June 15, 2021
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U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

Attn: David Egetter, Chief
RCRA Corrective Action Section
Land, Chemicals and Redevelopment Division

RE: Response to EPA's April 15, 2021 Comments on the
January 27, 2021 Data Submittal Regarding
2020 Additional Off-Site Sampling
Koppers Drive and Bailey Road
Grenada, Mississippi

Dear Mr. Egetter:

On behalf of Beazer East, Inc. (Beazer) and Koppers Inc. (Koppers), this letter provides responses to comments in the United States Environmental Protection Agency's (EPA) email dated April 15, 2021, regarding the data collected from implementation of the EPA approved *2020 Work Plan for Additional Off-Site Sampling, Koppers Drive and Bailey Road, Grenada, Mississippi* (2020 Work Plan) that was submitted electronically to the EPA on January 27 and February 3, 2021. Please note that the comparison tables referenced in the EPA's comments (below) have been renumbered in the attached *Sampling Report ,2020 Additional Off-Site Sampling, Koppers Drive and Bailey Road, Grenada, Mississippi*.

The EPA's April 15, 2021 comments have been reproduced below in italic font, each comment is followed by the applicable response.

Comment 1. *Tables 1, 2B, 3, 4B, 5, 6B – Noncancer-Based RSLs*

The notes should state that these values are based on a Hazard Quotient (HQ) of 1. EPA generic RSLs can be based on HQ of 0.1 or 1 (EPA 2020).

As requested, the notes associated with tables that present noncancer-based RSLs have been revised.

Comment 2. Data Tables

Many of the data tables have some values that are preceded by a 'less than' sign (e.g., "< 6.5"). Does this indicate a non-detect? If so, is the value listed the detection limit or ½ the detection limit? Please include explanation.

Tables presenting data have been revised to include a note that identifies the following:

< 65 = Result is less than the identified (65) reporting limit for that sample..

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Comment 3. Tables 2A, 2b, 4 – TEFs for Dioxins/Furans

In addition to citing van den Berg et al., 2006 for the TEFs, the notes should also cite the 2010 EPA document that recommends these values (see reference below).

As requested, the notes associated with TEFs have been revised in the applicable tables.

Comment 4. Table 6A, Comparison of Drainage Way PAH concentrations to Cancer-Based Levels for Residential Exposure to Soil

Sample DW206SS reports a level of BaP-TE of 34,381 ug/kg which is appropriately designated as exceeding the upper end of the risk range for residential exposure to soil (11,000 ug/kg). No comparison to modified risk-based level has been done for this elevated level as was done for the drainage way TCDD-TEQ concentrations that exceeded the TEQ of 51 pg/g. Koppers/Beazer needs to calculate and submit the modified risk-based levels for BaP-TE concentrations using exposure frequencies of 105 days per year and 12 days per year, respectively.

As requested, a comparison of sample results to modified BaP-TE cancer risk-based levels has been added to what is now Table 12 of the Sampling Report. The modified BaP-TE cancer risk-based levels assuming an exposure frequency of 105 days per year range from 367 to 36,667 ug/kg. The modified BaP-TE cancer risk-based levels assuming an exposure frequency of 12 days per year range from 3,208 to 320,800 ug/kg. The modified screening levels correspond to EPA's risk range of $1x10^{-6}$ to $1x10^{-4}$. The BaP-TE result at sample DW206SS (34,381 ug/kg) is within the range of both of these modified cancer risk-based screening levels.

Comment 5. Table 6B, Comparison of Drainage Way BaP-TE concentrations to Noncancer-Based Level for Residential Exposure to Soil

Sample DW206SS reports a level of Benzo(a)pyrene of 20,000 ug/kg which is appropriately designated as exceeding the comparison level based on residential exposure to soil (18,000 ug/kg). No comparison to modified risk-based level has been done for this elevated level as was done for the drainage way TCDD-TEQ concentrations that exceeded the TEQ of 51 pg/g. Koppers/Beazer needs to calculate and submit the modified risk-based levels for BaP-TE concentrations using exposure frequencies of 105 days per year and 12 days per year, respectively.

As requested, a comparison of sample results to modified BaP-TE non-cancer levels has been added to what is now Table 13 of the Sampling Report. The modified BaP non-cancer levels assuming exposure frequencies of 105 days per year and 12 days per year are 60,000 and 525,000 ug/kg, respectively. The modified screening levels correspond to a Hazard Index of 1. The BaP result at sample DW206SS (20,000 ug/kg) is below these modified non-cancer risk-based screening levels.

Finally, as requested by EPA, this letter also transmits the *Sampling Report, 2020 Additional Off-Site Sampling, Koppers Drive and Bailey Road, Grenada, Mississippi*. The analytical results of the 2020 sampling event indicate no unacceptable risks to residents along Koppers Drive and Bailey Road to PAHs and dioxins/furans detected in the residential parcel and drainage way samples. Based on our conversation of May 6, 2021, it is our understanding that no further action will be required.

If you have any questions regarding the information contained in this letter, please contact Mike Bollinger at (412) 208-8864, Linda Paul at (412) 227-2434, or me at (916) 853-4526.

Sincerely,

Tetra Tech, Inc.

Jennifer A. Abrahams, P.G.
Associate
Senior Hydrogeologist

Attachment

ec: Harbhajan Singh, EPA
Kevin Koporec, EPA
Mike Bollinger, Beazer
Linda Paul, Koppers
Paul Anderson, Arcadis/Chelmsford
Danielle Pfeiffer, Arcadis
Krista Caron, MDEQ/Jackson

ATTACHMENT

SAMPLING REPORT
2020 ADDITIONAL OFF-SITE SAMPLING
KOPPERS DRIVE AND BAILEY ROAD
GRENADA, MISSISSIPPI

TETRA TECH

SAMPLING REPORT
2020 ADDITIONAL OFF-SITE SAMPLING
KOPPERS DRIVE AND BAILEY ROAD

GRENADA, MISSISSIPPI

Prepared for:

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June 15, 2021

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APPENDICES

1.0 INTRODUCTION

On behalf of Beazer East, Inc. (Beazer) and Koppers Inc. (Koppers), this report presents and interprets the results of soil sampling completed in residential areas west of the Koppers property in Grenada, Mississippi (Site). This sampling was performed in accordance with the *2020 Work Plan for Additional Off-site Sampling, Koppers Drive and Bailey Road, Grenada, Mississippi* (2020 Work Plan) (Tetra Tech, 2020), approved by the United States Environmental Protection Agency Region 4 (EPA) on March 5, 2020. As documented to the EPA in on-going email correspondence, the schedule to implement the 2020 Work Plan was delayed until the end of September 2020, due to health and safety concerns associated with the COVID 19 pandemic.

This report includes: a brief background to the soil sampling presented in Section 2; the sampling activities described in Section 3; the analytical results presented in Section 4; the human health screening evaluation in Section 5; the conclusions summarized in Section 6; and, the references listed in Section 7.

2.0 BACKGROUND

Soil samples were collected along Koppers Drive and Bailey Road in Grenada, Mississippi, approximately two miles south-southeast of the commercial portion of Grenada, Mississippi, immediately east of U.S. Highway 51, as shown in Figure 1. These roads are located hydraulically and hydrologically upgradient and immediately west of the Site. The 171-acre Site is the location of a former wood treating facility that operated from 1904 through 2012. Remediation and post-closure activities at the Site are being conducted under the Hazardous and Solid Waste Amendments (HSWA) portion of the Resource Conservation and Recovery Act (RCRA) Permit, EPA No. MSD 007 027 543 issued by the EPA. The Site is approximately 1.2 miles long trending northwest to southeast and 0.3 miles wide. The Illinois Central Railroad runs along the western Site boundary. Fields and woodlands form the eastern boundary along the southern and central portions of the Site with residential areas at the northern end of the Site.

3.0 SAMPLING ACTIVITIES

This section describes the sampling activities performed during implementation of the 2020 Work Plan. This section discusses the field activities, laboratory analyses, field quality assurance/quality control (QA/QC) samples, and identifies changes from the 2020 Work Plan (with EPA approval).

3.1 Field Activities

The soil sampling activities were implemented in the Koppers Drive and Bailey Road, Grenada, Mississippi vicinity from September 28 through October 4, 2020, with direct oversight from EPA during the first five days of sampling. EPA obtained signed access agreements in 2019 that allowed sampling on each private property identified in the 2020 Work Plan. Because health and safety concerns associated with the COVID 19 pandemic delayed implementing the 2020 Work Plan, the EPA obtained verbal consent from all the owners, renters and responsible parties in September 2020 to confirm access, with the exception of the owner of 77 Koppers Drive. Therefore, at the direction of the EPA, no sampling was performed at the 77 Koppers Drive location.

The soil sampling activities conducted during this field event were performed in accordance with the standard operating procedures (SOPs) identified in the 2020 Work Plan. The sampling activities included: establishing a decontamination station on the Site; maintaining a detailed field notebook to document sampling information; photographing each sample location; documenting the global positioning system (GPS) coordinates for every sample location; collecting the sample; and, packing and shipping the samples under chain-of-custody documentation to the analytical laboratory. An electronic copy of the field sampling notebook is provided in Appendix A and an electronic copy of the photographic sampling log is provided in Appendix B. One drum of spent decontamination water was generated during this field mobilization; the water was characterized, transported and disposed off-site in accordance with local, state, and federal regulations.

The 2020 Work Plan identified specific sampling locations and types of soil samples to be collected as shown in Figure 2.

This subsection provides information regarding the 2020 Work Plan sample locations, the two types of soil samples collected: residential parcel soil samples and drainage way soil samples, and, the sample identification nomenclature.

3.1.1 2020 Work Plan Sample Locations

A total of thirty-six sampling locations were identified in the 2020 Work Plan. Twenty-six locations were identified to be sampled as residential parcel soil samples (described in Section 3.1.2) and ten locations were identified to be sampled as drainage way samples (described in Section 3.1.3).

3.1.2 Residential Parcel Soil Samples

The residential parcel soil samples (five-point composites) were collected from 0- to 6-inches below surface from 5 distinct locations in each designated parcel. The residential parcel was divided into four quadrants of approximately equal area. One soil sample was collected from each of the four quadrants as calculated below. The fifth sample was collected from the entire designated area/parcel following the random number method described below.

The soil sample location in a quadrant was chosen by multiplying a random number between zero and one by the length of the quadrant and multiplying a different random number by the width of the quadrant. The sampling point was measured from the outer boundary of the quadrant, measurements starting at the following locations:

- The southwest corner of designated parcels located on the north side of Koppers Drive
- The northwest corner of designated parcels located on the south side of Koppers Drive
- The northern corner of designated parcels located on Bailey Road

The 2020 Work Plan SOP for Shallow Soil Sampling identified using the intersection of all four quadrants as the starting point for measuring each soil sample location; however, often the residential home was located in this vicinity. Therefore, the starting location defined above was identified in the field to be more reliable. The soil sample location in a quadrant was measured as described above. Measuring for the fifth sample in each residential parcel started at the locations specified above by applying separate randomly generated numbers to the length and width of the entire parcel.

Clean, decontaminated equipment was used to collect the first of the five distinct samples at each residential parcel. This same equipment was used to collect the remaining four samples for that residential parcel without decontaminating the equipment. The five distinct soil samples collected from each five-point composite area were field homogenized together and one sample was submitted to the laboratory for analysis. The intent of the field homogenization was to thoroughly mix or homogenize soil by 'quartering' to ensure that the sample was representative of the soil media. Foreign objects, such as nails or gravel were removed from the stainless-steel bowl prior to homogenization. The homogenization procedure followed the protocol identified in Appendix A of the 2020 Work Plan.

Residential parcel 12 (#225 Koppers Drive) was bisected and treated as two (2) distinct parcels; a five-point composite sample was collected from each of the two parcels. Parcel 12 was divided perpendicular to Koppers Drive; the division bisected the length of Parcel 12 along Koppers Drive as identified on Figure 2.

Five-point composite samples were collected at six (6) residential parcels along Bailey Road. A portion of each of the six (6) Bailey Road composite samples were field composited into one representative Bailey Road composite sample that was submitted for fast turnaround analysis. The six (6) individual Bailey Road five-point composite residential parcel samples were

sent to the laboratory and held for potential analysis, pending review of the results of the representative Bailey Road composite sample.

3.1.3 Drainage Way Samples

The drainage way soil locations were intended to provide soil samples from areas subject to storm water flow and/or conveyance. Accordingly, the drainage way soil samples were collected at or near the lowest point within the drainage ditch or swale identified for sampling. The drainage way soil samples were not collected in flowing or standing water. Drainage way soil samples were collected from 0- to 6-inches below surface. Sub-samples were collected from 0- to 6-inches below surface at each sampling location from five non-overlapping locations spaced approximately 18-inches apart within a six-foot length oriented parallel to the flow in the drainage way. The five sub-samples were field homogenized together and one sample was submitted for analysis. Clean, decontaminated equipment was used to collect the first of the five sub-samples from 0- to 6-inches below surface at each location. This same equipment was used to collect the remaining four sub-samples from 0- to 6-inches below surface at that location without decontaminating the equipment.

3.1.4 Sample Identification Nomenclature

Site-specific sample identification numbers were assigned to each primary and QC sample prior to sample collection. Each soil sample location was identified in the field log book and on the sketched site map for that location, using a unique alpha-numeric code following the identification scheme described below. These identification numbers can be used to interpret sample locations presented on the tables and figures in this report.

The site-specific sample identification numbers for the residential parcel soil samples (five-point composite) consisted of the following:

- Location code: 'KD' for Koppers Drive and 'BR' for Bailey Road.
- Address code: three digit street address, taken from Figure 2 (e.g., 10 Koppers Drive would be 'KD010'). The representative Bailey Road composite sample, composited from all 6 individual Bailey Road five-point composites, was identified by the number 500 (e.g. BR500).
- Sample matrix code: SS for soil sample (e.g., 'KD216SS')..
- Sample Type: primary samples did not require any additional letters for the sample type designation, matrix spike and matrix spike duplicate samples were designated with MS/MSD, and equipment blanks were designated with EB.
- Duplicate Samples: were submitted to the laboratory "blind" and thus retained all the same codes as the primary sample, with the exception of the address code. Duplicate samples were assigned numeric order codes greater than 870. The site-specific location of the duplicate samples was documented in the field log book.

The site-specific sample identification numbers for the drainage way soil samples consisted of the following:

- Location code: 'DW' for drainage way soil sample.
- Numeric order code: the drainage way soil samples were identified in consecutive order using a three digit number starting with 201 to 210 (e.g., first sample collected was 'DW201').
- Sample matrix code: SS for soil sample (e.g., 'DW201SS').

3.2 Laboratory Analyses

All of the samples were analyzed for polynuclear aromatic hydrocarbons (PAHs) and polychlorinated dibenzo-p-dioxins/polychlorinated dibenzo furans (dioxins/furans). As identified in the 2020 Work Plan, the samples were analyzed for seventeen priority pollutant PAH parameters using EPA Method 8270 and for seventeen dioxin/furan congeners using EPA Method 8290. Eurofins TestAmerica in Pittsburgh, Pennsylvania performed the analyses. Approximately of 95% of the analytical data were submitted for Stage 2B validation and 5% for Stage 4. The laboratory analytical data were verified and validated in accordance with procedures described in Appendix B of the 2020 Work Plan; *National Functional Guidelines for High Resolution Superfund Methods Data Review*, (EPA, 2016); *National Functional Guidelines for Superfund Organic Methods Data Review*, (EPA, 2017); and laboratory methods.

3.3 QA/QC Samples

The QA/QC samples collected for analysis during this investigation included equipment blanks, duplicate samples and matrix spike and matrix spike duplicate (MS/MSD) samples. The QA/QC samples were analyzed for the same parameters as the investigative samples. Equipment blanks were collected once per day by pouring laboratory-supplied, reagent-grade water over properly decontaminated sample equipment and collecting it in one liter amber bottles for analysis. A total of 7 equipment blank samples were collected. One field duplicate soil sample was collected for every 20 soil samples collected. Two duplicate residential parcel soil samples (five-point composites) were collected. The residential parcel soil duplicates (five-point composites) consisted of two complete sets of samples collected at each of the five locations; the primary and duplicate sample were homogenized together. From each location, the homogenized soil was used to fill two sets of sample containers (per analysis).

One set of MS/MSD soil samples were collected for every 20 soil samples collected for PAH and dioxin/furan analysis. Two MS/MSD sets of samples were collected during the residential parcel soil sampling. The residential parcel soil MS/MSD samples consisted of two complete sets of samples collected at each of the five locations; the primary sample and the MS/MSD samples were homogenized together. From each location, the homogenized soil was used to fill three sets of sample containers (one each for the sample, the MS, and the MSD).

3.4 Changes or Challenges During Sampling

Changes were required for two sampling locations identified in the 2020 Work Plan and a challenge was experienced in the field while implementing the 2020 Work Plan. Two specific changes to the sampling locations in the 2020 Work Plan were implemented, with concurrence from EPA. Drainage way sample DW206 was initially located along #77 Koppers Drive;

however, the field team identified there was no drainage way located along this parcel (EPA parcel #6). The field team identified a drainage way was present along the #123 Koppers Drive parcel (EPA parcel #8). Tetra Tech notified the EPA by email dated October 2, 2021 of the proposed location change; the EPA concurred by email the same day. As mentioned in Section 3.1, the EPA was unable to obtain verbal confirmation for sampling consent from the owner of #77 Koppers Drive; accordingly, this residential parcel was not sampled during the implementation of the 2020 Work Plan.

A sampling challenge experienced during the field mobilization included one residential parcel owner requesting to select the sample location for one of the five samples collected on the parcel. Selecting a sample location would violate the random, unbiased sampling protocol defined in the 2020 Work Plan. Tetra Tech discussed this request with the EPA, and the sampling team was directed to proceed implementing the approved 2020 Work Plan.

4.0 ANALYTICAL RESULTS

This section presents the analytical results for all samples collected during the September and October 2020 field sampling event. As mentioned in Section 3.2, approximately 95% of the dataset were subject to Stage 2B validation and 5% to Stage 4 validation. The validated data are presented in both tabular and graphical formats. The PAH soil results are presented in Tables 1A and 1B and the dioxin/furan soil results are presented in Tables 2A and 2B. The equipment blank results for PAHs and dioxins/furans are included in Tables 3 and 4, respectively. The analytical laboratory data are provided in electronic format in Appendix C and the data validation report is provided in electronic format in Appendix D.

The PAH data presented in Tables 1A, 1B, and 3 include the benzo(a)pyrene toxic equivalent (BaP-TE), which was calculated using the toxic equivalency factors (TEFs) and methodology presented in the EPA guidance document *Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons*, July 1993 (EPA, 1993). Potentially carcinogenic PAHs are assumed by EPA to have analogous modes of action (similar effects) (EPA, 1993). TEFs have been developed to relate the potency of individual PAHs assumed by EPA to be potentially carcinogenic to the potency of benzo(a)pyrene (BaP). The concentration of each individual potentially carcinogenic PAH at a particular sampling location was multiplied by its respective TEF to estimate the BaP-TE associated with that particular PAH. The BaP-TE associated with each individual potentially carcinogenic PAH at that location was then summed to derive the BaP-TE concentration for that sampling location (Tables 1A, 1B and 3). If one of the potentially carcinogenic PAHs was not detected at a particular location, half of the detection limit for that potentially carcinogenic PAH was used as the concentration in the estimation of BaP-TE for that sample.

The dioxin/furan data presented in Tables 2A, 2B, and 4 include the 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent (TCDD-TEQ), which was calculated using TEFs developed by van den Berg, et al., 2006 and recommended by the EPA in *Recommended Toxic Equivalency Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds* (EPA, 2010). EPA assumes that chlorinated dioxin and furan congeners have analogous modes of action (similar effects) and has adopted TEFs developed by van den Berg et al. (2006) to estimate the TCDD-TEQ concentration present at a particular sampling location (Tables 2A, 2B, and 4). As with PAHs, the dioxin and furan TEFs relate the potential potency of the different dioxin and furan congeners assumed by EPA to be potentially toxic to the potency of 2,3,7,8- tetrachlorodibenzo(p)dioxin (2,3,7,8-TCDD) (van den Berg et al., 2006). Individual dioxin and furan congener concentrations in each sample were multiplied by their respective TEFs and then the resulting products were summed to estimate the total TCDD-TEQ for each sample. If one of the congeners was not detected in any particular sample, half of the detection limit for that congener was used as the concentration in the calculation of TCDD-TEQ for that sample.

The soil analytical results reported in Tables 1A, 1B, 2A, and 2B are presented in graphical format in Figure 3. The evaluation and interpretation of the data are presented in Section 5.0.

5.0 HUMAN HEALTH SCREENING EVALUATION

5.1 Screening Benchmarks

The TCDD-TEQ concentrations in samples from residential parcels along Bailey Road and Koppers Drive were compared to the EPA Noncancer Residential Regional Screening Level (RSL; EPA, 2021) of 51 picograms per gram (pg/g). BaP-TE concentrations in samples from residential parcels were compared to the EPA Cancer Residential RSL range for benzo(a)pyrene (EPA, 2021) of 110 micrograms per gram (µg/kg) to 11,000 µg/kg, which corresponds to EPA's allowable risk range of one in one million ($1x10^{-6}$) to one in ten thousand ($1x10^{-4}$) (EPA, 1991). Individual PAH concentrations in samples from the residential parcels were compared to available EPA Noncancer Residential RSLs (EPA, 2021). Results from drainage way samples along Bailey Road were also compared to these EPA Residential RSLs for TCDD-TEQ, BaP-TE, and individual PAHs.

Drainage way concentrations along Koppers Drive were compared to Modified Residential RSLs that are more representative of potential exposures at drainage way sampling locations. Specifically, the modification to the EPA Residential RSLs includes the use of a more representative but still conservative exposure frequency for all drainage way samples.

The EPA Residential RSLs assumes a resident is exposed to soils 350 days per year. While this may represent an upper bound potential exposure to constituents in surface soils in a residential yard, the drainage way sample locations are likely to have a much lower exposure frequency (EF). Drainage ways are generally located at the edge of the front yard adjacent to the road and comprise a small fraction (less than 10%) of a property. Consequently, residents are likely to have limited exposure to drainage way soils. To account for the expected reduced exposure frequency, the default residential soil assumption of an EF of 350 days per year used in the EPA Residential RSLs was reduced to 12 days per year for comparison with drainage way samples to calculate Modified Residential RSLs.

Additionally, the EPA Residential RSLs were modified to screen drainage way samples along Koppers Drive using a maximum allowable EF (105 days per year) derived based on the highest detected TCDD-TEQ concentrations at drainage way sample DW205SS (170 pg/g) along Koppers Drive. The resulting Modified Residential RSLs for drainage way samples with the EF adjustment of 105 days per year are presented in Tables 11, 12, and 13 for TCDD-TEQ, BaP-TE, and individual PAHs, respectively.

5.2 Comparison to Benchmarks

The following sections summarize the comparison of analytical results for residential parcels and drainage ways to the screening levels defined in Section 5.1. As presented below, the results indicate no unacceptable risks to residents along Koppers Drive and Bailey Road to dioxins/furans and PAHs in the residential parcels and drainage way samples.

5.2.1 Bailey Road Samples

Results of all residential parcel and drainage way samples for TCDD-TEQ are below the EPA Noncancer Residential RSL (Table 5) of 51 pg/g and as referenced in the notes to Table 5 are within the EPA Cancer Residential RSLs corresponding to the acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6}.

Results of all residential parcel and drainage way sample BaP-TE results are below or within the EPA Cancer Residential RSLs corresponding to the acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} (110 mg/kg to 11,000 mg/kg; Table 6). The results of all residential parcel and drainage way samples for individual PAHs are below their respective EPA Noncancer Residential RSLs (Table 7).

5.2.2 Koppers Drive Samples

Results of all residential parcel samples for TCDD-TEQ are below the EPA Noncancer Residential RSL (Table 8) of 51 pg/g and as referenced in the notes to Table 8 are also below or within the EPA Cancer Residential RSLs corresponding to the acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6}.

Results of all residential parcel samples for BaP-TE are below or within EPA Cancer Residential RSLs corresponding to the acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} (Table 9). The results of all residential parcel samples for individual PAHs are below their respective EPA Noncancer Residential RSL (Table 10).

