Child Inhalation HQ	Child Total HI	Adult Ingestion HQ
1.08E-07	-	8.19E-13	4.01E-08	-	3.04E-10	3.56E-02	-	-	3.56E-02	3.34E-03
-	-	-	-	-	-	3.56E-02	-	-	3.56E-02	3.34E-03

Site-specific Risk

Recreator for Soil/Sediment

Key: IC = IRIS Current; IA = IRIS Archive; PC = PPRTV Current; PA = PPRTV Archive; O = OPP; AF = ATSDR Final; AD = ATSDR Draft; C = Cal EPA; XC = PPRTV Screening Level Current; XA = PPRTV Screening Level Archive; HC = HEAST Current; HA = HEAST Archive; D = OW; W = TEF applied; E = RPF applied; SU = Surrogate;

Adult Dermal HQ	Adult Inhalation HQ	Adult Total HI	Adjusted Ingestion HQ	Adjusted Dermal HQ	Adjusted Inhalation HQ	Adjusted Total HI	Ingestion Risk	Dermal Risk	Inhalation Risk	Total Risk
-	-	3.34E-03	1.08E-02	-	-	1.08E-02	-	-	-	-
-	-	3.34E-03	1.08E-02	-	-	1.08E-02	-	-	-	-

Site-specific Risk

Excavation Worker Soil Inputs

Variable	Excavation Worker Soil Default Value	Site-Specific Value
A (PEF Dispersion Constant)	16.2302	16.2302
A (VF Dispersion Constant)	11.911	11.911
A (VF Dispersion Constant - mass limit)	11.911	11.911
B (PEF Dispersion Constant)	18.7762	18.7762
B (VF Dispersion Constant)	18.4385	18.4385
B (VF Dispersion Constant - mass limit)	18.4385	18.4385
City (PEF Climate Zone) Selection	Default	Default
City (VF Climate Zone) Selection	Default	Default
C (PEF Dispersion Constant)	216.108	216.108
C (VF Dispersion Constant)	209.7845	209.7845
C (VF Dispersion Constant - mass limit)	209.7845	209.7845
foc (fraction organic carbon in soil) g/g	0.006	0.006
F(x) (function dependent on U_{crit}/U_c) unitless	0.194	0.194
n (total soil porosity) L_{pore}/L_{total}	0.43396	0.43396
p_b (dry soil bulk density) g/cm ³	1.5	1.5
p_b (dry soil bulk density - mass limit) g/cm ³	1.5	1.5
PEF (particulate emission factor) m ³ /kg	1359344438	1359344438
p_c (soil particle density) g/cm ³	2.65	2.65
Q/C_{wind} (g/m ² -s per kg/m ³)	93.77	93.77
Q/C_{vol} (g/m ² -s per kg/m ³)	68.18	68.18
Q/C_{vol} (g/m ² -s per kg/m ³ - mass limit)	68.18	68.18
A_e (PEF acres)	0.5	0.5
A_e (VF acres)	0.5	0.5
A_e (VF mass-limit acres)	0.5	0.5
AF_{exc} (skin adherence factor - excavation worker) mg/cm ²	0.3	0.3
AT_{exc} (averaging time - excavation worker)	365	365
BW_{exc} (body weight - excavation worker) kg	80	80
ED_{exc} (exposure duration - excavation worker) yr	1	1
EF_{exc} (exposure frequency - excavation worker) day/yr	20	20
ET_{exc} (exposure time - excavation worker) hr	8	8

Site-specific Risk

Excavation Worker Soil Inputs

Variable	Excavation Worker Soil Default Value	Site-Specific Value
IR _{ovr} (soil ingestion rate - excavation worker) mg/day	330	330
LT (lifetime) yr	70	70
SA _{ovr} (surface area - excavation worker) cm ² /day	3527	3527
T _w (groundwater temperature) Celsius	25	25
Theta _a (air-filled soil porosity) L _{air} /L _{cnil}	0.28396	0.28396
Theta _w (water-filled soil porosity) L _{water} /L _{cnil}	0.15	0.15
T (exposure interval) s	819936000	819936000
T (exposure interval) yr	26	26
U _m (mean annual wind speed) m/s	4.69	4.69
U _i (equivalent threshold value)	11.32	11.32
V (fraction of vegetative cover) unitless	0.5	0.5

Site-specific Risk

Excavation Worker for Soil

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Subchronic toxicity values will be used where available. RfC and RfD references will be followed by either 'Chronic' or 'Subchronic' to indicate which toxicity value was used.

Chemical	CAS Number	Mutagen?	VOC?	RfD (mg/kg-day)	RfD Ref	RfC (mg/m ³)	RfC Ref	SF ₀ (mg/kg-day) ⁻¹	SF ₀ Ref	IUR (ug/m ³) ⁻¹	IUR Ref	ABS _{ci}	ABS _{farm}	Volatilization Factor Unlimited Reservoir (m ³ /kg)
Thallium (Soluble Salts)	7440-28-0	No	No	4.00E-05	XC/Subchronic	-		-		-		1	-	-
<i>*Total Risk/Hi</i>														

Volatilization Factor Mass Limit (m ³ /kg)	Volatilization Factor Selected (m ³ /kg)	DA	Particulate Emission Factor (m ³ /kg)	Soil Saturation Concentration (mg/kg)	HLC (atm-m ³ /mole)	Henry's Law Constant (unitless)	H ⁰ and HLC Ref	Henry's Law Constant Used in Calcs (unitless)	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T _c (K)	T _c Ref
-	-	-	1.36E+09	-	-	-		-	1.73E+03	PHYSPROP	4.65E+03	YAWS
-	-	-	-	-	-	-		-	-		-	

D _{ia} (cm ² /s)	D _{iw} (cm ² /s)	Soil Concentration (mg/kg)	Ingestion Noncarcinogenic CDI (mg/kg-day)	Dermal Noncarcinogenic CDI (mg/kg-day)	Inhalation Noncarcinogenic CDI (mg/m ³)	Ingestion Carcinogenic CDI (mg/kg-day)	Dermal Carcinogenic CDI (mg/kg-day)	Inhalation Carcinogenic CDI (ug/m ³)	Ingestion HQ
-	-	0.13	2.94E-08	-	1.75E-12	4.20E-10	-	2.50E-11	7.35E-04
-	-	-	-	-	-	-	-	-	<i>7.35E-04</i>

Dermal HQ	Inhalation HQ	Total HI	Ingestion Risk	Dermal Risk	Inhalation Risk	Total Risk
-	-	7.35E-04	-	-	-	-
-	-	<i>7.35E-04</i>	-	-	-	-