As indicated above, drainage way concentrations were compared to Modified Residential RSLs that are more representative of potential exposures at drainage way sampling locations. Specifically, the modification to the EPA Residential RSLs includes the use of a more representative but still conservative exposure frequency of 12 days per year for all drainage way samples. Results of all drainage way samples for TCDD-TEQ are below the Modified Noncancer Residential RSL (1,148 pg/g) when an exposure frequency of 12 days per year is assumed which is representative of potential exposures to soils in a drainage way next to a road (Table 11). As referenced in the notes to Table 11, all drainage way samples are within the EPA Residential RSL range corresponding to the acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} without modifications to the exposure frequency. In addition, as shown in Table 11, exposures to TCDD-TEQ concentrations within the drainage ways in Koppers Drive are acceptable when the exposure frequency is as often as 105 days per year. Exposures as often as 105 days per year are not likely in drainage ways that are generally located adjacent to the road and comprise a small fraction (less than 10%) of a property.

Using the default exposure assumptions, all BaP-TE results are within the EPA Cancer Residential RSLs for BaP corresponding to the acceptable risk range of 1 x 10^{-4} to 1 x 10^{-6} (Table 12) with exception of one location (DW206SS) that appears to be a clear outlier. The results of all drainage way samples for individual PAHs are below the EPA Noncancer Residential RSL (Table 13) with exception of the same location (DW206SS) that appears to be a clear outlier. BaP-TE and individual PAH results of all drainage way samples are below or

within the Modified Cancer and Noncancer Residential RSLs when an exposure frequency of 12 days per year is assumed which is representative of potential exposures to soils in a drainage way next to a road (Table 12 and Table 13). In addition, as shown in Tables 12 and 13, BaP-TE and individual PAH results of all drainage way samples are below or within the Modified Cancer and Noncancer Residential RSLs when the exposure frequency is as often as 105 days per year.

6.0 CONCLUSIONS

This report documents that the sampling activities were performed in accordance with the requirements of the EPA-approved 2020 Work Plan and approved field changes. The report presents and interprets the analytical results for soils sampled along Koppers Drive and Bailey Road in Grenada, Mississippi. The 2020 sampling event included soils collected from 36 locations in residential parcels and drainage ways located hydraulically and hydrologically upgradient and immediately west of the Site. The analytical results of the 2020 sampling event indicate no unacceptable risks to residents along Koppers Drive and Bailey Road to dioxins/furans and PAHs detected in the residential parcel and drainage way samples.

7.0 REFERENCES

EPA, 1991. *Memorandum: Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions*, Office of Solid Waste and Emergency Response Directive 9355.0-30, April 1991.

EPA, 1993. *Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons*, EPA 600-R-93-089, July 1993.

EPA, 2010. *Recommended Toxic Equivalency Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds*. EPA-100-R-10-005. December 2010.

EPA, 2016. *National Functional Guidelines for High Resolution Superfund Methods Data Review*. EPA-542-B-16-001. April 2016.

EPA. 2017. *National Functional Guidelines for Superfund Organic Methods Data Review*. EPA-540-R-2017-002. January 2017.

EPA, 2020. *Approval of 2020 Work Plan for Additional Off-site Sampling, Koppers Drive and Bailey Road, Grenada, Mississippi*, dated March 5, 2020. Letter from Ms. Meredith Anderson, Chief, RCRA Programs and Cleanup Branch, EPA to Mr. Michael Bollinger, Environmental Manager, Beazer East, Inc. March 2020.

EPA, 2021. Regional Screening Levels, May 2021. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables, May 2021.

Tetra Tech, 2020. *2020 Work Plan for Additional Off-Site Sampling, Koppers Drive and Bailey Road, Grenada, Mississippi*. Prepared for Beazer East, Inc. and Koppers, Inc. February 2020.

Van den Berg, M; Birnbaum, LS; Denison, M; DeVito, M; Farland,W; Feeley, M; Fiedler, H; Hakansson, H; Hanberg, A; Haws, L; Rose, M; Safe, S; Schrenk, D; Tohyama, C; Tritscher, A; Tuomisto, J; Tysklind, M; Walker, N; Peterson, RE, 2006. *The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds*. *Toxicol Sci* 93:223-241.

TABLES

Table 1A
PAH Soil Results
Koppers Drive
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	BaP-TE	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene
DW201SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/2/2020	µg/Kg	1,521	37 J	450	630	1,000	880	1,800
DW202SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	3,798	< 420	1,100	1,300	2,200	2,100	4,200
DW203SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	552	< 88	140	180	330	290	630
DW204SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	2,441	< 270	550	830	1,600	1,400	2,700
DW205SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	3,914	< 390	1,000	1,400	2,700	2,200	4,700
DW206SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	34,381	1,300 J	8,400	13,000	18,000	20,000	39,000
DW207SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	3,680	< 410	910	1,300	2,200	2,100	4,300
DW208SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,937	< 330	610	760	1,100	1,000	2,200
KD010SS	10 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	1,805	34 J	490	650	920	1,100	2,100
KD010SS	10 Koppers Dr.	0 - 6	Duplicate	9/30/2020	µg/Kg	1,698	43 J	480	640	1,200	990	2,200
KD029SS	29 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	232	< 84	61 J	81 J	120	98	210
KD045SS	45 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	470	< 84	110	130	180	210	490
KD080SS	80 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	522	< 260	110 J	170 J	270	180 J	370
KD106SS	106 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	615	< 84	120	230	670	340	740
KD123SS	123 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	270	< 86	51 J	74 J	150	130	190
KD132SS	132 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	135	< 84	20 J	28 J	79 J	65 J	140
KD149SS	149 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	249	< 82	65 J	77 J	120	110	200
KD216SS	216 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	124	< 83	< 83	< 83	75 J	55 J	130
KD225ESS	225 Koppers Dr. (Eastern Section)	0 - 6	Field	10/1/2020	µg/Kg	987	< 88	270	420	670	540	1,300
KD225WSS	225 Koppers Dr. (Western Section)	0 - 6	Yard	10/1/2020	µg/Kg	1,116	< 170	300	290	650	620	1,100
KD248SS	248 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	834	< 86	120	160	610	510	970
KD251SS	251 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	91	< 78	< 78	< 78	< 78	< 78	48 J
KD275SS	275 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	207	< 85	36 J	44 J	110	83 J	150
KD280SS	280 Koppers Dr.	0 - 6	Yard	9/28/2020	µg/Kg	277	< 240	< 240	< 240	< 240	< 240	< 240
KD297SS	297 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	94	< 82	< 82	< 82	< 82	< 82	32 J
KD302SS	302 Koppers Dr.	0 - 6	Yard	9/28/2020	µg/Kg	103	< 85	< 85	< 85	51 J	< 85	83 J
KD321SS	321 Koppers Dr.	0 - 6	Yard	10/3/2020	µg/Kg	174	< 84	36 J	40 J	120	93	190
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	0 - 6	Wooded Lot	9/29/2020	µg/Kg	187	< 87	44 J	72 J	120	100	210

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
in. bgs = inches below ground surface
µg/Kg = micrograms per kilogram
< 85 = Result is less than the identified (85) reporting limit for that sample

Table 1A
PAH Soil Results
Koppers Drive
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene
DW201SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/2/2020	µg/Kg	690	730	1,400	280	1,800	44 J
DW202SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,700	1,500	2,900	870	3,500	100 J
DW203SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	230	210	440	140	460	< 88
DW204SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	940	1,300	2,100	500	2,400	< 270
DW205SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,700	2,100	3,400	780	4,100	95 J
DW206SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	14,000	16,000	21,000	7,000	32,000	1,100 J
DW207SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,400	1,700	3,000	760	4,000	100 J
DW208SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	850	890	1,500	510	1,900	< 330
KD010SS	10 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	830	720	1,200	310	1,400	56 J
KD010SS	10 Koppers Dr.	0 - 6	Duplicate	9/30/2020	µg/Kg	760	740	1,500	280	2,000	44 J
KD029SS	29 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	87	78 J	180	92	200	< 84
KD045SS	45 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	430	190	210	160	210	16 J
KD080SS	80 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	190 J	140 J	310	260	430	< 260
KD106SS	106 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	300	350	770	100	1,200	< 84
KD123SS	123 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	100	86	150	96	170	< 86
KD132SS	132 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	78 J	37 J	120	< 84	110	< 84
KD149SS	149 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	100	84	160	96	200	< 82
KD216SS	216 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	67 J	53 J	96	< 83	130	< 83
KD225ESS	225 Koppers Dr. (Eastern Section)	0 - 6	Field	10/1/2020	µg/Kg	460	420	850	200	940	24 J
KD225WSS	225 Koppers Dr. (Western Section)	0 - 6	Yard	10/1/2020	µg/Kg	460	410	760	270	770	< 170
KD248SS	248 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	360	230	690	130	790	< 86
KD251SS	251 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	29 J	< 78	< 78	< 78	51 J	< 78
KD275SS	275 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	66 J	62 J	130	91	150	< 85
KD280SS	280 Koppers Dr.	0 - 6	Yard	9/28/2020	µg/Kg	< 240	< 240	< 240	< 240	< 240	< 240
KD297SS	297 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	< 82	< 82	< 82	< 82	34 J	< 82
KD302SS	302 Koppers Dr.	0 - 6	Yard	9/28/2020	µg/Kg	36 J	< 85	59 J	< 85	79 J	< 85
KD321SS	321 Koppers Dr.	0 - 6	Yard	10/3/2020	µg/Kg	72 J	76 J	150	< 84	170	< 84
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	0 - 6	Wooded Lot	9/29/2020	µg/Kg	110	74 J	180	< 87	200	< 87

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
in. bgs = inches below ground surface
µg/Kg = micrograms per kilogram
< 85 = Result is less than the identified (85) reporting limit for that sample

Table 1A
PAH Soil Results
Koppers Drive
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
DW201SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/2/2020	µg/Kg	720	510	860	1,700
DW202SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,700	770	1,700	3,600
DW203SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	230	81 J	200	490
DW204SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	960	520	1,100	2,400
DW205SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,700	840	1,800	4,100
DW206SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	15,000	5,900	13,000	30,000
DW207SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	1,500	1,100	1,700	3,800
DW208SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	870	680	1,000	2,100
KD010SS	10 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	850	490	710	1,800
KD010SS	10 Koppers Dr.	0 - 6	Duplicate	9/30/2020	µg/Kg	790	480	660	2,600
KD029SS	29 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	82 J	51 J	100	260
KD045SS	45 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	310	59 J	100	240
KD080SS	80 Koppers Dr.	0 - 6	Yard	9/30/2020	µg/Kg	160 J	100 J	210 J	450
KD106SS	106 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	300	150	440	960
KD123SS	123 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	88	49 J	58 J	200
KD132SS	132 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	52 J	45 J	76 J	150
KD149SS	149 Koppers Dr.	0 - 6	Yard	10/1/2020	µg/Kg	98	74 J	120	210
KD216SS	216 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	64 J	32 J	66 J	110
KD225ESS	225 Koppers Dr. (Eastern Section)	0 - 6	Field	10/1/2020	µg/Kg	450	170	410	990
KD225WSS	225 Koppers Dr. (Western Section)	0 - 6	Yard	10/1/2020	µg/Kg	460	140 J	380	920
KD248SS	248 Koppers Dr.	0 - 6	Yard	9/29/2020	µg/Kg	330	110	230	810
KD251SS	251 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	< 78	< 78	< 78	51 J
KD275SS	275 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	60 J	64 J	89	150
KD280SS	280 Koppers Dr.	0 - 6	Yard	9/28/2020	µg/Kg	< 240	< 240	< 240	< 240
KD297SS	297 Koppers Dr.	0 - 6	Yard	10/2/2020	µg/Kg	< 82	28 J	27 J	40 J
KD302SS	302 Koppers Dr.	0 - 6	Yard	9/28/2020	µg/Kg	< 85	31 J	70 J	71 J
KD321SS	321 Koppers Dr.	0 - 6	Yard	10/3/2020	µg/Kg	68 J	46 J	79 J	180
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	0 - 6	Wooded Lot	9/29/2020	µg/Kg	99	70 J	110	200

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
in. bgs = inches below ground surface
µg/Kg = micrograms per kilogram
< 85 = Result is less than the identified (85) reporting limit for that sample

Table 1B
PAH Soil Results
Bailey Road
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	BaP-TE	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)-anthracene	Benzo(a)pyrene	Benzo(b)-fluoranthene
BR233SS	233 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	1,347	< 1,200	470 J	< 1,200	< 1,200	540 J	800 J
BR289SS	289 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	294	< 79	58 J	48 J	140	150	260
BR315SS	315 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	241	< 81	49 J	46 J	90	110	220
BR351SS	351 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	97	< 83	< 83	< 83	< 83	< 83	56 J
BR373SS	373 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	224	< 84	40 J	35 J	96	98	190
BR500SS	Bailey Rd. Composite	0 - 6	Yard	10/4/2020	µg/Kg	383	< 330	< 330	< 330	< 330 UJ	< 330	180 J
BR500SS	Bailey Rd. Composite	0 - 6	Duplicate	10/4/2020	µg/Kg	1,646	< 410	420	310 J	1,100 J	840	1,400 J
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	0 - 6	Undeveloped Lot	10/4/2020	µg/Kg	91	< 80	< 80	< 80	< 80	< 80	25 J
DW209SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	105	< 91	< 91	< 91	< 91	< 91	41 J
DW210SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	111	< 96	< 96	< 96	< 96	< 96	< 96

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
UJ = Analyte was non-detect with an approximate reporting limit.
in. bgs = inches below ground surface
µg/Kg = micrograms per kilogram
< 79 = Result is less than the identified (79) reporting limit for that sample

Table 1B
PAH Soil Results
Bailey Road
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	Benzo(g,h,i)-perylene	Benzo(k)-fluoranthene	Chrysene	Dibenz(a,h)-anthracene	Fluoranthene	Fluorene
BR233SS	233 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	450 J	< 1,200	< 1,200	< 1,200	770 J	< 1,200
BR289SS	289 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	90	120	170	93	150	< 79
BR315SS	315 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	93	95	150	91	130	< 81
BR351SS	351 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	21 J	25 J	51 J	< 83	93	< 83
BR373SS	373 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	79 J	91	150	89	140	< 84
BR500SS	Bailey Rd. Composite	0 - 6	Yard	10/4/2020	µg/Kg	< 330	< 330	< 330 UJ	< 330	98 J	< 330
BR500SS	Bailey Rd. Composite	0 - 6	Duplicate	10/4/2020	µg/Kg	560	730	1,700 J	490	1,600 J	< 410
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	0 - 6	Undeveloped Lot	10/4/2020	µg/Kg	< 80	< 80	< 80	< 80	< 80	< 80
DW209SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	< 91	< 91	< 91	< 91	37 J	< 91
DW210SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	< 96	< 96	< 96	< 96	< 96	< 96

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
UJ = Analyte was non-detect with an approximate reporting limit.
in. bgs = inches below ground surface
µg/Kg = micrograms per kilogram
< 79 = Result is less than the identified (79) reporting limit for that sample

Table 1B
PAH Soil Results
Bailey Road
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
BR233SS	233 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	< 1,200	< 1,200	630 J	770 J
BR289SS	289 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	93	< 79	27 J	240
BR315SS	315 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	81	< 81	35 J	190
BR351SS	351 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	< 83	< 83	40 J	94
BR373SS	373 Bailey Rd.	0 - 6	Yard	10/4/2020	µg/Kg	74 J	21 J	42 J	170
BR500SS	Bailey Rd. Composite	0 - 6	Yard	10/4/2020	µg/Kg	< 330	< 330	< 330	130 J
BR500SS	Bailey Rd. Composite	0 - 6	Duplicate	10/4/2020	µg/Kg	570	< 410	510	1,700 J
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	0 - 6	Undeveloped Lot	10/4/2020	µg/Kg	< 80	< 80	< 80	21 J
DW209SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	< 91	< 91	< 91	38 J
DW210SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	µg/Kg	< 96	< 96	< 96	< 96

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
UJ = Analyte was non-detect with an approximate reporting limit.
in. bgs = inches below ground surface
µg/Kg = micrograms per kilogram
< 79 = Result is less than the identified (79) reporting limit for that sample

Table 2A
Dioxin/Furan Soil Results
Koppers Drive
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	TCDD-TEQ	2378-TCDD	12378-PeCDD	123478-HxCDD	123678-HxCDD	123789-HxCDD	1234678-HpCDD	OCDD
DW201SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/2/2020	pg/g	54	< 1.4	5.1 EMPC	20	62	30	2,100	22,000 J
DW202SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	145	1.8	19	74	150	140 J	5,100 J	54,000 J
DW203SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	35	0.29 EMPC	3.6 J	13	35	22	1,300	17,000 J
DW204SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	120	0.70 EMPC	13	45	150	77	4,700 J	51,000 J
DW205SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	170	0.95 EMPC	15	68	210	120	6,700 J	76,000 J
DW206SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	49	1.0 J	6.0	18	48	27	1,900	21,000 J
DW207SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	155	0.83 EMPC	13	61	160	97	6,500 J	72,000 J
DW208SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	156	0.89 EMPC	15	59	170	95	6,400 J	72,000 J
KD010SS	10 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	19	< 1.2	2.8 J	7.6	20 J	14	660 J	6,900 J
KD010SS	10 Koppers Dr.	0 - 6	Duplicate	9/30/2020	pg/g	35	< 1.1	5.5 J	14	37 J	25	1,200 J	14,000 J
KD029SS	29 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	33	0.40 EMPC	4.1 J	13	37	19	1,100	11,000 J
KD045SS	45 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	21	0.20 EMPC	2.2 J	7.2	23	12	790	7,900 J
KD080SS	80 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	7	< 1.2	< 5.9	1.5 J	3.6 J	2.9 J	110	2,000
KD106SS	106 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	14	< 1.3	1.7 J	4.4 J	14	6.8	410	4,500
KD123SS	123 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	22	0.25 EMPC	2.4 J	9.1	27	12	860	6,500 J
KD132SS	132 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	9	< 1.3	1.0 J	2.9 J	7.3	5.7 J	240	3,100
KD149SS	149 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	32	0.36 EMPC	3.0 J	11	39	14	1,300	11,000 J
KD216SS	216 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	6	< 1.2	0.68 J	1.8 J	3.8 J	3.4 J	120	2,700
KD225ESS	225 Koppers Dr. (Eastern Section)	0 - 6	Field	10/1/2020	pg/g	17	0.34 EMPC	2.2 J	6.9	18	9.6	590	7,700 J
KD225WSS	225 Koppers Dr. (Western Section)	0 - 6	Yard	10/1/2020	pg/g	34	1.1 J	4.4 J	11	38	18	870	8,400 J
KD248SS	248 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	17	< 1.3	1.5 J	5.2 J	19	8.3	580	8,500 J
KD251SS	251 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	8	< 1.1	0.77 EMPC	3.1 EMPC	7.7 EMPC	5.7	260	3,700
KD275SS	275 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	12	< 1.3	< 6.5	4.3 J	8.9	6.2 J	260	3,400
KD280SS	280 Koppers Dr.	0 - 6	Yard	9/28/2020	pg/g	4	< 1.2	0.64 J	1.7 J	4.1 J	3.1 J	110	1,300
KD297SS	297 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	8	0.41 EMPC	1.2 J	3.0 J	6.2 J	5.5 J	240	3,700
KD302SS	302 Koppers Dr.	0 - 6	Yard	9/28/2020	pg/g	4	< 1.3	0.62 EMPC	1.7 J	3.3 J	2.9 J	88	1,500
KD321SS	321 Koppers Dr.	0 - 6	Yard	10/3/2020	pg/g	8	0.29 EMPC	1.1 J	3.4 J	6.6	5.8 J	240	4,000
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	0 - 6	Wooded Lot	9/29/2020	pg/g	16	< 1.4	1.9 J	5.2 J	19	6.6 J	580	6,200 J

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
EMPC = Estimated maximum possible concentration.
in. bgs = inches below ground surface
pg/g = picograms per gram
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 1.2 = Result is less than the identified (1.2) reporting limit for that sample

Table 2A
Dioxin/Furan Soil Results
Koppers Drive
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	2378-TCDF	12378-PeCDF	23478-PeCDF	123478-HxCDF	123678-HxCDF	234678-HxCDF	123789-HxCDF
DW201SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/2/2020	pg/g	0.70 J	1.6 EMPC	2.6 J	13	12	7.4	< 7.0
DW202SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	0.58 J	2.1 J	< 6.1	21 EMPC	23	23	< 8.5
DW203SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	0.65 J	0.72 EMPC	1.1 J	10	< 6.3	4.5 J	< 6.3
DW204SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	0.72 J	2.7 J	3.5 J	26	18	13	< 6.3
DW205SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	1.3	3.8 J	4.8 J	28	22 EMPC	17 EMPC	< 7.2
DW206SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	1.0 J	1.2 EMPC	1.8 J	11	7.6	5.4 J	< 6.0
DW207SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	1.3	4.1 J	5.0 J	34	19	17	< 6.2
DW208SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	2.6	4.5 J	5.3 J	21	23	18	< 6.1
KD010SS	10 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	0.59 J	0.75 EMPC	0.94 J	4.5 J	3.5 J	3.1 J	< 5.8
KD010SS	10 Koppers Dr.	0 - 6	Duplicate	9/30/2020	pg/g	1.2	1.3 EMPC	1.2 EMPC	7.1	4.8 J	5.4 J	< 5.7
KD029SS	29 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	1.4	3.3 J	3.1 J	10	10	7.0	< 6.4
KD045SS	45 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	0.69 J	1.1 J	1.4 J	5.1 J	3.4 J	3.0 J	< 6.0
KD080SS	80 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	1.1 J	0.51 J	0.69 J	2.0 J	0.97 J	1.1 J	< 5.9
KD106SS	106 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	1.5	1.5 EMPC	3.0 J	6.5	4.1 J	4.3 J	< 6.3
KD123SS	123 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	0.79 J	0.80 J	0.71 EMPC	4.2 J	4.1 J	2.9 J	< 6.4
KD132SS	132 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	0.90 J	0.44 EMPC	< 6.3	2.1 J	1.3 J	1.3 J	0.45 J
KD149SS	149 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	0.86 J	1.3 J	1.7 J	4.6 J	4.2 J	4.6 J	< 6.5
KD216SS	216 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	< 1.2	0.37 EMPC	< 5.9	1.5 J	1.2 J	0.95 J	< 5.9
KD225ESS	225 Koppers Dr. (Eastern Section)	0 - 6	Field	10/1/2020	pg/g	1.0 J	0.94 J	1.2 J	4.3 J	2.7 J	2.3 J	< 6.6
KD225WSS	225 Koppers Dr. (Western Section)	0 - 6	Yard	10/1/2020	pg/g	0.63 J	1.5 J	2.2 J	8.1	6.1 J	7.1	< 6.7
KD248SS	248 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	< 1.3	0.71 J	0.56 EMPC	3.7 J	2.5 J	1.8 J	< 6.3
KD251SS	251 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	0.65 EMPC	0.47 EMPC	0.40 EMPC	2.0 EMPC	< 5.7	1.1 J	< 5.7
KD275SS	275 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	0.94 J	< 6.5	< 6.5	< 6.5	< 6.5	2.1 J	< 6.5
KD280SS	280 Koppers Dr.	0 - 6	Yard	9/28/2020	pg/g	< 1.2	< 6.0	0.42 J	1.2 J	0.79 EMPC	0.79 J	0.24 EMPC
KD297SS	297 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	0.75 J	0.55 EMPC	0.79 J	2.3 J	1.5 J	1.2 J	< 6.3
KD302SS	302 Koppers Dr.	0 - 6	Yard	9/28/2020	pg/g	0.65 J	0.45 J	0.49 J	1.1 J	0.85 J	0.67 J	0.29 J
KD321SS	321 Koppers Dr.	0 - 6	Yard	10/3/2020	pg/g	0.80 J	0.63 J	0.56 J	1.5 EMPC	1.5 J	1.4 J	< 6.1
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	0 - 6	Wooded Lot	9/29/2020	pg/g	0.61 EMPC	0.84 J	0.85 J	3.1 J	2.3 J	2.3 J	< 6.8

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
EMPC = Estimated maximum possible concentration.
in. bgs = inches below ground surface
pg/g = picograms per gram
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 1.2 = Result is less than the identified (1.2) reporting limit for that sample

Table 2A
Dioxin/Furan Soil Results
Koppers Drive
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	1234678-HpCDF	1234789-HpCDF	OCDF
DW201SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/2/2020	pg/g	390	35	1,800
DW202SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	990	81	4,300
DW203SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	260	21	1,100
DW204SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	780	57	3,100
DW205SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	1,300	97	5,800 J
DW206SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	350	20	1,700
DW207SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	1,100	88	6,200 J
DW208SS	Koppers Dr. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	1,100	74	6,000 J
KD010SS	10 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	120 J	7.6	490 J
KD010SS	10 Koppers Dr.	0 - 6	Duplicate	9/30/2020	pg/g	210 J	13	840 J
KD029SS	29 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	230	21	870
KD045SS	45 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	140	7.7	570
KD080SS	80 Koppers Dr.	0 - 6	Yard	9/30/2020	pg/g	19	1.2 J	67
KD106SS	106 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	84	5.2 J	270
KD123SS	123 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	190	9.2	620
KD132SS	132 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	40	2.3 J	160
KD149SS	149 Koppers Dr.	0 - 6	Yard	10/1/2020	pg/g	290	11	1,100
KD216SS	216 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	25	1.4 J	85
KD225ESS	225 Koppers Dr. (Eastern Section)	0 - 6	Field	10/1/2020	pg/g	100	5.9 J	410
KD225WSS	225 Koppers Dr. (Western Section)	0 - 6	Yard	10/1/2020	pg/g	670	9.1	650
KD248SS	248 Koppers Dr.	0 - 6	Yard	9/29/2020	pg/g	150	8.2	600
KD251SS	251 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	45	3.0 J	180
KD275SS	275 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	47 EMPC	2.7 J	140
KD280SS	280 Koppers Dr.	0 - 6	Yard	9/28/2020	pg/g	24	1.4 J	66
KD297SS	297 Koppers Dr.	0 - 6	Yard	10/2/2020	pg/g	39	2.3 J	130
KD302SS	302 Koppers Dr.	0 - 6	Yard	9/28/2020	pg/g	15	1.1 J	49
KD321SS	321 Koppers Dr.	0 - 6	Yard	10/3/2020	pg/g	40	2.1 J	120
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	0 - 6	Wooded Lot	9/29/2020	pg/g	120	4.5 J	520

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
EMPC = Estimated maximum possible concentration.
in. bgs = inches below ground surface
pg/g = picograms per gram
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 1.2 = Result is less than the identified (1.2) reporting limit for that sample

Table 2B
Dioxin/Furan Soil Results
Bailey Road
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	TCDD-TEQ	2378-TCDD	12378-PeCDD	123478-HxCDD	123678-HxCDD	123789-HxCDD	1234678-HpCDD	OCDD
BR233SS	233 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	19	< 1.2	2.3 J	6.3	19	11	580	7,900 J
BR289SS	289 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	17	< 1.2	2.2 J	5.3 EMPC	16	8.8	420	8,700 J
BR315SS	315 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	18	< 1.2	2.0 J	4.4 J	11	8.4	320	4,400
BR351SS	351 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	11	< 1.2	1.3 J	3.1 J	9.8	7.4	230	2,000
BR373SS	373 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	8	< 1.3	0.95 J	2.3 J	6.5	5.0 J	190	1,800
BR500SS	Bailey Rd. Composite	0 - 6	Yard	10/4/2020	pg/g	18	< 1.3	< 6.3	5.4 J	15	8.3	390	5,200 J
BR500SS	Bailey Rd. Composite	0 - 6	Duplicate	10/4/2020	pg/g	21	< 1.3	< 6.3	5.6 J	18	10	570	6,300 J
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	0 - 6	Undeveloped Lot	10/4/2020	pg/g	9	< 1.2	< 6.1	1.7 J	3.8 J	3.4 J	130	2,900
DW209SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	12	0.29 EMPC	1.8 J	5.2 J	12	6.0 J	360	4,600
DW210SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	5	< 1.5	0.57 EMPC	1.8 J	3.1 J	3.0 J	91	1,900

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
EMPC = Estimated maximum possible concentration.
in. bgs = inches below ground surface
pg/g = picograms per gram
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 1.2 = Result is less than the identified (1.2) reporting limit for that sample

Table 2B
Dioxin/Furan Soil Results
Bailey Road
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	2378-TCDF	12378-PeCDF	23478-PeCDF	123478-HxCDF	123678-HxCDF	234678-HxCDF	123789-HxCDF
BR233SS	233 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	1.8	< 6.1	< 6.1	5.5 J	4.2 J	3.4 J	< 6.1
BR289SS	289 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	2.5	2.1 EMPC	3.4 EMPC	5.1 J	5.6 J	5.4 J	0.75 J
BR315SS	315 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	2.5 EMPC	4.2 J	9.1	12	10	16	< 6.2
BR351SS	351 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	1.1 J	1.8 J	4.2 J	7.6	5.2 J	7.6	< 5.8
BR373SS	373 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	0.93 J	0.76 EMPC	1.3 J	4.5 J	2.1 J	2.1 J	< 6.3
BR500SS	Bailey Rd. Composite	0 - 6	Yard	10/4/2020	pg/g	1.6	3.0 J	4.6 J	10	5.9 J	9.4	< 6.3
BR500SS	Bailey Rd. Composite	0 - 6	Duplicate	10/4/2020	pg/g	1.7	< 6.3	4.8 J	11	6.9	9.8	< 6.3
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	0 - 6	Undeveloped Lot	10/4/2020	pg/g	< 1.2	< 6.1	< 6.1	1.3 J	0.82 J	0.74 EMPC	< 6.1
DW209SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	0.80 J	1.0 J	0.99 J	3.0 J	2.5 J	2.1 J	< 6.5
DW210SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	0.45 J	0.72 J	0.81 EMPC	3.3 J	1.3 J	1.5 J	< 7.4

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
EMPC = Estimated maximum possible concentration.
in. bgs = inches below ground surface
pg/g = picograms per gram
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 1.2 = Result is less than the identified (1.2) reporting limit for that sample

Table 2B
Dioxin/Furan Soil Results
Bailey Road
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Depth (in. bgs)	Sample Description	Sample Date	Units	1234678-HpCDF	1234789-HpCDF	OCDF
BR233SS	233 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	110	6.3	490
BR289SS	289 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	97	4.9 J	330
BR315SS	315 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	160	5.9 J	240
BR351SS	351 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	58	< 5.8	120
BR373SS	373 Bailey Rd.	0 - 6	Yard	10/4/2020	pg/g	45	2.3 J	140
BR500SS	Bailey Rd. Composite	0 - 6	Yard	10/4/2020	pg/g	100	5.3 J	270
BR500SS	Bailey Rd. Composite	0 - 6	Duplicate	10/4/2020	pg/g	120	5.2 J	280
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	0 - 6	Undeveloped Lot	10/4/2020	pg/g	21	< 6.1	94
DW209SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	65	3.4 J	210
DW210SS	Bailey Rd. Drainage Way	0 - 6	Drainage Way	10/3/2020	pg/g	21	1.3 J	65

Notes:
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
EMPC = Estimated maximum possible concentration.
in. bgs = inches below ground surface
pg/g = picograms per gram
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 1.2 = Result is less than the identified (1.2) reporting limit for that sample

Table 3
PAH Equipment Blank Results
Additional Off-Site Soil Sampling - September/October 2020
Grenada, Mississippi

Sample ID	Sample Type	Date	Units	BaP-TE	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZ(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	BENZO(K)FLUORANTHENE	CHRYSENE	DIBENZ(A,H)ANTHRACENE	FLUORANTHENE	FLUORENE	INDENO(1,2,3-CD)PYRENE	NAPHTHALENE	PHENANTHRENE	PYRENE
092820-EB	Equipment Blank	9/28/20	µg/L	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
092920-EB	Equipment Blank	9/29/20	µg/L	NA	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
093020-EB	Equipment Blank	9/30/20	µg/L	NA	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
100120-EB	Equipment Blank	10/1/20	µg/L	NA	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1
100220-EB	Equipment Blank	10/2/20	µg/L	NA	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9
100320-EB	Equipment Blank	10/3/20	µg/L	NA	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
100420-EB	Equipment Blank	10/4/20	µg/L	NA	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8

Notes:
µg/L = microgram per Liter
NA = The Benzo(a)pyrene Toxic Equivalent calculation is not applicable as all the PAH parameters are less than their respective reporting limits.
< 0.2 = Result is less than the identified (0.2) reporting limit for that sample

Table 4
Dioxin/Furan Equipment Blank Results
Additional Off-Site Soil Sampling - September/October 2020
Grenada, Mississippi

Sample ID	Sample Type	Date	Units	TCDD-TEQ	2378-TCDD	12378-PeCDD	123478-HxCDD	123678-HxCDD	123789-HxCDD	1234678-HpCDD	OCDD	2378-TCDF
092820-EB	Equipment Blank	9/28/2020	ng/L	0.018	0.0008 EMPC	0.0007 EMPC	0.0018 J	< 0.051	< 0.051	< 0.051	0.011 J	< 0.01
092920-EB	Equipment Blank	9/29/2020	ng/L	0.058	< 0.01	< 0.051	< 0.051	< 0.051	< 0.051	< 0.051	< 0.1	< 0.01
093020-EB	Equipment Blank	9/30/2020	ng/L	0.059	< 0.0097	< 0.048	< 0.048	< 0.048	< 0.048	< 0.048	< 0.097	< 0.097
100120-EB	Equipment Blank	10/1/2020	ng/L	0.052	< 0.0096	< 0.048	0.001 EMPC	< 0.048	< 0.048	< 0.048	< 0.096	< 0.0096
100220-EB	Equipment Blank	10/2/2020	ng/L	0.051	0.0009 EMPC	< 0.05	0.0018 J	< 0.05	< 0.05	< 0.05	< 0.099	< 0.0099
100320-EB	Equipment Blank	10/3/2020	ng/L	0.056	< 0.0097	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.097	< 0.0097
100420-EB	Equipment Blank	10/4/2020	ng/L	0.056	< 0.0097	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.097	< 0.0097

Notes:
J = Estimated Result. Result is less than the reporting limit.
EMPC = Estimated maximum possible concentration.
ng/L = nanogram per liter; equivalent to parts per trillion (ppt)
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 0.1 = Result is less than the identified (0.1) reporting limit for that sample.

Table 4
Dioxin/Furan Equipment Blank Results
Additional Off-Site Soil Sampling - September/Octobe
Grenada, Mississippi

Sample ID	Sample Type	Date	Units	12378-PeCDF	23478-PeCDF	123478-HxCDF	123678-HxCDF	234678-HxCDF	123789-HxCDF	1234678-HpCDF	1234789-HpCDF	OCDF
092820-EB	Equipment Blank	9/28/2020	ng/L	0.001 J	< 0.051	0.0012 J	0.001 EMPC	0.0011 J	< 0.051	< 0.051	0.0015 J	0.0038 EMPC
092920-EB	Equipment Blank	9/29/2020	ng/L	< 0.051	< 0.051	< 0.051	< 0.051	< 0.051 UJ	< 0.051	< 0.051	< 0.051	< 0.1
093020-EB	Equipment Blank	9/30/2020	ng/L	< 0.048	< 0.048	< 0.048	< 0.048	< 0.048 UJ	< 0.048	< 0.048	< 0.048	0.00062 EMPC
100120-EB	Equipment Blank	10/1/2020	ng/L	< 0.048	< 0.048	< 0.048	< 0.048	< 0.048 UJ	< 0.048	< 0.048	< 0.048	< 0.096
100220-EB	Equipment Blank	10/2/2020	ng/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05 UJ	< 0.05	< 0.05	< 0.05	0.00068 EMPC
100320-EB	Equipment Blank	10/3/2020	ng/L	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.097
100420-EB	Equipment Blank	10/4/2020	ng/L	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.097

Notes:
J = Estimated Result. Result is less than the reporting limit.
EMPC = Estimated maximum possible concentration.
ng/L = nanogram per liter; equivalent to parts per trillion (ppt)
TCDD-TEQ = Tetrachlorodibenzo(p)dioxin Toxic Equivalent calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010. When a congener was not detected, 1/2 the detection limit was used for the TCDD-TEQ calculation. When value is an EMPC, the EMPC value was used in the calculation.
< 0.1 = Result is less than the identified (0.1) reporting limit for that sample.

Table 5
Bailey Road Residential Parcel and Drainage Way TCDD-TEQ Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Description	TCDD-TEQ (pg/g)	EPA Noncancer Residential Regional Screening Level
				51 pg/g
BR233SS	233 Bailey Rd.	Residential Parcel	19	Below
BR289SS	289 Bailey Rd.	Residential Parcel	17	Below
BR315SS	315 Bailey Rd.	Residential Parcel	18	Below
BR351SS	351 Bailey Rd.	Residential Parcel	11	Below
BR373SS	373 Bailey Rd.	Residential Parcel	8	Below
BR500SS and Duplicate	Bailey Rd. Composite and Duplicate	Residential Parcel and Duplicate	19	Below
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	Undeveloped Lot	9	Below
DW209SS	Bailey Rd. Drainage Way	Drainage Way	12	Below
DW210SS	Bailey Rd. Drainage Way	Drainage Way	5	Below

Notes:
pg/g = picograms per gram.
TCDD-TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents (Van den Berg, et al. 2006; EPA 2010), calculated using 1/2 the detection limit for non-detects.
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
EPA Noncancer Residential Regional Screening Levels are based on a Hazard Quotient (HQ) of 1 (EPA, 2021). EPA Cancer Residential Regional Screening Levels corresponding to the EPA acceptable risk range of 1x10-4 to 1x10-6 are not shown. All Bailey Road residential parcel and drainage way TCDD-TEQ samples are within the EPA Cancer Residential Regional Screening Levels.
For samples with field duplicates, results are presented as the mean of the sample and its duplicate.
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates result is above the specified screening level.

Table 6
Bailey Road Residential Parcel and Drainage Way BaP-TE Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Description	BaP-TE (ug/kg)	EPA Cancer Residential Regional Screening Levels
				110 to 11,000 ug/kg
BR233SS	233 Bailey Rd.	Residential Parcel	1,347	Within
BR289SS	289 Bailey Rd.	Residential Parcel	294	Within
BR315SS	315 Bailey Rd.	Residential Parcel	241	Within
BR351SS	351 Bailey Rd.	Residential Parcel	97	Below
BR373SS	373 Bailey Rd.	Residential Parcel	224	Within
BR500SS and Duplicate	Bailey Rd. Composite and Duplicate	Residential Parcel and Duplicate	1,014	Within
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	Undeveloped Lot	91	Below
DW209SS	Bailey Rd. Drainage Way	Drainage Way	105	Below
DW210SS	Bailey Rd. Drainage Way	Drainage Way	111	Within

Notes:
µg/Kg = micrograms per kilogram.
BaP-TE = benzo(a)pyrene toxic equivalents (EPA/600/R-93/089, July 1993), calculated using 1/2 the detection limit for non-detects.
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
EPA Cancer Residential Regional Screening Levels correspond to the EPA acceptable risk range of 1x10-4 to 1x10-6.
For samples with field duplicates, results are presented as the mean of the sample and its duplicate.
Refer to Table 7 for a summary of individual polyclyclic aromatic hydrocarbons (PAHs) compared to EPA Noncancer Residential Regional Screening Levels.
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates result is above the specified screening level.

Table 7
Bailey Road Residential Parcel and Drainage Way PAH Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Description	Acenaphthene	Anthracene	Benzo(a)pyrene	Fluoranthene	Fluorene	Naphthalene	Pyrene
EPA Noncancer Residential Regional Screening Levels			**3,600,000**	**1,800,000**	**18,000**	**2,400,000**	**2,400,000**	**130,000**	**1,800,000**
BR233SS	233 Bailey Rd.	Residential Parcel	< 1,200	< 1,200	540 J	770 J	< 1,200	< 1,200	770 J
BR289SS	289 Bailey Rd.	Residential Parcel	< 79	48 J	150	150	< 79	< 79	240
BR315SS	315 Bailey Rd.	Residential Parcel	< 81	46 J	110	130	< 81	< 81	190
BR351SS	351 Bailey Rd.	Residential Parcel	< 83	< 83	< 83	93	< 83	< 83	94
BR373SS	373 Bailey Rd.	Residential Parcel	< 84	35 J	98	140	< 84	21 J	170
BR500SS	Bailey Rd. Composite	Residential Parcel	< 330	< 330	< 330	98 J	< 330	< 330	130 J
BR500SS	Bailey Rd. Composite	Duplicate	< 410	310 J	840	1,600 J	< 410	< 410	1,700 J
BREPA21SS	Bailey Rd. Empty Lot (EPA ID #21)	Undeveloped Lot	< 80	< 80	< 80	< 80	< 80	< 80	21 J
DW209SS	Bailey Rd. Drainage Way	Drainage Way	< 91	< 91	< 91	37 J	< 91	< 91	38 J
DW210SS	Bailey Rd. Drainage Way	Drainage Way	< 96	< 96	< 96	< 96	< 96	< 96	< 96

Notes:
All results are reported in micrograms per kilogram (µg/Kg)
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
EPA Noncancer Residential Regional Screening Levels are based on a Hazard Quotient (HQ) of 1 (EPA, 2021).
J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentrations an approximate
< 1,200 = Result is less than the identified (1,200) reporting limit for that sample
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates result is above the specified screening level.
The following PAHs are not shown, as there are no corresponding current EPA Noncancer Residential Regional Screening Levels: Acenaphthylene, Benz(a)-anthracene, Benzo(b)-fluoranthene, Benzo(g,h,i)-perylene, Benzo(k)-fluoranthene, Chrysene, Dibenz(a,h)-anthracene, Indeno(1,2,3-cd)pyrene, and Phenanthrene.

Table 8
Koppers Drive Residential Parcel TCDD-TEQ Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Location	Sample Description	TCDD-TEQ (pg/g)	EPA Noncancer Residential Regional Screening Level
				51 pg/g
KD010SS and Duplicate	10 Koppers Dr. and Duplicate	Residential Parcel and Duplicate	27	Below
KD029SS	29 Koppers Dr.	Residential Parcel	33	Below
KD045SS	45 Koppers Dr.	Residential Parcel	21	Below
KD080SS	80 Koppers Dr.	Residential Parcel	7	Below
KD106SS	106 Koppers Dr.	Residential Parcel	14	Below
KD123SS	123 Koppers Dr.	Residential Parcel	22	Below
KD132SS	132 Koppers Dr.	Residential Parcel	9	Below
KD149SS	149 Koppers Dr.	Residential Parcel	32	Below
KD216SS	216 Koppers Dr.	Residential Parcel	6	Below
KD225ESS	225 Koppers Dr. (Eastern Section)	Field	17	Below
KD225WSS	225 Koppers Dr. (Western Section)	Residential Parcel	34	Below
KD248SS	248 Koppers Dr.	Residential Parcel	17	Below
KD251SS	251 Koppers Dr.	Residential Parcel	8	Below
KD275SS	275 Koppers Dr.	Residential Parcel	12	Below
KD280SS	280 Koppers Dr.	Residential Parcel	4	Below
KD297SS	297 Koppers Dr.	Residential Parcel	8	Below
KD302SS	302 Koppers Dr.	Residential Parcel	4	Below
KD321SS	321 Koppers Dr.	Residential Parcel	8	Below
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	Wooded Lot	16	Below

Notes:
pg/g = picograms per gram.
TCDD-TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents (Van den Berg, et al. 2006; EPA 2010), calculated using 1/2 the detection limit for non-detects.
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
EPA Noncancer Residential Regional Screening Levels are based on a Hazard Quotient (HQ) of 1 (EPA, 2021). EPA Cancer Residential Regional Screening Levels corresponding to the EPA acceptable risk range of 1x10-4 to 1x10-6 are not shown. All Kopper Drive residential parcel and drainageway TCDD-TEQ samples are below or within the EPA Cancer Residential Regional Screening Levels.
For samples with field duplicates, results are presented as the mean of the sample and its duplicate.
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates result is above the specified screening level.

Table 9
Koppers Drive Residential Parcel BaP-TE Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Location	Sample Description	BaP-TE (ug/kg)	EPA Cancer Residential Regional Screening Levels
				110 to 11,000 ug/kg
KD010SS and Duplicate	10 Koppers Dr. and Duplicate	Residential Parcel and Duplicate	1752	Within
KD029SS	29 Koppers Dr.	Residential Parcel	232	Within
KD045SS	45 Koppers Dr.	Residential Parcel	470	Within
KD080SS	80 Koppers Dr.	Residential Parcel	522	Within
KD106SS	106 Koppers Dr.	Residential Parcel	615	Within
KD123SS	123 Koppers Dr.	Residential Parcel	270	Within
KD132SS	132 Koppers Dr.	Residential Parcel	135	Within
KD149SS	149 Koppers Dr.	Residential Parcel	249	Within
KD216SS	216 Koppers Dr.	Residential Parcel	124	Within
KD225ESS	225 Koppers Dr. (Eastern Section)	Field	987	Within
KD225WSS	225 Koppers Dr. (Western Section)	Residential Parcel	1,116	Within
KD248SS	248 Koppers Dr.	Residential Parcel	834	Within
KD251SS	251 Koppers Dr.	Residential Parcel	91	Below
KD275SS	275 Koppers Dr.	Residential Parcel	207	Within
KD280SS	280 Koppers Dr.	Residential Parcel	277	Within
KD297SS	297 Koppers Dr.	Residential Parcel	94	Below
KD302SS	302 Koppers Dr.	Residential Parcel	103	Below
KD321SS	321 Koppers Dr.	Residential Parcel	174	Within
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	Wooded Lot	187	Within

Notes:
µg/kg = micrograms per kilogram.
BaP-TE = benzo(a)pyrene toxic equivalents (EPA/600/R-93/089, July 1993), calculated using 1/2 the detection limit for non-detects.
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
EPA Cancer Residential Regional Screening Levels correspond to the acceptable EPA risk range of 1x10-4 to 1x10-6.
For samples with field duplicates, results are presented as the mean of the sample and its duplicate.
Refer to Table 10 for a summary of individual polyclyclic aromatic hydrocarbons (PAHs) compared to EPA Noncancer Residential Regional Screening Levels
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates result is above the specified screening level.

Table 10
Koppers Drive Residential Parcel PAH Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Sample Location	Sample Description	Acenaphthene	Anthracene	Benzo(a)pyrene	Fluoranthene	Fluorene	Naphthalene	Pyrene
EPA Noncancer Residential Regional Screening Levels			**3,600,000**	**1,800,000**	**18,000**	**2,400,000**	**2,400,000**	**130,000**	**1,800,000**
KD010SS	10 Koppers Dr.	Residential Parcel	34 J	650	1,100	1,400	56 J	490	1,800
KD010SS	10 Koppers Dr.	Duplicate	43 J	640	990	2,000	44 J	480	2,600
KD029SS	29 Koppers Dr.	Residential Parcel	< 84	81 J	98	200	< 84	51 J	260
KD045SS	45 Koppers Dr.	Residential Parcel	< 84	130	210	210	16 J	59 J	240
KD080SS	80 Koppers Dr.	Residential Parcel	< 260	170 J	180 J	430	< 260	100 J	450
KD106SS	106 Koppers Dr.	Residential Parcel	< 84	230	340	1,200	< 84	150	960
KD123SS	123 Koppers Dr.	Residential Parcel	< 86	74 J	130	170	< 86	49 J	200
KD132SS	132 Koppers Dr.	Residential Parcel	< 84	28 J	65 J	110	< 84	45 J	150
KD149SS	149 Koppers Dr.	Residential Parcel	< 82	77 J	110	200	< 82	74 J	210
KD216SS	216 Koppers Dr.	Residential Parcel	< 83	< 83	55 J	130	< 83	32 J	110
KD225ESS	225 Koppers Dr. (Eastern Section)	Field	< 88	420	540	940	24 J	170	990
KD225WSS	225 Koppers Dr. (Western Section)	Residential Parcel	< 170	290	620	770	< 170	140 J	920
KD248SS	248 Koppers Dr.	Residential Parcel	< 86	160	510	790	< 86	110	810
KD251SS	251 Koppers Dr.	Residential Parcel	< 78	< 78	< 78	51 J	< 78	< 78	51 J
KD275SS	275 Koppers Dr.	Residential Parcel	< 85	44 J	83 J	150	< 85	64 J	150
KD280SS	280 Koppers Dr.	Residential Parcel	< 240	< 240	< 240	< 240	< 240	< 240	< 240
KD297SS	297 Koppers Dr.	Residential Parcel	< 82	< 82	< 82	34 J	< 82	28 J	40 J
KD302SS	302 Koppers Dr.	Residential Parcel	< 85	< 85	< 85	79 J	< 85	31 J	71 J
KD321SS	321 Koppers Dr.	Residential Parcel	< 84	40 J	93	170	< 84	46 J	180
KDEPA9SS	Koppers Dr. Empty Lot (EPA ID #9)	Wooded Lot	< 87	72 J	100	200	< 87	70 J	200

Notes:
All results are reported in micrograms per kilogram (µg/Kg).
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
EPA Noncancer Residential Regional Screening Levels are based on a Hazard Quotient (HQ) of 1 (EPA, 2021).
J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentrations an approximate value.
< 84 = Result is less than the identified (84) reporting limit for that sample
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates result is above the specified screening level.
The following PAHs are not shown, as there are no corresponding current EPA Noncancer Residential Regional Screening Levels: Acenaphthylene, Benz(a)-anthracene, Benzo(b)-fluoranthene, Benzo(g,h,i)-perylene, Benzo(k)-fluoranthene, Chrysene, Dibenz(a,h)-anthracene, Indeno(1,2,3-cd)pyrene, and Phenanthrene.

Table 11
Koppers Drive Drainage Way TCDD-TEQ Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Location	TCDD-TEQ (pg/g)	Modified Non-Cancer Residential Regional Screening Level with representative EF (12 days/year)	Modified Non-Cancer Residential Regional Screening Level with maximum allowable EF (105 days/year)
			1,488 pg/g	**170 pg/g**
DW201SS	Koppers Dr. Drainage Way	54	Below	Below
DW202SS	Koppers Dr. Drainage Way	145	Below	Below
DW203SS	Koppers Dr. Drainage Way	35	Below	Below
DW204SS	Koppers Dr. Drainage Way	120	Below	Below
DW205SS	Koppers Dr. Drainage Way	170	Below	Equal
DW206SS	Koppers Dr. Drainage Way	49	Below	Below
DW207SS	Koppers Dr. Drainage Way	155	Below	Below
DW208SS	Koppers Dr. Drainage Way	156	Below	Below

Notes:
pg/g = picograms per gram.
TCDD-TEQ = 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalents (Van den Berg, et al. 2006; EPA 2010), calculated using 1/2 the detection limit for non-detects.
Modified Noncancer Residential Regional Screening Levels are a modification of EPA Noncancer Residential Regional Screening Levels based on a Hazard Quotient of 1 (EPA 2021) and consider a representative exposure frequency for drainage way soils of 12 days per year, as well as a maximum allowable exposure frequency of 105 days per year based on DW205SS sample results.
EPA Cancer Residential Regional Screening Levels corresponding to the EPA acceptable risk range of 1x10-4 to 1x10-6 are not shown. All Koppers Drive drainage way TCDD-TEQ samples are within the EPA Cancer Residential Regional Screening Levels without modifications to the exposure frequency.
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates results are above the specified screening level.

Table 12
Koppers Drive Drainage Way BaP-TE Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

Sample Identification	Location	Sample Description	BaP-TE (ug/kg)	EPA Cancer Residential Regional Screening Levels	Modified Cancer Residential Regional Screening Levels (105 days/year)	Modified Cancer Residential Regional Screening Levels (12 days/year)
				110 to 11,000 ug/kg	**367 to 36,667 ug/kg**	**3,208 to 320,800 ug/kg**
DW201SS	Koppers Dr. Drainage Way	Drainage Way	1,521	Within	Within	Below
DW202SS	Koppers Dr. Drainage Way	Drainage Way	3,798	Within	Within	Within
DW203SS	Koppers Dr. Drainage Way	Drainage Way	552	Within	Within	Below
DW204SS	Koppers Dr. Drainage Way	Drainage Way	2,441	Within	Within	Below
DW205SS	Koppers Dr. Drainage Way	Drainage Way	3,914	Within	Within	Within
DW206SS	Koppers Dr. Drainage Way	Drainage Way	34,381	**Above**	Within	Within
DW207SS	Koppers Dr. Drainage Way	Drainage Way	3,680	Within	Within	Within
DW208SS	Koppers Dr. Drainage Way	Drainage Way	1,937	Within	Within	Below

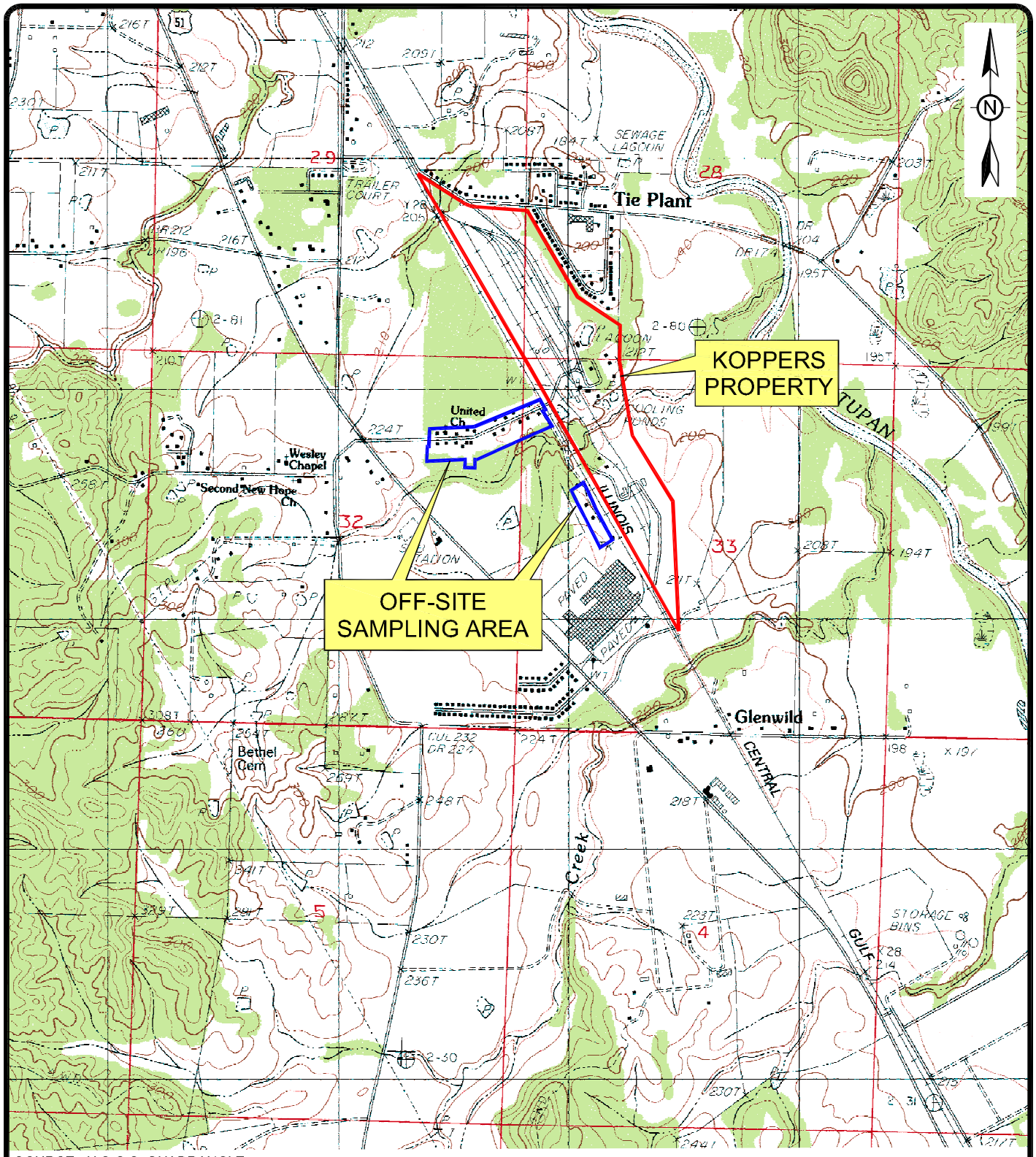
Notes:
µg/kg = micrograms per kilogram.
BaP-TE = benzo(a)pyrene toxic equivalents (EPA/600/R-93/089, July 1993), calculated using 1/2 the detection limit for non-detects.
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
Modified Cancer Residential Regional Screening Levels are a modification of EPA (May 2021) Cancer Residential Regional Screening Levels and consider a representative exposure frequency for drainage way soils of 12 days per year, as well as the maximum allowable exposure frequency of 105 days per year based on DW205SS sample results for TCDD (Table 11).
EPA Cancer Residential Regional Screening Levels and Modified Cancer Residential Regional Screening Levels correspond to the EPA acceptable risk range of 1x10-4 to 1x10-6.
Green highlighting indicates result is below the specified screening level.
Yellow highlighting indicates results are above the specified screening level.
Refer to Table 13 for a summary of individual polyclyclic aromatic hydrocarbons (PAHs) compared to EPA Noncancer Residential Regional Screening Levels.

Table 13
Koppers Drive Drainage Way PAH Data Comparison
Additional Off-Site Sampling - September/October 2020
Grenada, Mississippi

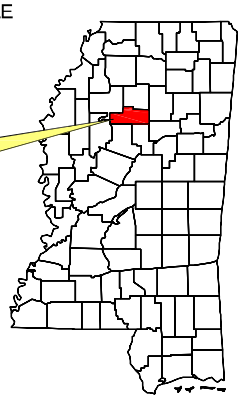
Sample Identification	Sample Location	Sample Description	Acenaphthene	Anthracene	Benzo(a)pyrene	Fluoranthene	Fluorene	Naphthalene	Pyrene
		EPA Noncancer Residential Regional Screening Levels	**3,600,000**	**1,800,000**	**18,000**	**2,400,000**	**2,400,000**	**130,000**	**1,800,000**
		Modified Noncancer Residential Regional Screening Levels (105 days/year)	**12,000,000**	**6,000,000**	**60,000**	**8,000,000**	**8,000,000**	**433,333**	**6,000,000**
		Modified Noncancer Residential Regional Screening Levels (12 days/year)	**105,000,000**	**52,500,000**	**525,000**	**70,000,000**	**70,000,000**	**3,791,667**	**52,500,000**
DW201SS	Koppers Dr. Drainage Way	Drainage Way	37	630	880	1,800	44 J	510	1,700
DW202SS	Koppers Dr. Drainage Way	Drainage Way	< 420	1,300	2,100	3,500	100 J	770	3,600
DW203SS	Koppers Dr. Drainage Way	Drainage Way	< 88	180	290	460	< 88	81 J	490
DW204SS	Koppers Dr. Drainage Way	Drainage Way	< 270	830	1,400	2,400	< 270	520	2,400
DW205SS	Koppers Dr. Drainage Way	Drainage Way	< 390	1,400	2,200	4,100	95 J	840	4,100
DW206SS	Koppers Dr. Drainage Way	Drainage Way	1,300	13,000	20,000	32,000	1,100 J	5,900	30,000
DW207SS	Koppers Dr. Drainage Way	Drainage Way	< 410	1,300	2,100	4,000	100 J	1,100	3,800
DW208SS	Koppers Dr. Drainage Way	Drainage Way	< 330	760	1,000	1,900	< 330	680	2,100

Notes:
All results are reported in micrograms per kilogram (µg/Kg).
J = Result is less than the reporting limit but greater than or equal to the MDL and the concentrations an approximate value.
< 420 = Result is less than the identified (420) reporting limit for that sample.
EPA Residential Regional Screening Levels: EPA, May 2021: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
Modified Noncancer Residential Regional Screening Levels are a modification of EPA (May 2021) Residential Noncancer Regional Screening Levels and consider a representative exposure frequency for drainage way soils of 12 days per year, as well as the maximum allowable exposure frequency of 105 days per year based on DW205SS sample results for TCDD (Table 11).
EPA Noncancer Residential Regional Screening Levels and Modified Noncancer Residential Screening Levels are based on a Hazard Quotient (HQ) of 1 (EPA, 2021).
Green highlighting indicates result is below the EPA Noncancer Residential Regional Screening Level.
Yellow highlighting indicates result is above the EPA Noncancer Residential Regional Screening Level, but below the Modified Noncancer Residential Regional Screening Levels.
The following PAHs are not shown, as there are no corresponding current EPA Noncancer Residential Regional Screening Levels: Acenaphthylene, Benz(a)-anthracene, Benzo(b)-fluoranthene, Benzo(g,h,i)-perylene, Benzo(k)-fluoranthene, Chrysene, Dibenz(a,h)-anthracene, Indeno(1,2,3-cd)pyrene, and Phenanthrene.

FIGURES



SOURCE: U.S.G.S. QUADRANGLE
TIE PLANT, MS, 1983



GRENADA
MISSISSIPPI

0 2000 4000

SCALE IN FEET

TITLE: GENERAL SITE LOCATION

LOCATION: Grenada, Mississippi

TETRA TECH

APPROVED	JA
DRAFTED	CP
PROJECT#	117-2201441A
DATE	7-16-19

FIGURE 1

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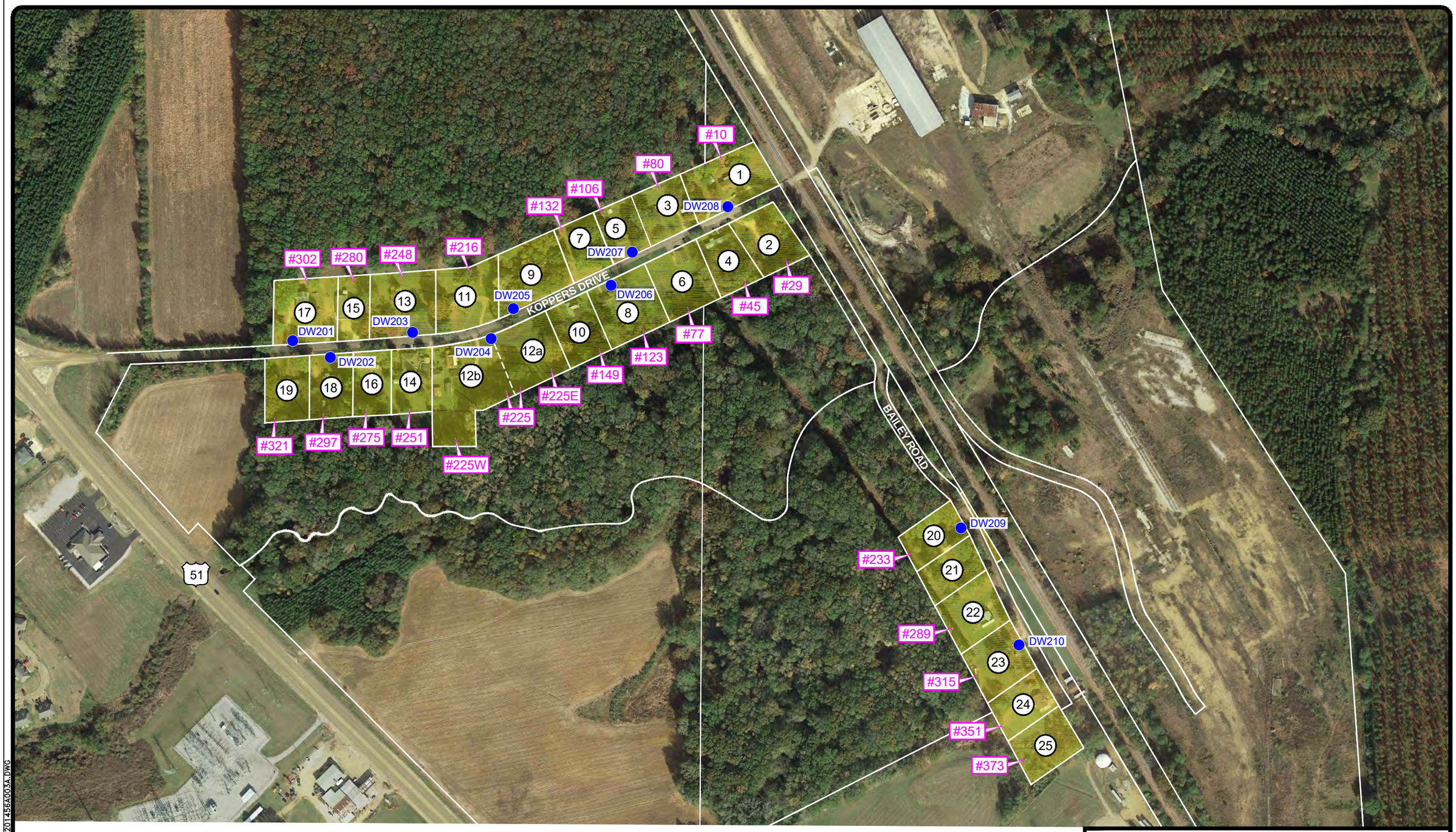


LEGEND

- DRAINAGE WAY SAMPLE LOCATION
- (7) RESIDENTIAL PARCEL SAMPLE LOCATION WITH EPA ID#
- #351 STREET ADDRESS

0 300 600

SCALE IN FEET

N

TITLE: 2020 ADDITIONAL OFF-SITE SAMPLING LOCATIONS

LOCATION: Tie Plant, Grenada, Mississippi

TETRA TECH

APPROVED	GC
DRAFTED	CP
PROJECT#	117-2201456A
DATE	05-20-21

FIGURE 2

P:\ACAD\2201-456A-TIEP\2201456A003A.DWG

KD132SS
BaP = 135
TEQ = 9

KD106SS
BaP = 615
TEQ = 14

DW207SS
BaP = 3,680
TEQ = 155

KD080
BaP = 522
TEQ = 7

DW208SS
BaP = 1,937
TEQ = 156

KDEPA9SS
BaP = 187
TEQ = 16

DW205SS
BaP = 3,914
TEQ = 170

KD010SS
BaP = 1,805
TEQ = 19

KD216SS
BaP = 124
TEQ = 6

KD248SS
BaP = 834
TEQ = 17

DW203SS
BaP = 552
TEQ = 35

KD280SS
BaP = 277
TEQ = 4

KD029SS
BaP = 232
TEQ = 33

KD302SS
BaP = 103
TEQ = 4

DW201SS
BaP = 1,521
TEQ = 54

KD045SS
BaP = 470
TEQ = 21

KD321SS
BaP = 174
TEQ = 8

KD123SS
BaP = 270
TEQ = 22

DW202SS
BaP = 3,798
TEQ = 145

DW206SS
BaP = 34,381
TEQ = 49

KD297SS
BaP = 94
TEQ = 8

KD149SS
BaP = 249
TEQ = 32

KD225ESS
BaP = 987
TEQ = 17

KD275SS
BaP = 207
TEQ = 12

KD251SS
BaP = 91
TEQ = 8

KD225WSS
BaP = 1,116
TEQ = 34

DW204SS
BaP = 2,441
TEQ = 120

BR233SS
BaP = 1,347
TEQ = 19

DW209SS
BaP = 105
TEQ = 12

BR289SS
BaP = 294
TEQ = 17

DW210SS
BaP = 111
TEQ = 5

BR351SS
BaP = 97
TEQ = 11

BREPA21SS
BaP = 91
TEQ = 9

BR315SS
BaP = 241
TEQ = 18

BR373SS
BaP = 224
TEQ = 8

#10 #80 #106 #132 #216 #248 #280 #302 #29 #45 #77 #123 #149 #225E #225 #225W #251 #275 #297 #321 #233 #289 #315 #351 #373

DW208 DW207 DW206 DW205 DW204 DW203 DW202 DW201 DW209 DW210

1 2 3 4 5 6 7 8 9 10 11 12a 12b 13 14 15 16 17 18 19 20 21 22 23 24 25

KOPPERS DRIVE

BAILEY ROAD

51

BaP = Benzo(a)Pyrene toxic equivalence calculated based on EPA 1993 Toxic Equivalency Factors in units of micrograms per kilogram (µg/kg or ppb). When a parameter was not detected, 1/2 the detection limit was used for the BaP toxic equivalence calculation.

TEQ = Tetrachlorodibenzo(p)dioxin toxic equivalence calculated using Toxic Equivalency Factors developed by van den Berg, et al., 2006 and recommended by EPA, 2010, in units of picograms per gram (pg/g or ppt). When a congener was not detected, 1/2 the detection limit was used for the TEQ calculation.

LEGEND

- DRAINAGE WAY SAMPLE LOCATION
- 7 RESIDENTIAL PARCEL SAMPLE LOCATION WITH EPA ID#
- #351 STREET ADDRESS

KD132SS BaP = 135 TEQ = 9 — 2020 RESIDENTIAL SOIL SAMPLE 0-6 INCHES BELOW SURFACE (FIVE-POINT COMPOSITE)

DW203SS BaP = 552 TEQ = 35 — 2020 DRAINAGE WAY SOIL SAMPLE 0-6 INCHES BELOW SURFACE (FIVE-POINT COMPOSITE)

0 300 600
SCALE IN FEET

N

TITLE: 2020 ADDITIONAL OFF-SITE SAMPLING RESULTS

LOCATION: Tie Plant, Grenada, Mississippi

TETRA TECH

APPROVED	JA
DRAFTED	CP
PROJECT#	117-2201456A
DATE	05-20-21

FIGURE 3

P:\ACAD\2201-456A-TIEPY\2201456A004A.DWG

APPENDIX A

Field Sampling Notebook

9/28/20

0650 mob to site

0705 arrive on-site, retrieve gate keys and proceed to office

0720 conduct tailgate safety meeting (TT: Garrett Kuhl and Andrew Morgan)

0735 unload equipment @ office.

0820 Start setting up decon station. rain/lightning start; TT take cover indoors till lightning stops. continue unpacking equipment and prepping for day.

0905 rain/lightning stop. continue prepping field equipment.

1045 mob to UPS store to print COCs and Hardware store for add'l supplies.

1140 arrive @ 302 Koppers drive (North side of road; 1st house coming from West)
(Epa ID #17) (KD302SS)

Sample location map:

@1150 EPA (Thornburgan) single meet up w/ TT on Koppers Drive. He will continue attempting to make contact w/ residents

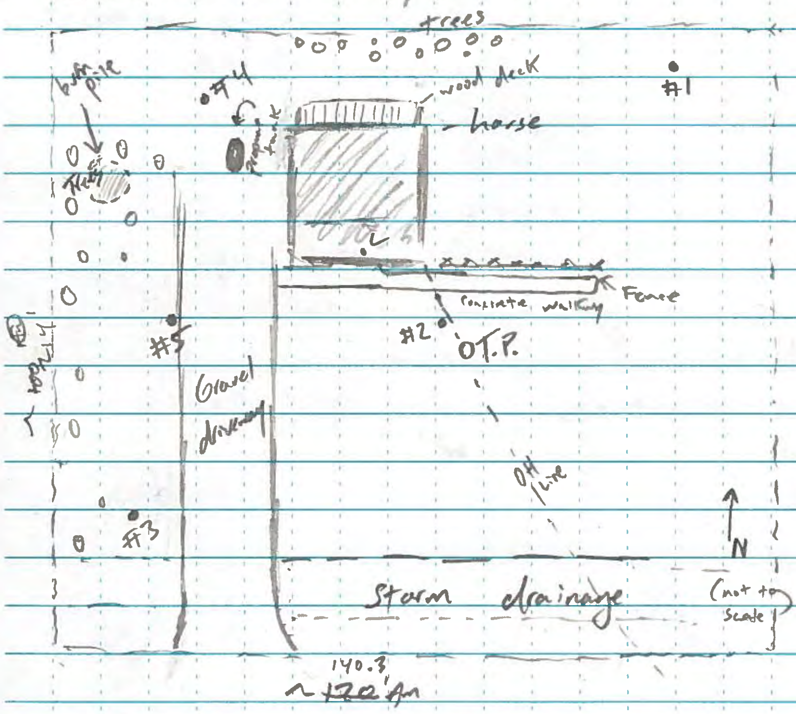


photo log:

photo #1 ~~to~~ KD302SS SE corner looking NW
photo #2 KD302SS-1 looking SW
photo #3 KD302SS-2 looking NW
photo #4 KD302SS-3 looking NE
photo #5 KD302SS-4 looking SW
photo #6 KD302SS-4 burn pile looking N
photo #7 KD302SS-5 looking NE

*Sample locations selected by generating random numbers. Random number used to calculate distances ('x' and 'y') into each quadrant. Distances measured from SW corner of parcel.

Scale: 1 square = ________

Sample log:

KD30255 @ 1350 2 (4) oz Jars

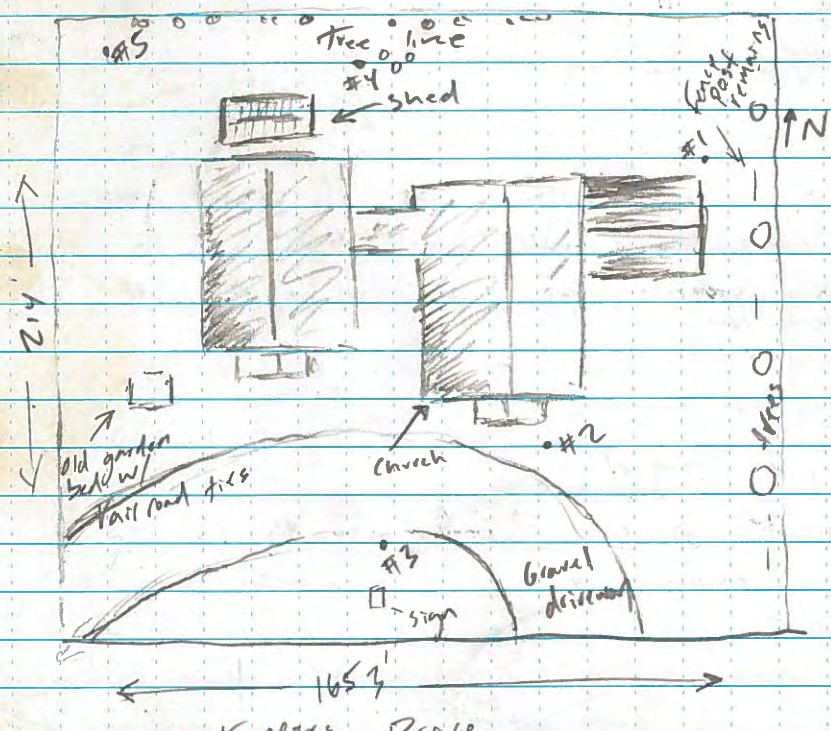
~~KD30255-1~~

Sub Sample	Description	coordinates (lat, long):
KD30255-1	(ML) Silt; dark grayish brown (10YR 4/2) soft, low plasticity, moist; root/plant debris	33.73307, -89.79092 Alt: 212
KD30255-2	fragments of burnt wood; Same as above	33.73274, -89.79102 Alt: 211
KD30255-3	Same as above but color change from 3"-6" yellowish brown (10YR 5/6)	33.73254, -89.79141 Alt: 203
KD30255-4	Same as above w/ trace angular gravel	33.73301, -89.79132 Alt 213
KD30255-5	Same as KD30255-1; wood fragments	33.73285, -89.79133 Alt: 221

Move to 280 Koppers Dr. (EPA ID #15)

1510 Hurbinajan stopped by. Stated parcels #18 and #19 gave verbal confirmation to proceed w/ Sampling (same owner). Mike Lot (of Grenada board of supervisor) gave go ahead for drainage Sampling along Bailey Rd. Hurbinajan will continue to try and get confirmation from remaining properties.

Sample location map (280 Koppers)



Scale: 1 square = _____

Sample time 1617

Photo log

photo #8	KD28055-1	looking SW
photo #9	KD28055-2	looking NW
photo #10	KD28055-3	looking NE
photo #11	KD28055-4	looking S
photo #12	KD28055-5	looking SE

Sample log

KD30255 @ 1617 2 (4 oz) Sars

Sub sample:	Description:	Coordinates (lat, long, Elevation)
KD28055-1	(ML) Silt; brown (10YR 4/3), soft; non plastic, moist, abundant woody material	33.73306, -89.79049, 231
KD28055-2	gravel, silt, and sand; very dark grayish brown (10YR 3/2) silt/sand and brownish-yellow (10YR 6/8) gravel; loose/soft; moist	33.73266, -89.79035, 230
KD28055-3	Same as above but more sand than silt.	33.73257, -89.79054, 205
KD28055-4	Silt, brown (10YR 5/3), soft; non plastic, semi-wet	33.73310, -89.79066, 200
KD28055-5	Silt; dark grayish brown (10YR 4/2), soft, moist.	33.73300, -89.79079, 228

1650 - finish backfilling holes. Mob back to Kappers facility for equipment decon. EPA confirmed 141 Kappers is okay with sampling. Awaiting confirmation on only 1 parcel now.

1745 Collect equip. blank (EB) from hand auger bucket used for KD28055

1815 load equipment into office and set alarm. Off-site @ 1830. Main gate locked upon exit.

9/29/20

0730 Arrive on-site. Conduct tailgate (Andrew and Garrett)

0745 Arrive @ 248 Kappers Drive

Scale: 1 square = _____

Rite in the Rain.

(248 Koppers Dr) Site sampling location map:

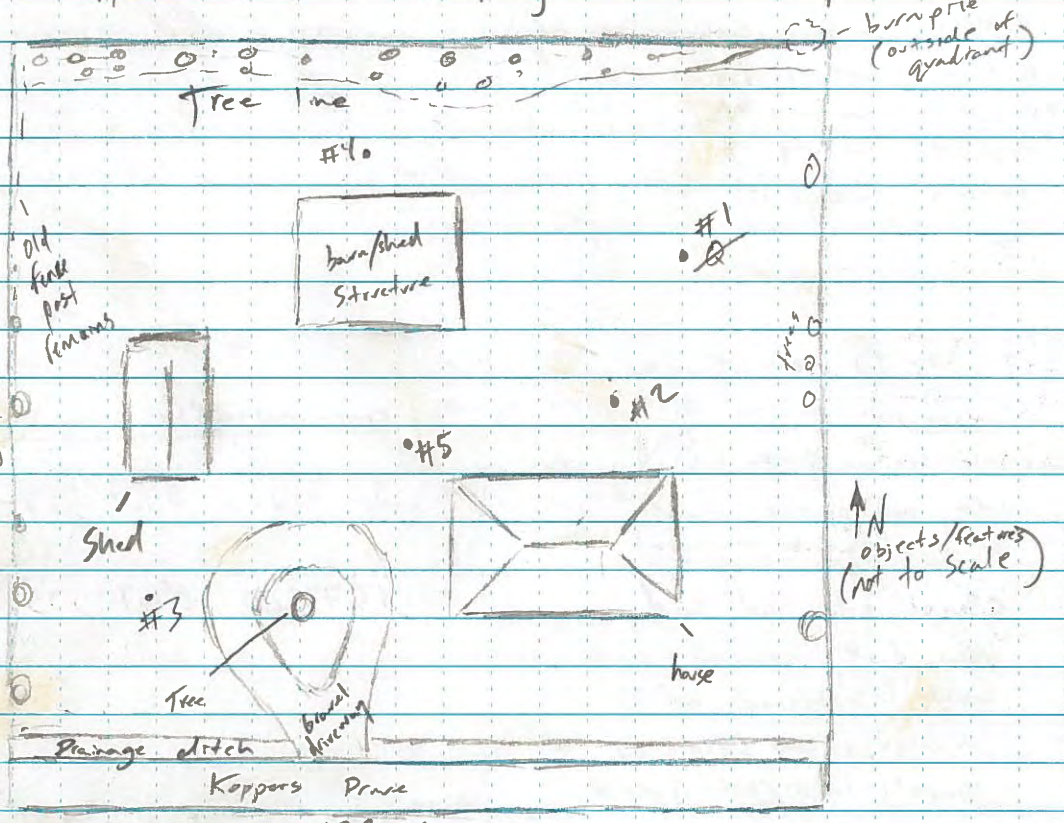


Photo log

photo #13	KD24855-1	looking	South
photo #14	KD24855-2	looking	SE
photo #15	KD24855-3	looking	NE
photo #16	KD24855-4	looking	S
photo #17	KD24855-5	looking	SE

Sample log

Sub-sample:	Description:	Coordinates: 33.732934, -89.789874
KD24855-1	(ML) Silt (10YR 4/3, brown),	CK 33.732910, -89.789859,
KD24855-2	soft, low plasticity, moist, roots	33.732859, -89.789914, 207.2
KD24855-3		33.732833, -89.790149, 216.5
KD24855-4	Soil description for all sub samples the same with exception of glass fragments in #4 and brick pieces in #5	33.733133, -89.790093, 196.7
KD24855-5		33.732851, -89.790022, 244.2
KD24855 (composite) @ 0915		

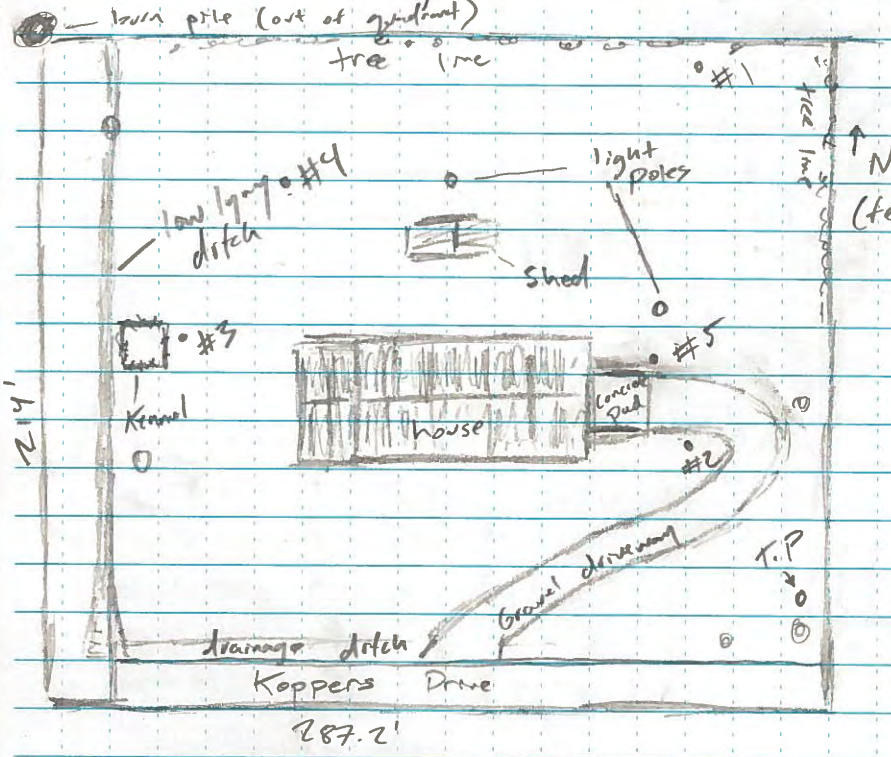
0925 EPA (Smargon) ~~on site~~ @ 248 Koppers. Checked in w/ TF field team, who briefed him on today's activities.

0940 Arrived at 216 Koppers

216.6

Scale: 1 square = _____

Sample location map



Photolog

@ 1035 MDEQ (Alex) on-site.

Photo #18	KD21655-1	looking SW
Photo #19	KD21655-2	looking West
Photo #20	KD21655-3	looking NNE
Photo #21	KD21655-4	looking SE
Photo #22	KD21655-5	looking SW

Sample log

Sub sample:	Description:	coordinates: (+/- 11ft)
KD21655-1	(ML) Silt, brown (10YR 4/3); soft, low plasticity; moist; roots and wood fragments	33.733237, -89.789432, 211.9ft
KD21655-2	Same as #1 but w/ brownish yellow (10YR 6/8), subangular gravel.	33.732836, -89.789103, 223.9ft
KD21655-3	Same as #1 but yellowish brown (10YR 5/6)	33.732792, -89.789553, 201.9ft
KD21655-4	Same as #1	33.733061, -89.789461, 212.5ft
KD21655-5	Silty Sand, dark grayish brown (10YR 3/2), loose; fine; moist. @ 5" Sand w/ silt; yellowish brown (10YR 5/8), fine; loose.	33.732992, -89.789221, 227.7ft

Scale: 1 square = KD21655 collected

arrive @ 132 Koppers Drive

Sample location map

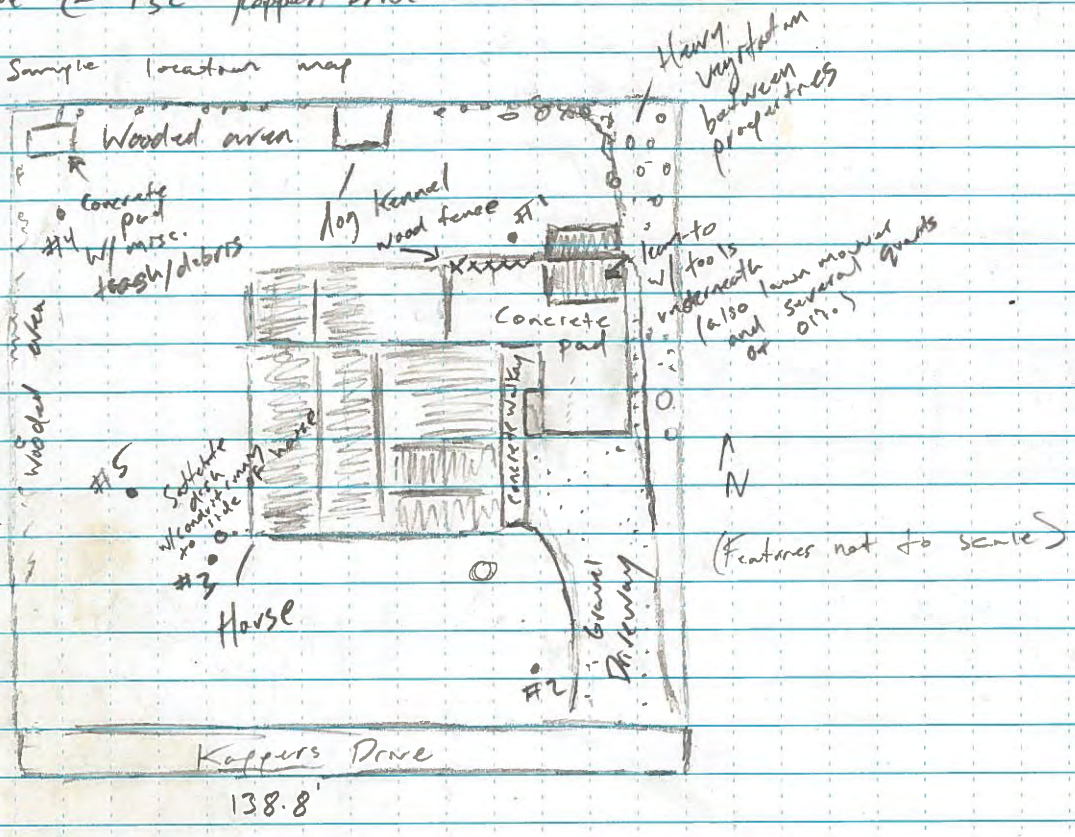


Photo log

photo #23 KD13255-1 looking W
photo #24 " "-2 looking NW
photo #25 " "-3 looking NE
photo #26 " "-4 looking SE
photo #27 " "-5 looking E
photo #28 " "-1 looking E w/ gas/oil containers in background

1235 Alex (MDEQ) off-site (132 Koppers current area)

Sample log

Sub Sample	description	coordinates
KD13255-1	(ML) Silt w/ minor clay and trace gravel. (brown 10YR 4/3) Soft; moist; subangular gravel, yellowish brown (10YR 5/8)	33.733426, -89.788104, 208.8
KD13255-2	Same as #1 but no gravel	33.733196, -89.78821, 205.0
KD13255-3	Same as above	33.733168, -89.788086, 220.1
KD13255-4	Same as above	33.733413, -89.788312, 214.6
KD13255-5	Same as above	33.733257, -89.788186, 208.3

KD13255 @ 1253

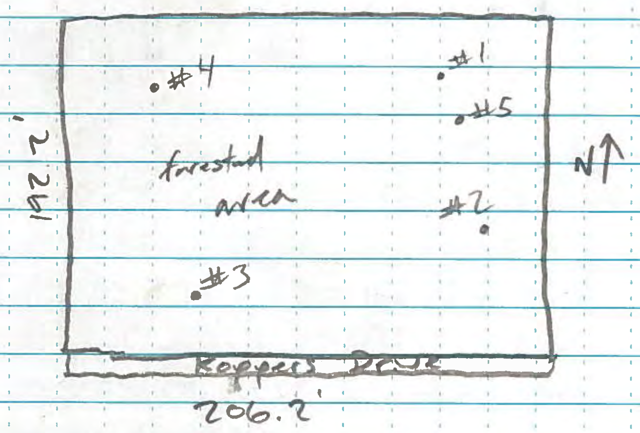
Scale: 1 square =

1320
Move to wooded lot between Koppers Dr addresses 216 and 132 (EPA lot #9, and designated KDEPA9SS for sample)
1330 A. Morgan mob to hardware store for extra decon bms
G. Kuhl remain and begin measuring parcel / quadrants.
1400 A. Morgan return, proceed with random sample generation for EPA9

Photo log

photo #29 KDEPA9SS NW overview
photo #30 KDEPA9SS Parcel looking west
photo #31 KDEPA9SS-3 looking SE
photo #32 KDEPA9SS-2 looking NE
photo #33 KDEPA9SS-5 looking NE
photo #34 KDEPA9SS-1 looking NE
photo #35 KDEPA9SS-4 looking SW

Sample location map



Sample @ 1509

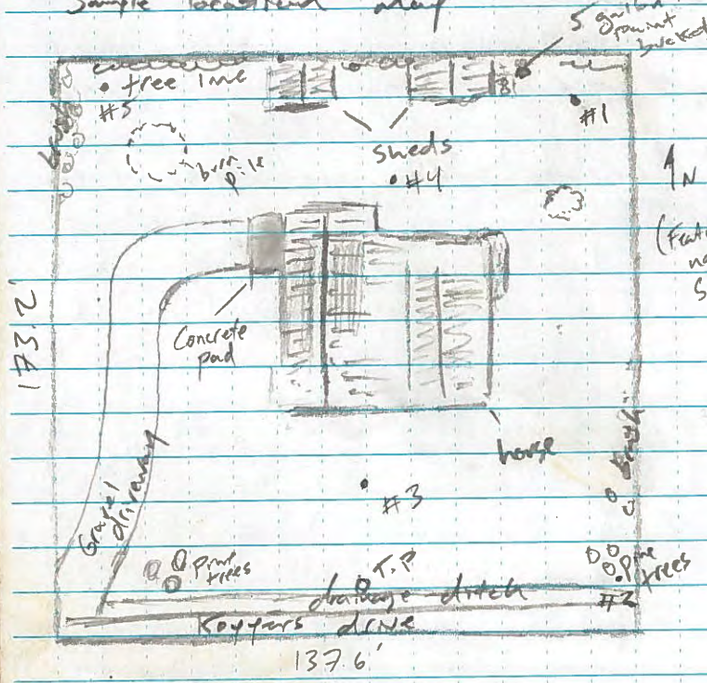
Sub-Sample log

Sub-Sample log	Description	(lat+lon) coordinates
KDEPA9-4 ~~Sub Sample #4~~	Silt; very dark grayish brown	33.733771, -89.789056, 221.2
KDEPA9-1	soft; low plasticity; moist,	33.733527, -89.788699, 197.0
KDEPA9-2	high organic content.	33.733168, -89.788545, 204.7
KDEPA9-5	All other sub samples same as KDEPA9ss-4.	33.733413, -89.788661, 226.1
KDEPA9-3		33.733026, -89.788567, 206.6

KDEPA9SS collected @ 1509

1550 move to 106 Koppers Drive

Sample location map (106 Koppers)



- Photo log

photo 36	KD1065S-1	looking	SW
photo 37	KD1065S-2	looking	W
photo 38	KD1065S-3	looking	N-NE
photo 39	KD1065S-4	looking	S
photo 40	KD1065S-5	looking	W-NW

- Sample log

Sub sample description:		Coordinates:
KD1065S-1	Silt; brown 10YR 5/3; soft; low plasticity; moist; roots	33.733607, -89.787164, 264'
KD1065S-2	Same as above	33.733309, -89.787426, 238'
KD1065S-3	Same as above	33.733298, -89.787730, 233.6'
KD1065S-4	Same as above until ~5", gravel and debris (ceramic) from 5"-6"	33.733662, -89.787797, 217.6
KD1065S-5	Same as #1 w/ trace sub angular gravel.	33.733573, -89.787910, 204.8

Composite sample KD1065S collected @ 1705

1715 Mob back to site for decon
1730 Decon procedure observed by Harbinajan of EPA.
1740 Harbinajan off-site
1755 EB sample collected off of spoon from KD1065S
1810 FTS on-site to drop off drums / off-site shortly after.
1825 offload equipment, prep tomorrows sampling supplies, lock up office.
1835 TT off site

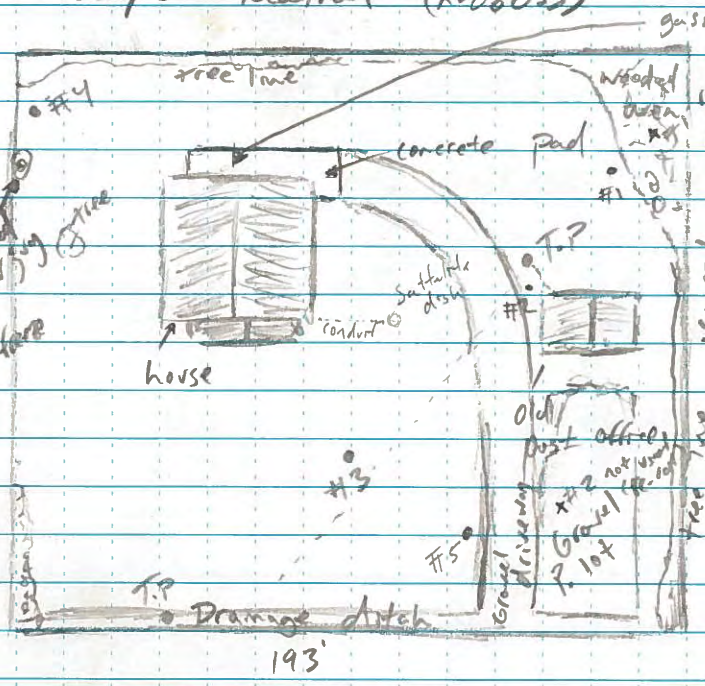
Scale: 1 square =_____

9/30/20

0730 Arrive on-site, re-pack ice / samples

0745 Arrive @ 80 Koppers Drive.

Sample location (KD08055)



're-roll' 1st random number for Q1 (in wooded area)
're-roll' 1st random# Q2 (densely packed gravel P. lot)

0805 Mike Neill, Paula Whitney, Harbinejum (EPA) on-site.

Photo log

photo #41	KD08055	heavy vegitation in Q1 looking	NE
photo #42	KD08055	gravel driveway in Q2 looking	NW
photo #43	KD08055-1	looking	South
photo #44	KD08055-2	looking	NE
photo #45	KD08055-3	looking	NW
photo #46	KD08055-4	looking	SE
photo #47	KD08055-5	looking	North
photo #48	KD08055	antifreeze containers in Q4	looking South
photo #49	KD08055	oil/gas containers in Q4 (on top of concrete pad)	looking SE

Sample log

Sub sample	Description	Coordinates
KD08055-1	Silt; brown (10YR 4/3); loose; low plasticity; moist; roots	33.733811, -89.787226, 207
KD08055-2	Same as above but w/ subangular gravel (yellowish brown)	33.733664, -89.787021, 176.1
KD08055-3	color change to (10YR 5/5), same as #1 small glass fragments	33.733529, -89.787069, 209.7
KD08055-4	Same as #1	33.733776, -89.787[illegible]
KD08055-5	Sand and gravel; yellowish red (5YR 5/6) fine sand; subangular gravel.	33.733605, -89.787[illegible]

KD08055 collected @ 0930

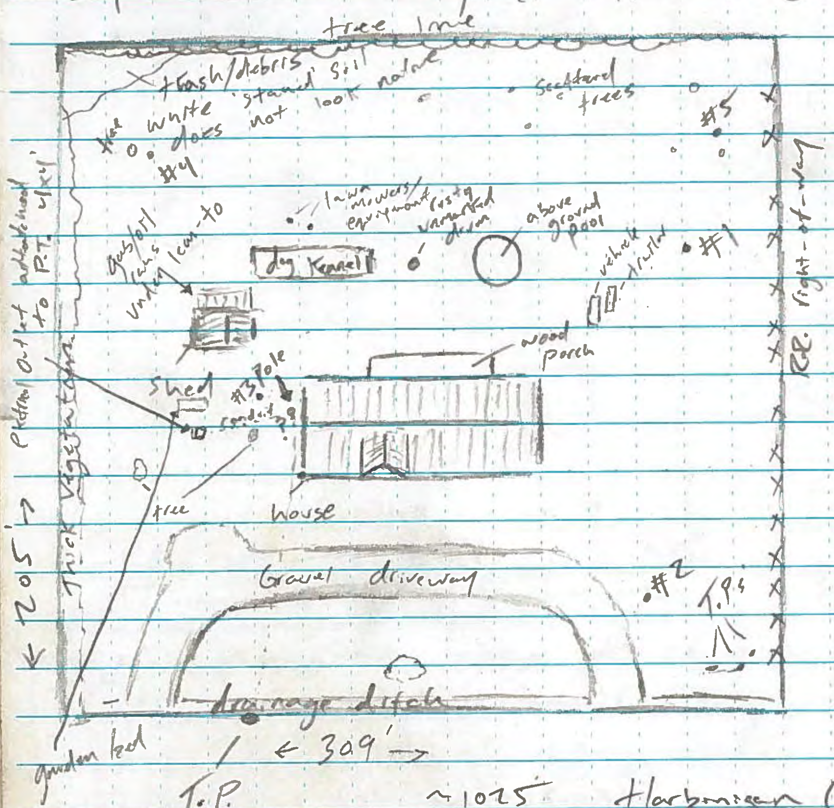
Scale: 1 square = _____

Rite in the Rain

0445 Move to 10 Koppers Drive

* active burn pile from neighbors yard causing smoke to drift on to subject property.

Sample location map (10 Koppers Drive)



25, 170, 2??

* dirt ↑ 850

~1025 Harbingen (EPA) off-site (mob back to office)

1040 're-roll' random number for Q4 ended in heavily saturated, 'white stained' area. looks like 'wash' area (unknown).

1055 re-roll Q5 random #, point under lean-to/shed

photo log

photo #50 KD01055-1 looking SW
photo #51 KD01055-2 looking West
photo #52 KD01055-3 looking North
photo #53 KD01055-4 looking NW
photo #54 KD01055-5 looking SW
photo #55 KD01055 Q4 re-roll in wash area looking Northwest
photo #56 KD01055 Q4 re-roll in wash area (close up) looking N
photo #57 KD01055 point 5 re-roll under lean-to/shed.

Sample log

Sub Sample:	Description:	Coordinates:
KD01055-1	Silt; brown (10YR 5/3); loose; low plasticity; moist; roots	33.734088, -89.786255, 237.8
KD01055-2	upper 4" same 4"-6" Silty Sand brown (10YR 4/3); fine loose; moist	33.733895, -89.786185, 215.8
KD01055-3	Sandy silt; yellowish brown (10YR 5/8); loose; fine; moist	33.733870, -89.786817, 241.5

KD0105S-4 Same as #1 but w/ treee angular/subangular gravel 33.733764, -89.787[illegible]
KD0105S-5 Same as #1 33.734237, -89.786177, 203.8
KD0105S collected @ 1140
KD860SS (Blind duplicate) noted collected @ 1200

1230 - Mob back to site for lunch.

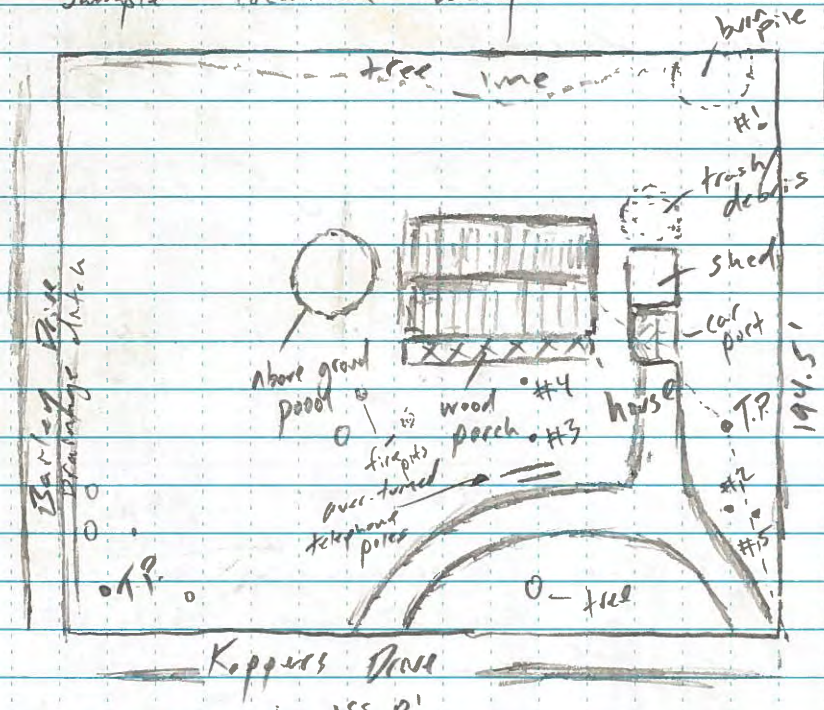
1300 - Prepare and package first sample cooler for shipment.

1415 - Andrew off site for sample shipping.
Garrett begin decon on site.

1545 - Decon on site complete. Mob to KD0295S location, 29 Koppers Drive. Begin sampling setup.

1610 - A. Morgan return from sample drop off.

Sample location map



*working on other side of Koppers Dr now. Random number/Distance measured from NW corner of parcel.

photo log #58 KD0295S-1 looking East w/ burn/trash piles in background
photo log #59 KD0295S-2 looking SE
photo log #60 KD0295S-3 looking South
photo log #61 KD0295S-4 looking East
photo log #62 KD0295S-5 looking SE w/ #3 in background (left)
photo log #63 KD0295S-5 looking SE near telephone poles (~10 ft)

Scale: 1 square = _____

Sample log

KD02955 collected @ 1723

Sub-sample:	Description:	coordinates:
KD02955-1	Silt (ML), dark brown (10YR 3/3) loose; low plasticity; moist, roots	33.733176, -89.786181, 206.1
KD02955-2	Same as above except color change to yellowish brown (10YR 5/4)	33.733538, -89.786331, 225.1
KD02955-3	Same as above, abundant roots	33.733514, -89.786074, 206.7
KD02955-4	Same as above	33.733427, -89.786056, 201.7
KD02955-5	Same as above w/ trace gravel.	33.733476, -89.786351, 236.4

1735 TT and EPA head back to facility for decon / rinse blank

1750 Equipment blank taken off of auger bucket / spoon / bowl used for 10 Koppers Drive. Sample @ 1750

1815 EPA off-site

1830 lock up office, TT off-site

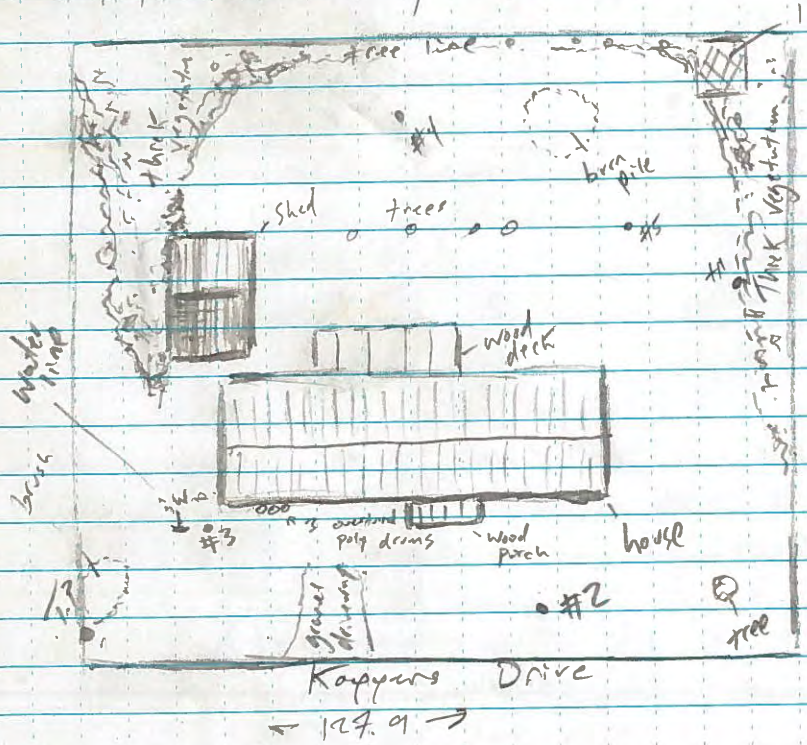
10/1/20

0730 Tetra tech on-site @ Koppers office. pick up equipment for today.

0750 arrive @ 45 Koppers Drive.

0800 EPA (Mike and Paula) on-site. TT conduct tailgate safety meeting

Sampling location map (KD04555)



N

Features not to scale

photo log

photo #64 KD04555-1 looking SE

photo #65 KD04555-2 looking SW

photo #66 KD04555-3 looking South

photo #67 KD04555-4 looking North

photo #68 KD04555-5 looking NE w/ metal construction (deck) in B.G.

Photo #69 KD04555-2 looking S Debris (brick) present in initial attempts.

KD045SS Sample description log

Sub sample	Description	coordinates
KD045SS-1	Silt, very dark grayish brown (10YR 3/2), soft, no plasticity; moist; roots; high organic content	33.733169, -89.786760, 207.7
KD045SS-2	1st (2) holes encountered bricks, sheet location over ~1 ft. Silt, brown (10YR 4/3) soft, rock/brick fragments.	33.733489, -89.786712, 215.2
KD045SS-3	Silt brown (10YR 4/3) soft low plasticity, moist	33.733501, -89.786561, 212.6
KD045SS-4	Same as above	33.733498, -89.785586, 220.4
KD045SS-5	Same as above	33.733261, -89.786793, 214.5

0923 Collected sample KD045SS.

0950 Move to 123 Koppers Drive

Sample location map:

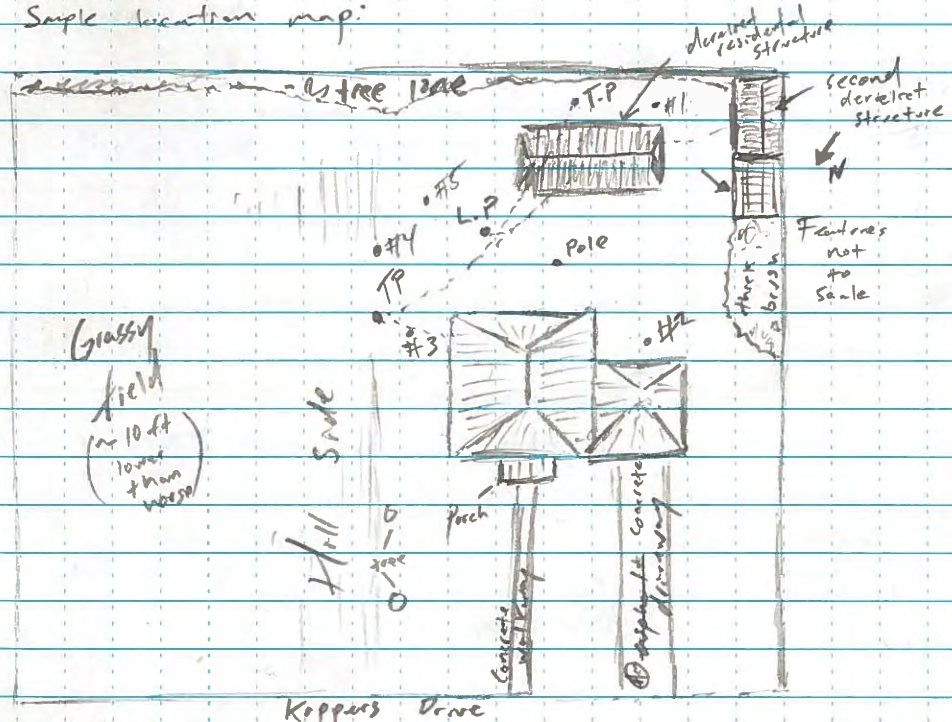


photo log

photo #70	KD123SS-1	looking	NW
photo #71	KD123SS-2	looking	E
photo #72	KD123SS-3	looking	W
photo #73	KD123SS-4	looking	W
photo #74	KD123SS-5	looking	NW
photo #75	KD123SS-5	re-roll (location in 1cm-to)	looking South

Scale: 1 square = 1cm

Rite in the Rain

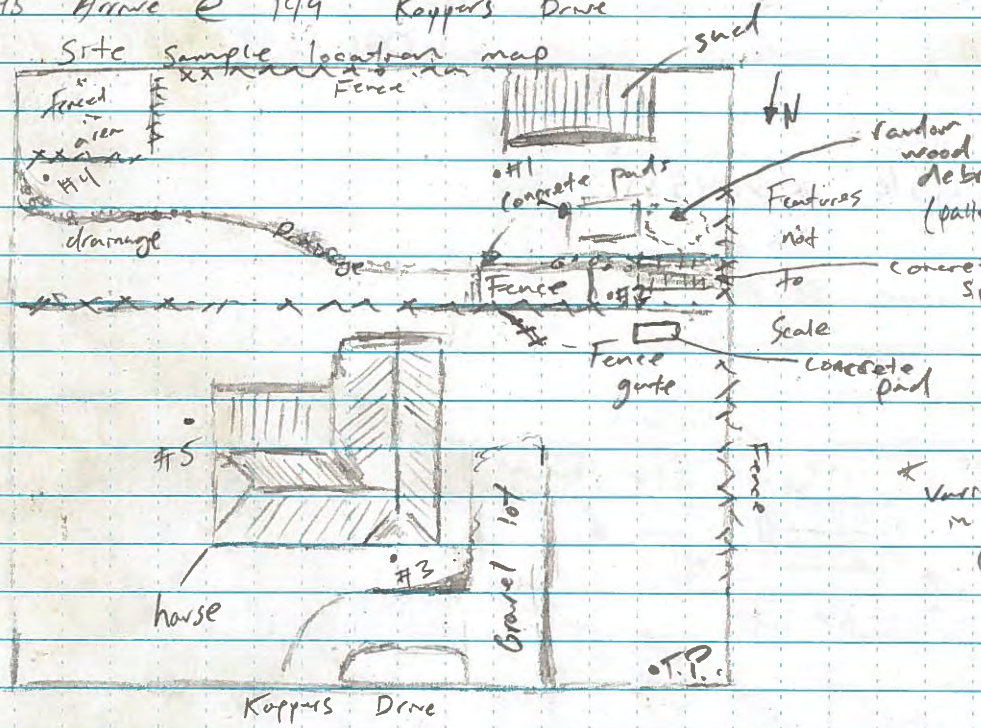
Sample log KD1233S collected @ 1116

Subsample	Description	Coordinates (lat, lon, elev.)
KD1233S-1	Silt w/ sand very dark gray (10YR 3/1) soft; no plasticity, moist; roots; high organic content	33.732467, -89.787674, 207.7'
KD1233S-2	Silt dark yellowish brown (10YR 4/4) soft, low plasticity; moist.	33.732789, -89.787895, 232.6'
KD1233S-3	Same as above.	33.732897, -89.787565, 198.6'
KD1233S-4	Same as above	33.732871, -89.787447, 197.3'
KD1233S-5	Same as above	33.732778, -89.787532, 212.7'

1145 ~~Pick~~ At lunch, head back to office for supplies.

1245 Arrive @ 149 Koppers Drive

Site sample location map



* Various debris scattered in back yard (mattresses, paint cans, electronics, etc.)

Photo log

photo #75	KD149-1	looking	NE
photo #76	" #2	looking	West
photo #77	" -3	looking	South
photo #78	" -4	looking	E-SE
photo #79	" -5	looking	West

KD1495S

KD1495S collected @ 1512

Sample log

Subsample:	Description	Coordinates (lat, lon, elev)
KD1495S-1	Silt, brown (10YR 5/3); soft; low Plasticity; moist	33.732552, -89.788186, 216.9 33.732607, -89.788307, 193.3
KD1495S-2	same as above; except color change to dark brown (10YR 3/3)	33.732858, -89.788278, 194.0
KD1495S-3	Same as #1 w/ trace gravel	

Scale: 1 square = _____

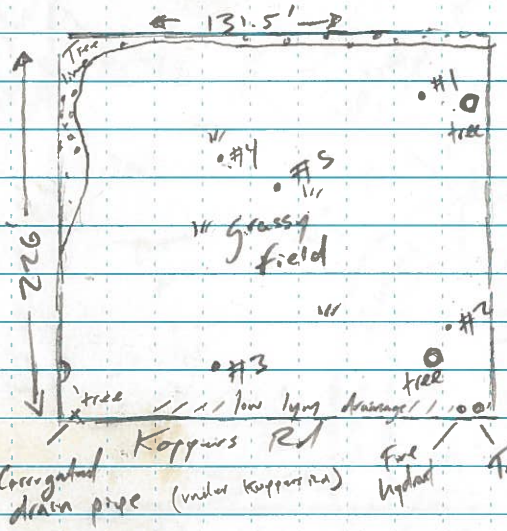
KD14955 Sample log Cont.

		Coordinates
KD14955-4	Same as #1 w/ abundant roots	33.732530, -89.787847, 202.1
KD14955-5	Same as #1	33.732789, -89.788055, 208.0

1405 Move to KD225E

*parcel #12 split in two sampling areas, 'E' designates empty field to the East

SAMPLE LOCATION MAP



KD225E photo Log

photo #80	" "-1 facing NW
photo #81	" "-2 facing NW
photo #82	" "-3 facing W
photo #83	" "-4 looking (facing) S
photo #84	" "-5 looking W-SW

Sample log KD225ESS collected @ 1509

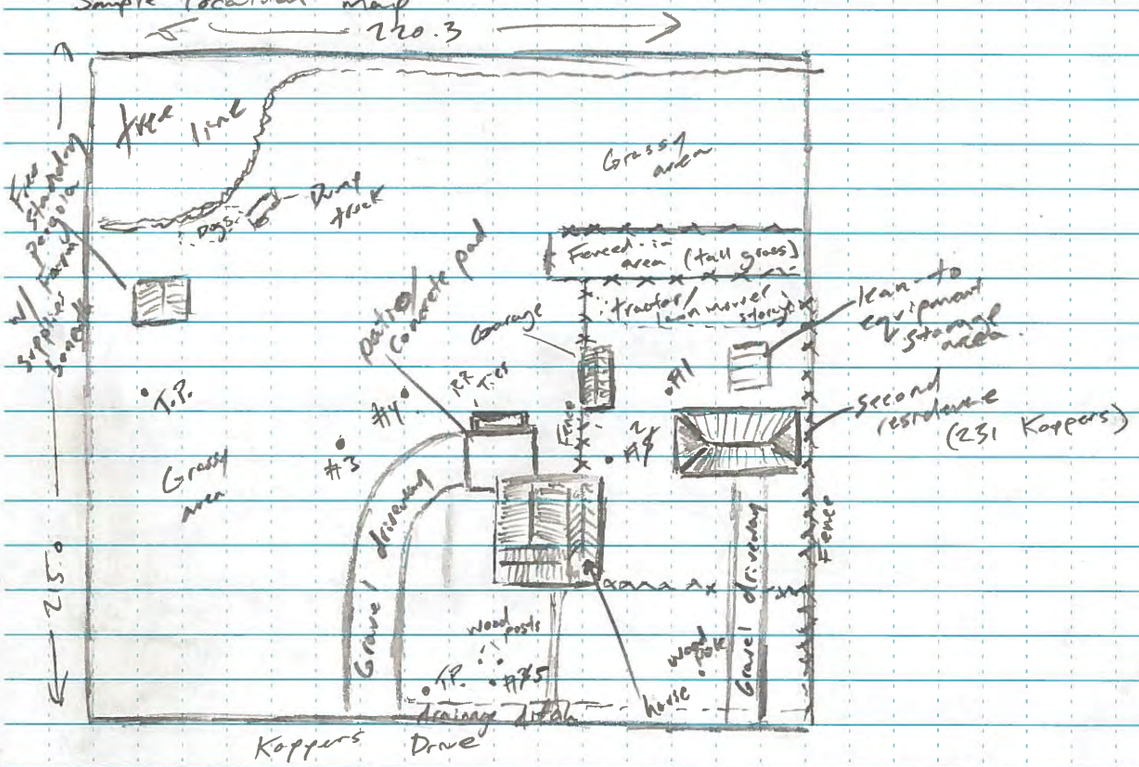
Sub Sample:	Description:	Coordinates:
#1	Silt; brown (10YR 5/3); soft; low plasticity; moist; roots	33.732147, -89.788722, 210.5
#2	Same as above	33.732505, -89.788809, 196.6
#3	Same as above	33.732658, -89.788759, 201.5
#4	Same as above	33.732381, -89.788672, 205.4
#5	Same as above w/ ~~trace brick~~ trace iron oxide material	33.732487, -89.788747, 204.8

1524 arrive @ 225 Kapper Drive (225W)

Scale: 1 square = _____

Rite in the Rain.

Sample location map



* re-roll Q2 noted on concrete patio

photo 85 KD225W-1 looking South
photo 86 KD225W-2 looking NW
photo 87 KD225W-3 looking West
photo 88 KD225W-4 looking W
photo 89 KD225W-2 re-roll patio/reflectivities looking West
photo 90 KD225W-5 looking SW

Sample log

Sub-Sample:	Description:	coordinates:
KD225W-1	Silt w/clay; yellowish brown (10YR(5/4) soft; ~~loose~~ low plasticity; moist; roots	33.732134, -89.789272, 204.7'
KD225W-3	Same as above but color change to brown 10YR 4/3 and pieces of charcoal/burnt wood	33.732235, -89.789061, 222.4'
KD225W-2	Silt; brown (10YR 4/3); soft; moist nails/metal fragments.	33.732266, -89.789580, 209.0'
KD225W-1	same as above w/out ~~not~~ non-native, debris (inorganic)	33.732119, -89.789559, 226.3
KD225W-5	Same as above	33.732486, -89.789429, 223.3'
KD225W35	collected @ 1650	

Scale: 1 square = _____

Rite in the Rain.

705 EPA off-site. Tt mob back to facility for decon.

1735 KD225WSSEB collected off of spoon, bowl, and auger bucket used for KD225W.

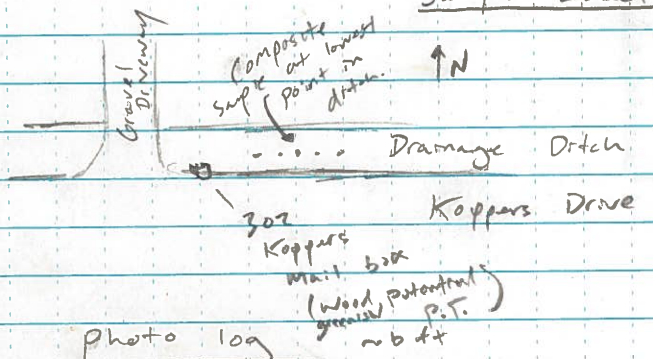
1800 Tt off-site

10/2/20

0725 Tt on-site. Pick up/prep equipment for todays sampling

0745 Arrive at DW20155 (in front of 302 Koppers Drive)

Sample Location Map



0800 EPA on-site

Photo log

photo #91 ~~KD201~~ DW20155 looking west

~~photo #92~~ photo #92 DW20155 after sampling looking NE

Sample log (5 points, West to East) Coordinates (calc point)

#1-5 Silt, brown 10YR 4/3; soft; low plasticity; moist to semi-wet; abundant roots. All sub-samples homogeneous. Sample @ 0840 ~~33.732558~~, 33.732538, -89.791157, 216.0

0908 EPA (Mike and Paula) off-site; mob back to Georgia

0910 Move to 251 Koppers Drive (255 second residence on parcel).

Scale: 1 square =

Sample location Map (KD25155)

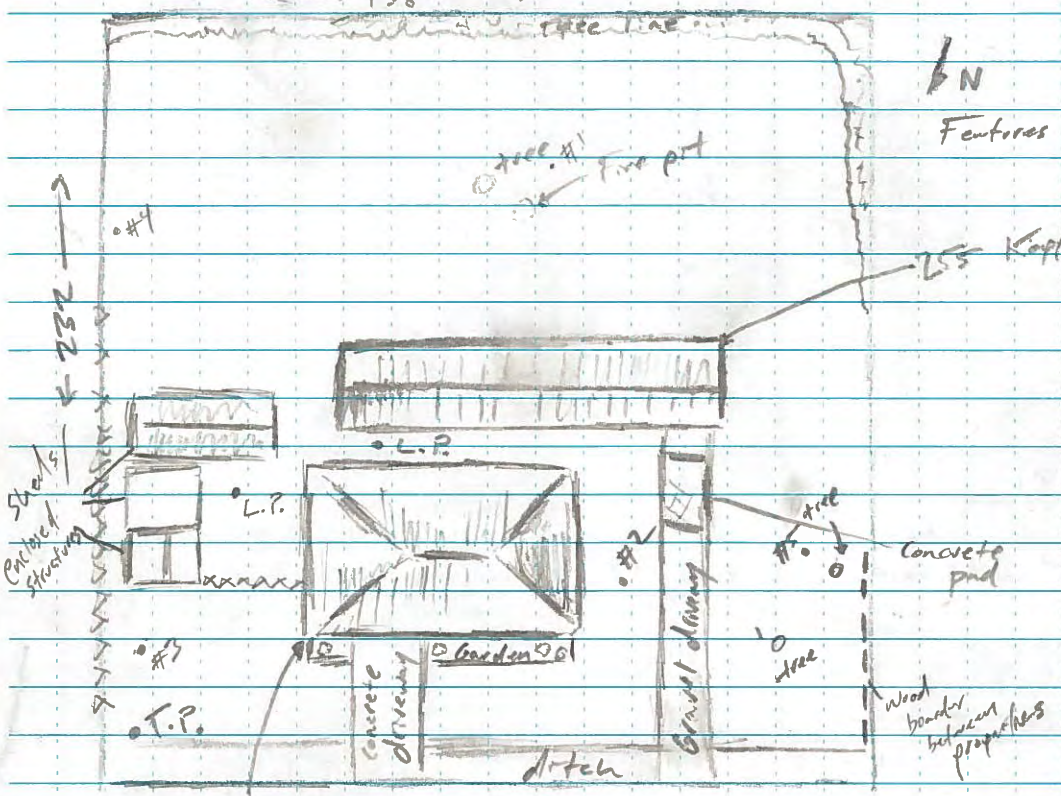


Photo log

photo #93	KD25155-1	looking NE
photo #94	KD25155-2	looking SE
photo #95	KD25155-3	looking South
photo #96	KD25155-4	looking NE
photo #97	KD25155-5	looking S-SE

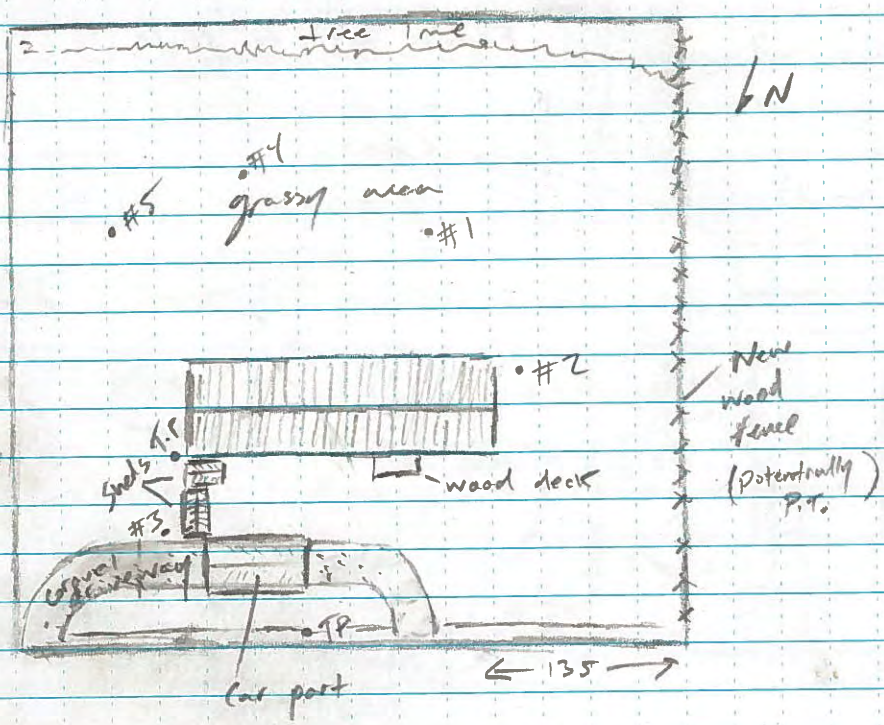
Sample log — KD25155 collected @ 1033

Sub-sample:	Description:	coordinates:
KD25155-1	(ML) Silt; yellowish brown (10YR 5/6); soft, low plasticity; moist; roots	33.731874, -89.769999, 217.7'
KD25155-2	same as above	33.732377, -89.790114, 229.4'
KD25155-3	(SP) Sand w/ gravel; yellowish red (5YR 5/6); fine; sub round; loose Subangular Coarse gravel	33.732407, -89.789748, 229.6
KD25155-4	Same as #1	33.731915, -89.769787, 221.4'
KD25155-5	Same as above	33.732346, -89.790164, 215.3'

Scale: 1 square = _____

move to 275 Koppers Dr.

Sample location map



1123 re-roll #5 obstructed by house

Photo log

photo #98	KD275SS-1	looking W
photo #99	KD275SS-2	looking NE (near home where #5 re-rolled)
photo #100	KD275SS-3	looking S
photo #101	KD275SS-4	looking NW
photo #102	KD275SS-5	looking W-NW
photo #103	KD275SS-(1,2)	dark streaks in soil

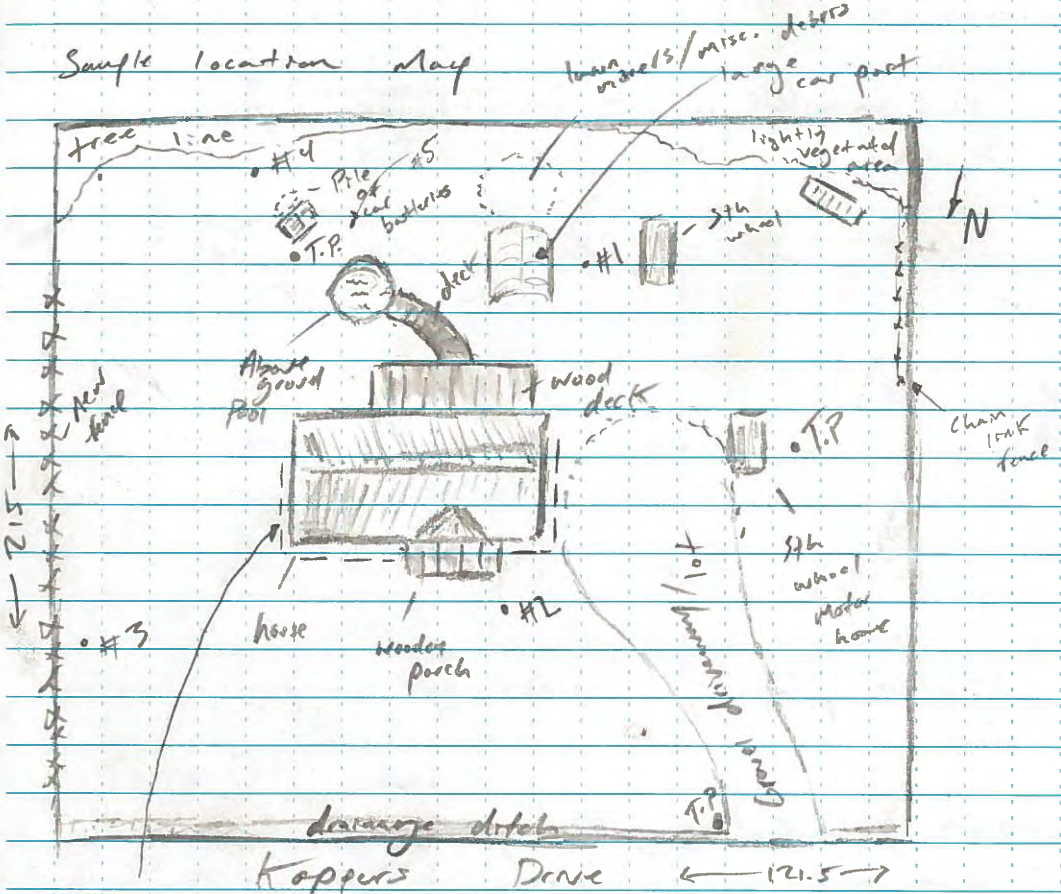
KD275SS collected @ 1201

Sample log

Sub-Sample:	Description:	Coordinates
KD275SS-1	Silt; brown (10YR 4/3); low plasticity Silt; dark (blackish) streaks; fragments of charcoal? (black, shiny).	33.732165, -89.790359 @ 223.4
KD275SS-2	Same as above	33.732265, -89.790637, 235.9
KD275SS-3	3" of silty Sand; yellowish red (5YR 5/6); semi-loose; very fine; bottom 3" brown silt	33.732403, -89.790314, 214.5
	Same as #1 (with no charcoal/black streaks)	
KD275SS-4	Same as #1	33.732187, -89.790361, 228.9
KD275SS-5	Same as #1 w/ glass shards	33.732133, -89.790207, 218.5

1240 head back to office for supplies/lunch
1300 arrive @ 297 Kappers Drive

Sample location Map



P.R. Tie garden hose bordering front/sides of house

photo log

photo # ~~103~~ 104	KD297-1	looking	North
photo # ~~104~~ 105	KD297-2	looking	SE
photo # ~~105~~ 106	KD297-3	looking	S-SE
photo # ~~106~~ 107	KD297-4	looking	W-NW
photo # ~~107~~ 108	KD297-5	looking	North

1354 re-load QC, 1st attempt ~~failed~~ ended up in house.

KD29755 collected @ 1429 w/ -MS/MSD QC samples

Sample log:

Coordinates: 2354

KD29755-1	Silt; brown (10YR 4/3); soft; low plasticity; moist; roots; pieces of charcoal!	33.732016, -89.790913, ~~2354~~ 226
KD29755-2	Same as above but w/ glass & brick fragments	33.732315, -89.791014, 226.5
KD29755-3	Same as #1	33.732330, -89.790521, 210.0
KD29755-4	Same as above	33.731965, -89.790593, 219.9
KD29755-5	Same as above	33.73186, -89.790647, 213.5

1500 Mob back to Koppers Facility for decon/rinse Sample KD297SS-EB collected @ 1520

1605 - Andrew to Fedex to ship samples. Garrett remains on site for equipment decon.

1755 Andrew back on site. Continue decon and wrapping clean equipment.

1840 TT ~~off-site~~

~~[illegible]~~

10/3/20

0730 TT on-site (Koppers property) pick up supplies/sampling equipment for day.

0800 arrive @ DW202SS (drainage way in front of 297 Koppers Drive).

Sample location map

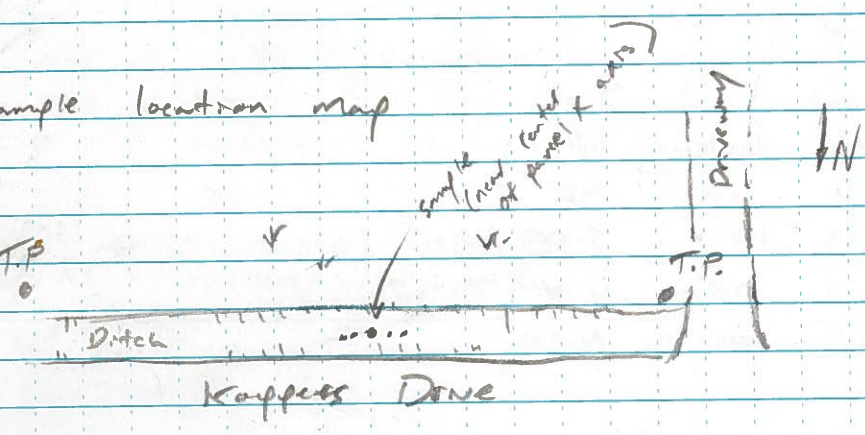


photo log:

Photo 109 DW202SS looking South

Sample log

#1 through #5 Silt w/ sand and trace gravel; brown (10YR 4/3); soft, med. sand and fine gravel, moist.

Coordinates:

33
33.732428, -89.790785
WGS 1984

0842 Collect sample DW202SS. Collect MS/MSD sample at DW202SS.

0853 move to DW20355 (in front of 248 Kappers Drive)

Sample Location Map

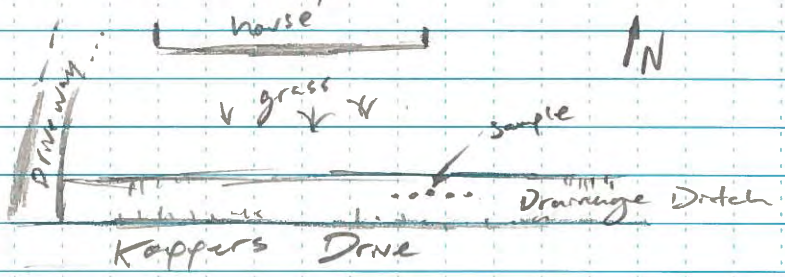


photo log

photo #110 DW20355 looking NE

Sample log

Coordinates

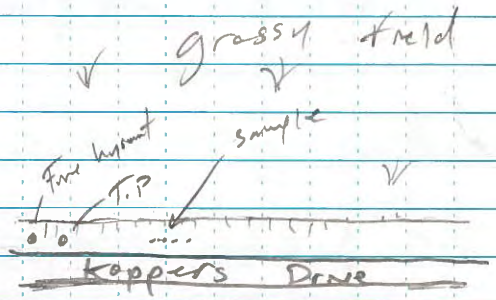
Sub Sample 1-5 (ML) Silt; yellowish brown (10YR 5/4); soft; low plasticity; moist roots.

33.732526, -89.789904, 220.8

DW20355 collected @ 0910

Arrive @ DW20455 (between boundary of 225 E and W [12-1124])

Sample location map



Sample ~15' from T.P.

photo #111 DW20455 looking E, showing telephone pole

Sample description: Silt; brown (10YR 5/3); trace sand and gravel; soft; low plasticity; moist small pieces of charcoal observed in subsample #1 only (eastern most sample)

33.732648, -89.788977, 213.4

DW20455 collected @ 0945

Scale: 1 square = _____

Rite in the Rain

~~0955~~

Move to DW20555 (in front of EPA #9)

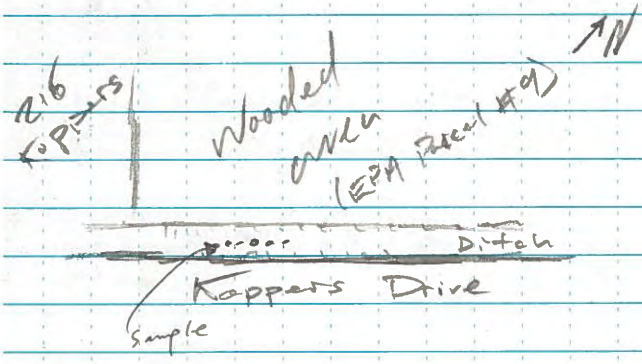


photo #112 DW20555 looking NE

Sample description: Silt; dark grayish brown (10YR 4/2); soft; low plasticity; roots, high organic content. ~~trace~~ minor Sand in sub-sample #3-5; fine. glass and plastic in sample #5 (western most sub-sample)

33.732844, -89.788780, 205.6

1010 - Collect sample DW20555.

1040 move to DW20655 (in front of 123 Koppers Drive)

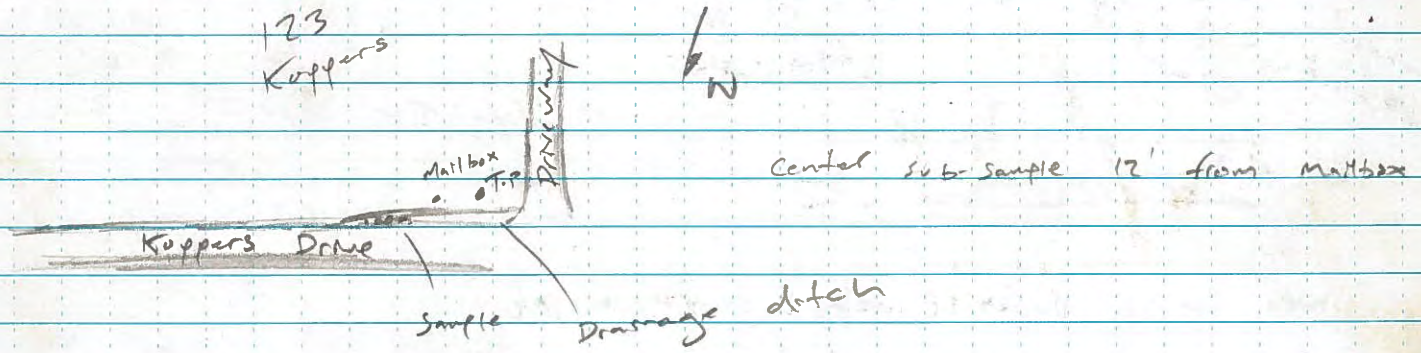


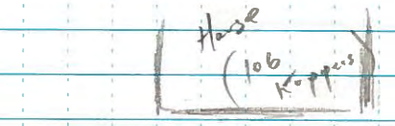
Photo #113 DW20655 looking SW

Sample Description: Sand and Silt (50/50); with trace gravel; very dark gray (10YR 3/1); fine; soft/loose; moist; Pieces of charcoal; Silt yellowish brown (10YR 5/6); soft; low plasticity in bottom 3" of sub-sample #4.

33.733166, -89.787629, 204.4

Scale: 1 square = DW20655 Collected @ 1105

1115 Move to DW20755 (in front of 106 Kappers)



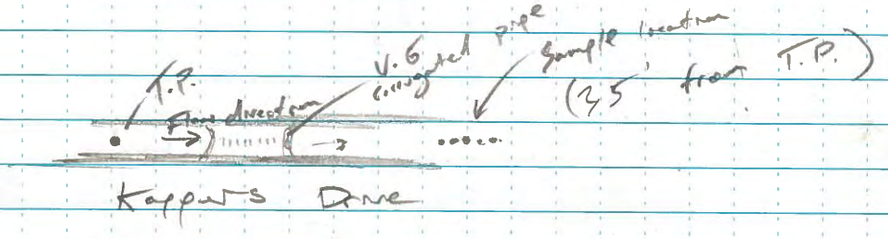


photo #1114 DW20755 looking West

Sample description:
(ML) Silt w/ Sand, dark grayish brown (10YR 4/2) loose, low plasticity; moist; roots; charcoal fragments in sub-sample #5

Coordinates (lat, lon., elev.):
33.733198, -89.787537, 214.3

DW20755 collected @ 1135

Arrive @ DW20855 (in front of 10 Kappers Drive)

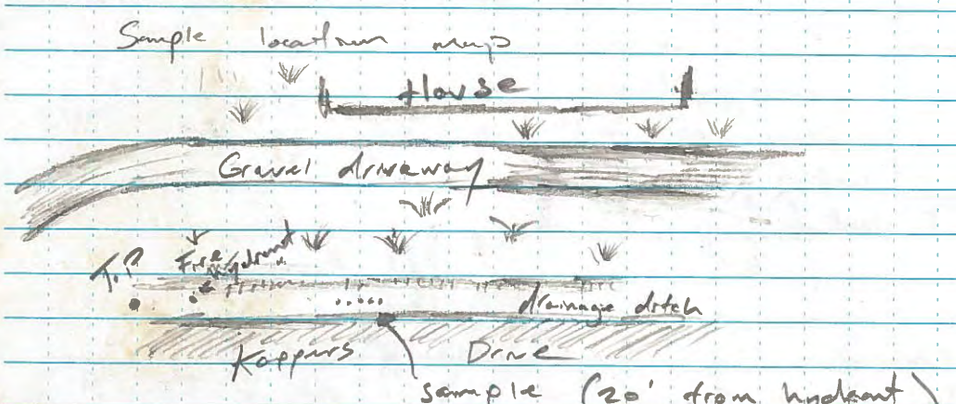


photo #115 Hand Auger bucket, showing black object from DW20855 5th (furthest east) location.
photo #116 DW20855 Looking NW

Sample Description (DW20855 collected @ 1230

Coordinates
33.733774, -89.786461, 197.7

Silt w/ Sand; brown (10 yr 4/3); fine; soft; low plasticity yellowish brown silt (10YR 5/6 5/8) at the bottom of #3
abundant charcoal in #3 (black, glassy material?) looks like coal, potentially anthracite?
(low density, non-friable, dry, layered in some pieces, blocky fracturing, concoidal (in some pieces) No streak

previous noted unknown material as "charcoal" and burnt wood in other samples. Considered foreign object.

Scale: 1 square =

Rite in the Rain

1300 head back to office to arrange samples
1335 Arrive @ 321 Koppers Drive

Sample Location map

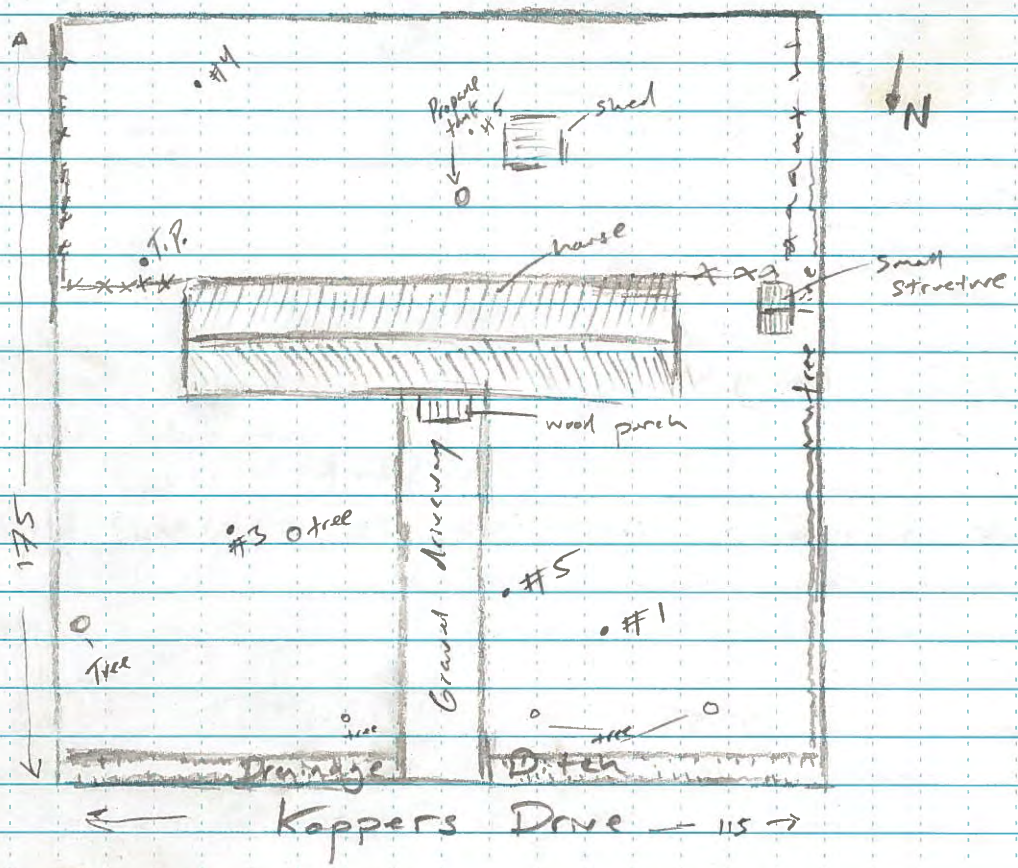


Photo log #117 KD32155-1 looking NW
photo #118 KD32155-2 looking ~~East~~ NW 1449
photo #119 KD32155-3 looking ~~East~~ South
photo #120 KD32155-4 looking South S-SE
photo #121 KD32155-5 looking SW

Sample Log

Sub-sample:	Description	coordinates
KD32155-1	(ML) Silt; grayish brown (10YR 5/2); Soft; low plasticity; moist; black fragments Similar to other sample but slight vesicular/weathered look.	33.732113, -89.791198, 237.3
KD32155-4	Same as above	33.732142, -89.791143, 226.6
KD32155-3	same as above	33.732310, -89.790963, 228.7
KD32155-2	Same as above	33.732296, -89.791126, 224.2
KD32155-5	Same as above	33.732271, -89.791150, 229.0
	Same as above	

Scale: 1 square = _____ KD32155 collected @ 1449

1500
Move to Barley Rd. Set up gradient flags and recon area.
1520 move to DW20955 (in front of 233 Barley Road)

Sample location map

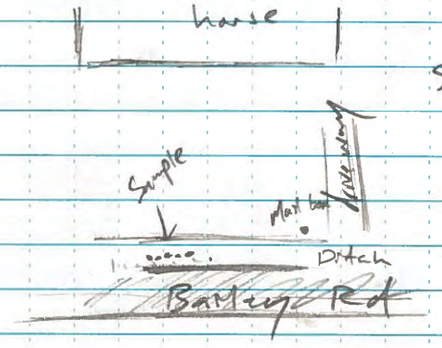
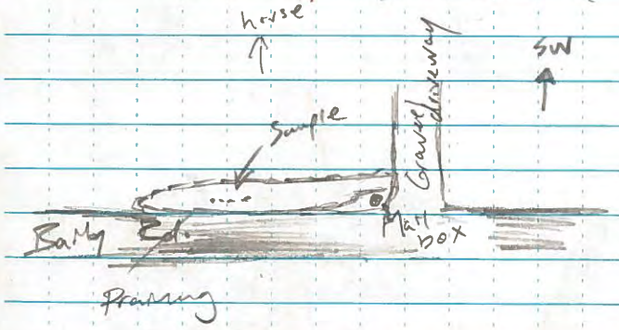


Photo #122 DW20955 looking WNW

Sample description (1-5 starting from the North): coordinates:
Silt; dark yellowish brown (10YR 4/4); 33.730823, -89.703976, 207.8'
soft; moist; low plasticity. All sub-samples
the same.
DW20955 collected @ 1534

1545 move to DW21055 (in front of 315 Barley Rd)



photo# 123 DW21055 looking NW

Sample description: (1-5, N to S) 33.729788, -89.703411, 205.5
Silt w/ clay; dark yellowish brown (10YR 4/6) w/ dark streaks (10YR 3/1).
soft; low plasticity; moist to semi-wet. All sub-
samples the same except #3 which also included
wood and partially charred wood fragments.
DW21055 collected @ 1610

Scale: 1 square =

Rite in the Rain

1622 Move to BREPAZISS to begin prep work for tomorrows sampling

1645 Move to BR3733S to set up flags for tomorrows Sampling

1725 return to Koppers facility for decon/rinse sample.

1750 collect rinse blank from DW210SS auger bucket/spoon

1830 IT off-site.

10/4/20 1

0720 pick up rec for samples

0735 Arrive @ Koppers facility, load equipment into vehicles.

0800 Arrive @ BREPAZISS. Conduct H&S tailgate

Sample location map

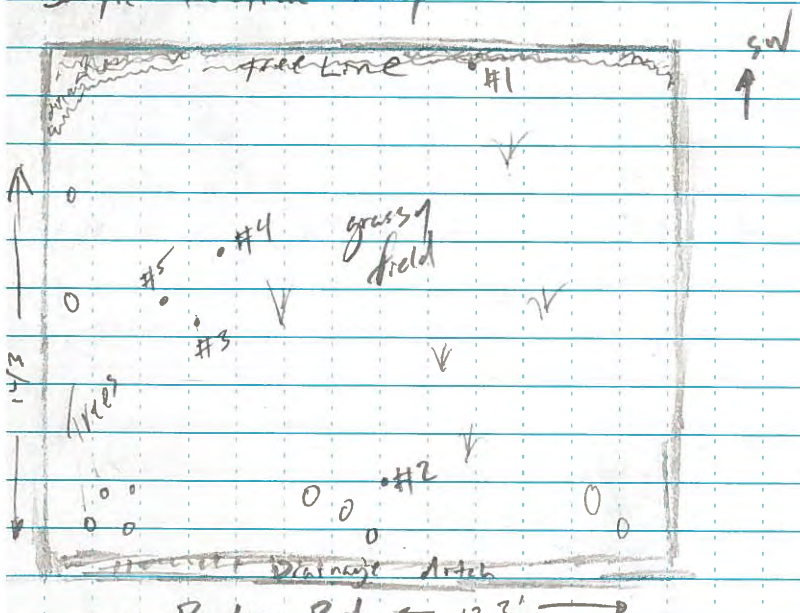


Photo log

Photo #124	BREPAZISS-1	looking	North
photo #125	BREPAZISS-2	looking	West
photo #126	BREPAZISS-3	looking	NW
photo #127	BREPAZISS-4	looking	NW
photo #128	BREPAZISS-5	looking	NW w/ #3 in BG

Scale: 1 square =_____

BREPA21SS collected @ 0845

Sample Log

Sub sample:	Description:	coordinates:
BREPA21SS-1	Silt; yellowish brown (10YR 5/6); soft; low plasticity; moist; roots	33.730522, -89.784325, 224.7'
		33.730548, -89.783882, 225.5'
BREPA21SS-2	same as above	
BREPA21SS-3	same as above	33.730457, -89.784078, 212.1'
BREPA21SS-4	same as above	33.730404, -89.784087, 222.4'
BREPA21SS-5	same as above	~~33.730510,~~
		33.730471, -89.784058, 217.8'

Move to BR37355 @ 0900

BR37355 Sample Location Map

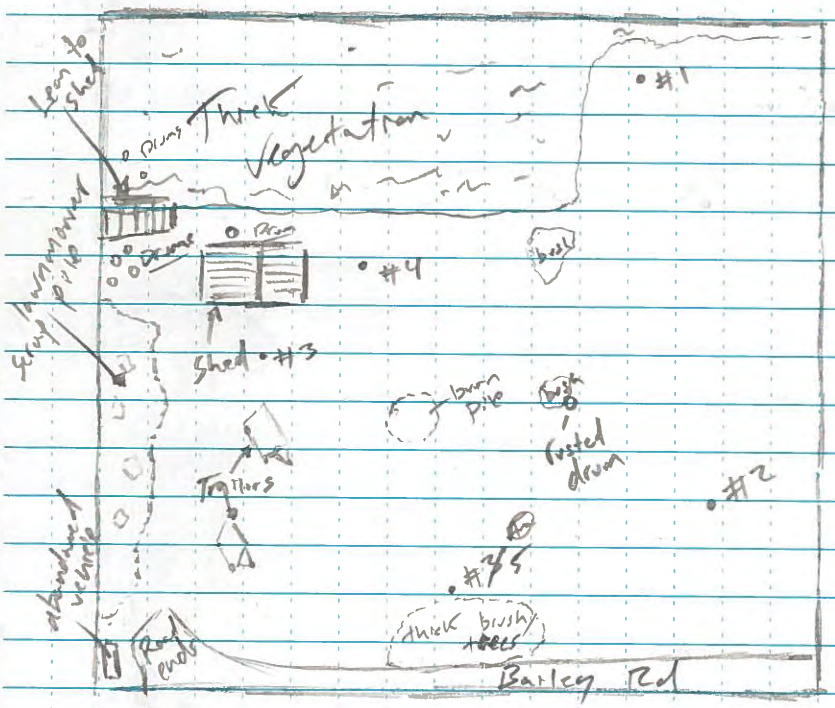


photo Log

photo #129	BR37355-1	looking E-NE
photo #130	BR37355-2	looking South
photo #131	BR37355-3	looking ~~SE~~ South
photo #132	BR37355-4	looking East
photo #133	BR37355-5	looking SE
photo #134	BR37355	drums in QH looking SE

Scale: 1 square = _____

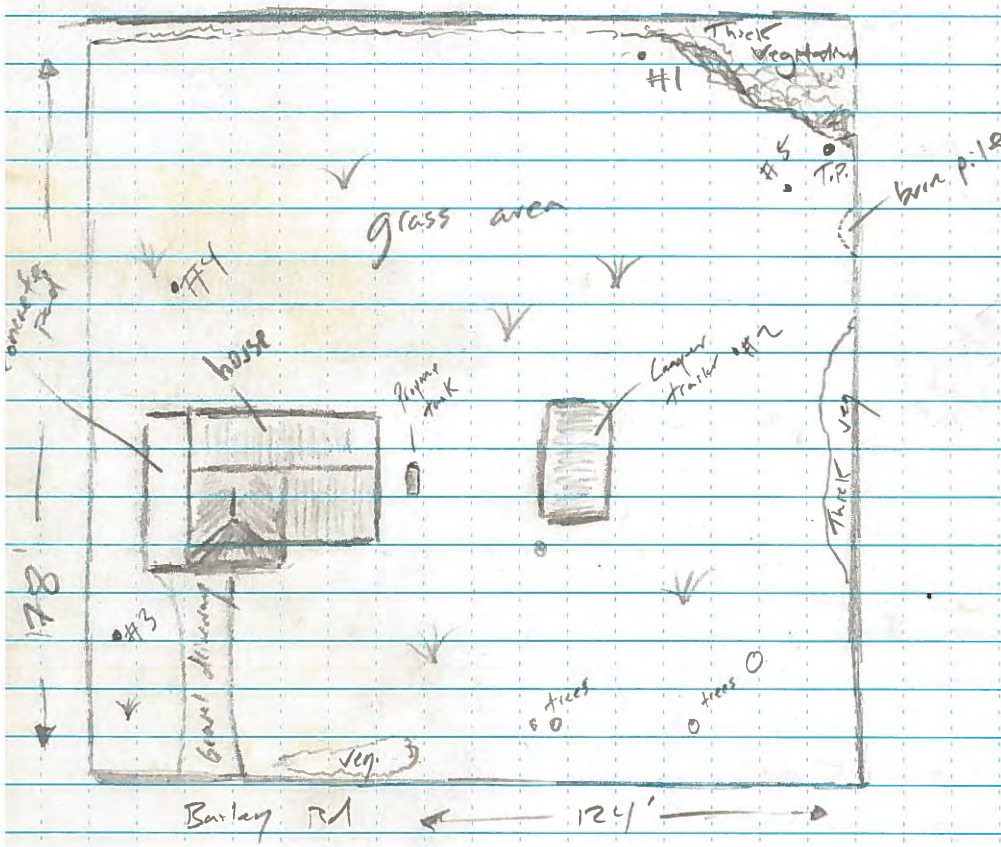
BR37355 collected @ 0940

Sample log

sub-samples	description:	coordinates:
BR37355-1	Silt; brown (10-12 4/3); soft, low plasticity; moist; roots	33.728978, -89.783431, 223.5'
BR37355-2	Same as above	33.729195, -89.783083, 214.5'
BR37355-3	Same as above ~~color change to (10YR 4/4)~~ ~~dark grayish brown (10YR 4/2)~~	33.728947, -89.783049, 226.6'
BR37355-5	Color change to ~~yellowish brown (10YR 5/6)~~ dark grayish brown (10YR 4/2)	33.729142, -89.782914, 218.1'
BR37355-4	Color change to yellowish brown (10YR 5/6)	33.729009, -89.783160, 234.7'

1008 move to 351 Barley Rd

Sample location map



1035 re-roll Q2 at random point #5 both ended in the house/concrete

Scale: 1 square = _____

Photo Log

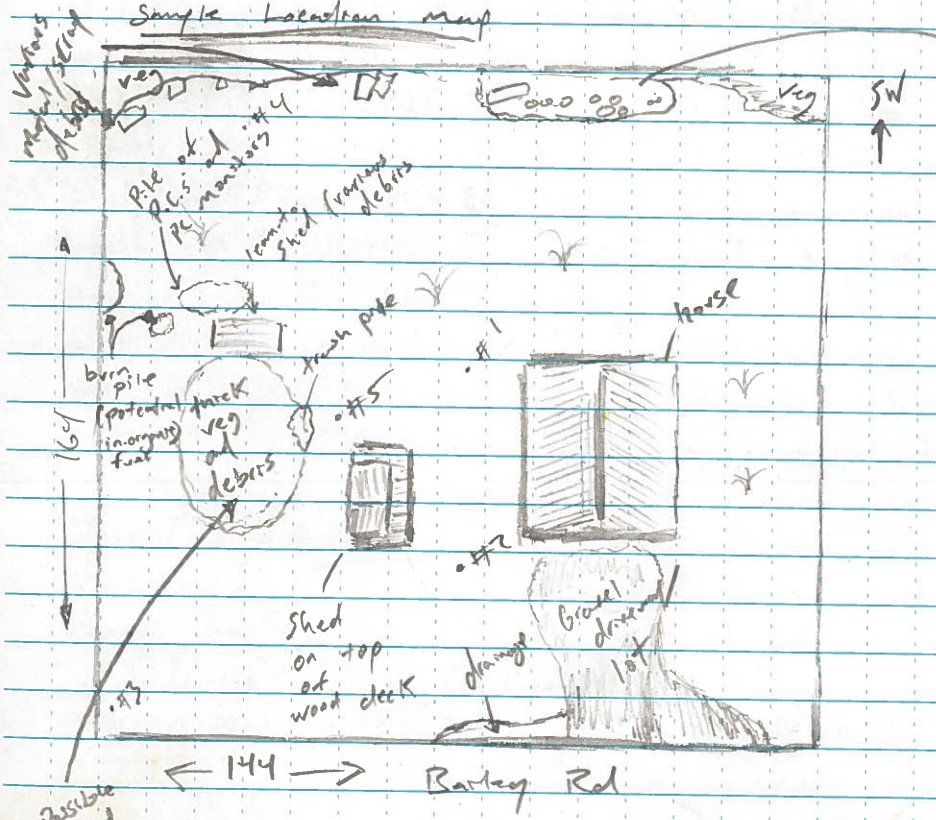
photo #135 BR35155-1 looking SW
photo #136 BR35155-2 looking East
photo #137 BR35155-3 looking W-NW
photo #138 BR35155-4 looking N
photo #139 BR35155-5 looking E

BR35155 collected at 1114

Sub-Sample:	Description:	coordinates:
BR35155-1	SrH; brown (10YR 5/3), soft low plasticity, moist; roots	33.729039, -89.783581, 203.7'
BR35155-2	Same as above	33.729392, -89.783324, 221.6'
BR35155-3	Same as above	33.729276, -89.783074, 213.2'
BR35155-4	Same as above	33.729178, -89.783281, 206.9
BR35155-5	Same as above	33.729308, -89.783476, 221.3'

1143 move to 315 Barley Rd.

Sample Location map



debris pile (overturned drums [carcinogen, eco tox warning labels], e-waste, propane tanks, P.T. wood, pile of R.R. ties, metal scraps)

Scale: 1 square = _____

photo log

photo #140	BR31555-1	looking E-NE
photo #141	BR31555-2	looking South
photo #142	DR31555-3	looking West
photo #143	BR31555-4	looking NE
photo #144	BR31555-5	looking West
photo #145	BR31555-	debris in back of property looking west
photo #146	BR31555 NW	marginal burn piles w/ e-waste in background looking

BR31555m collected @ 1250

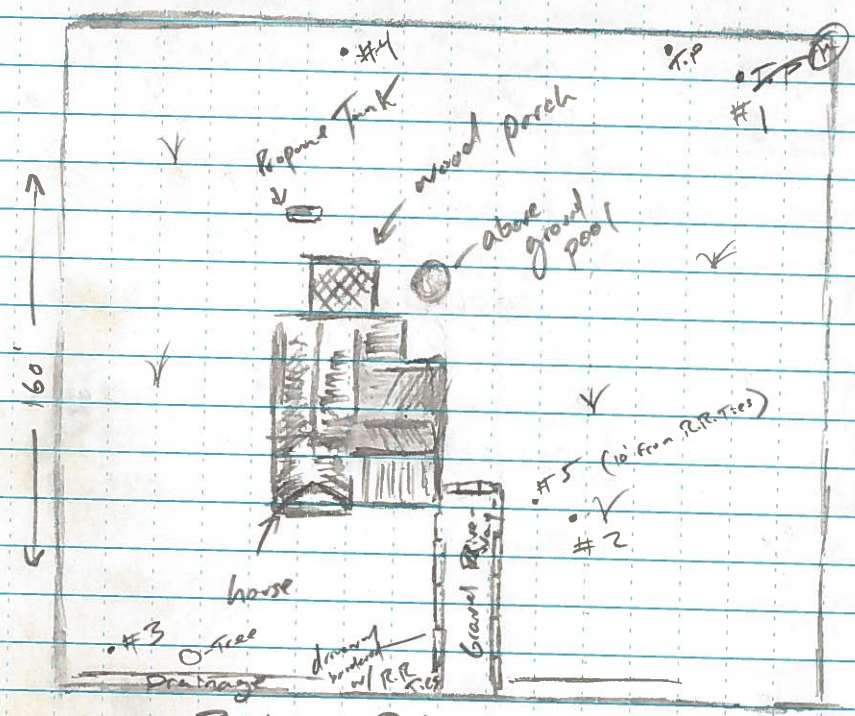
Sample log

Sub sample:	Description	
DR31555-1	Silt; brown (10YR 5/3); soft; low plasticity; moist; roots; trace angular gravel.	33.729663, ~~-89.783586~~ -89.783586, 209.0
BR31555-2	Same as above w/ trace black (unknown) pieces (similar to those observed on Keppers Dive but smaller).	33.729997, -89.783427, 235.4'
BR31555-3	Same as #1 w/ red brick fragments.	33.729594, -89.783273, 203.1'
BR31555-4	Same as #1 but w/ no gravel	33.729410, -89.783692, 209.0
BR31555-5	Same as #1.; fine trace gravel	33.729716, -89.783431, 225.7'

1310 arrive @ 284 Bailey Rd

Scale: 1 square = _____

Sample Location Map



135 recall random # for QR and QB (drive way and horse, respectively)
1400 recall random # for QR (in horse)

Photo Log

photo 147	BR28955-1	looking	East
photo 148	BR28955-2	looking	East
photo 149	BR28955-3	looking	West
photo 150	BR28955-4	looking	NW
photo 151	BR28955-5	looking	South
photo 152	BR28955	Driveway w/ rail road tie border	looking S

BR28955 collected @ 1438

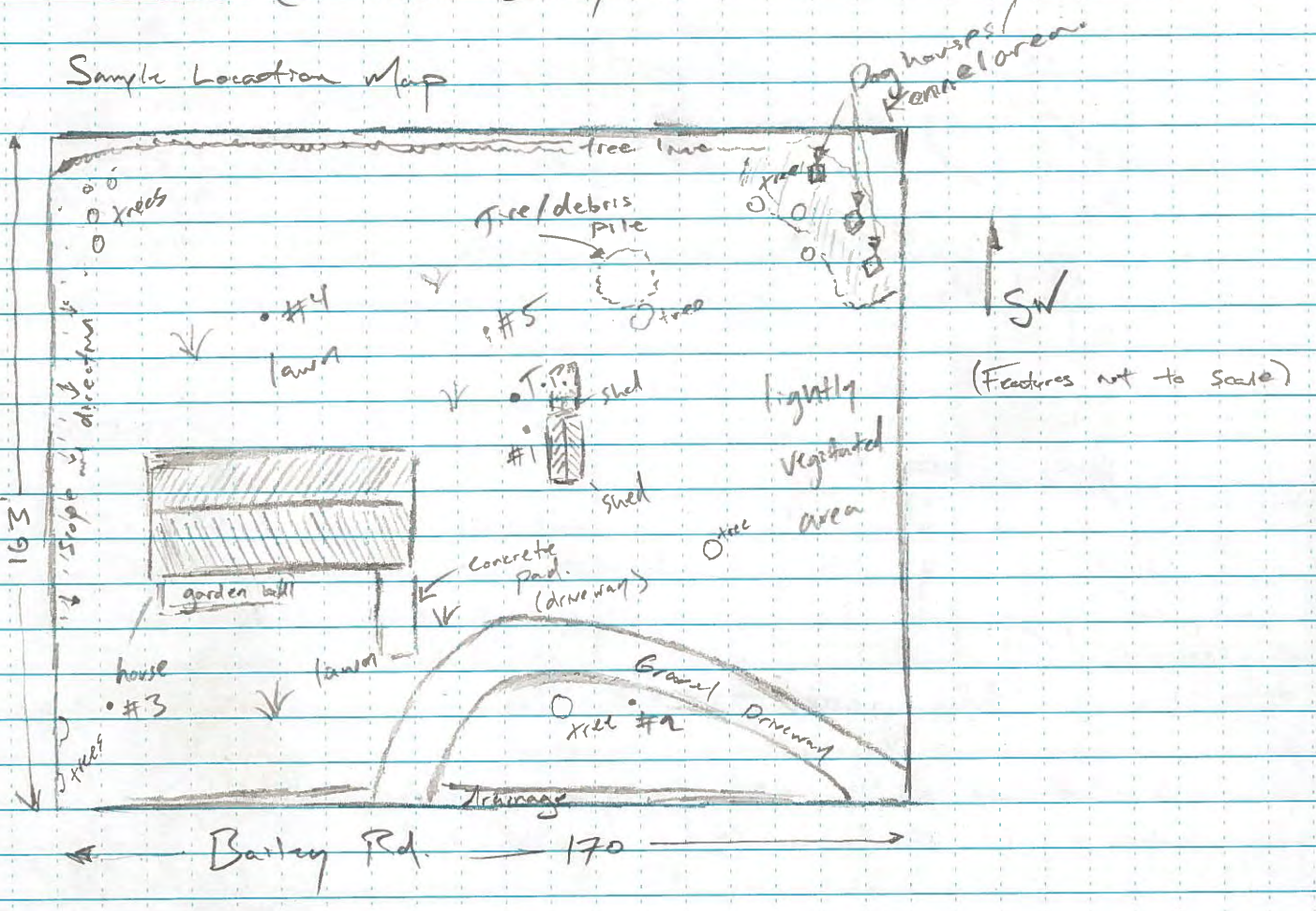
Sample log

Sub-sample	description	coordinates
BR28955-1	Silt; yellowish brown (10YR 5/4); soft; low plasticity; moist; roots	33.730071, -89.784087, 232.9'
BR28955-2	Same as above	33.730247, -89.783827, 203.5'
BR28955-3	Same as above but color change to (10YR 5/8) + Charred wood	33.729962, -89.783301, 226.4'
BR28955-4	color change to dark grayish brown (10YR 4/2)	33.729864, -89.783817, 240.8'
BR28955-5	Same as #1 and #2	33.730202, -89.783797, 208.5'

Scale: 1 square = _____

1455 Arrive @ 233 Barley Rd

Sample Location Map



1520 re-roll Q2 and Q3 obstructed by gravel driveway / house. Q5 also re-roll (in house).

Photo log

photo #153	BR23355-1	looking	~~North~~ East
photo #154	BR23355-2	looking	South
photo #155	BR23355-3	looking	SW
photo #156	BR23355-4	looking	North
photo #157	BR23355-5	looking	North

BR23355 collected @ 1600

Scale: 1 square =

Sample log

Sub sample:	Description:	Coordinates:
BR23355-1	Silt; dark grayish brown (10YR/4/2) Soft; low plasticity; moist; black fragments (unknown object) similar to those observed on Kappers drive samples.	33.730802, -89.784399, 246.7
BR23355-2	~~yellowish~~ Color change to dark yellowish brown (10YR 4/6) No black fragments	33.730961, -89.784319, 203.5 -89.784109, 213.4 ↓ ~~-89.780~~ ac
BR23355-3	Same as #2	33.730791, -89.780 ac
BR23355-4	Same as above with black fragments in bottom 2 inches	33.730740, -89.784262, 232.3
BR23355-5	Same as #2 and #3	33.730770, -89.784320, 227.7

1610 Complete BR233

1615 Collect composite sample from 6 Barley Drive parcels (BR50055)

Duplicate Sample for BR50055 (BR86155) collection time noted as 1700

1630 Mob back to Kappers facility for decon

BR23355-EB collected @ 1655 (from bowl, spoon, and auger bucket used on BR23355)

Clean up and upload equipment @ office. off-site @ 1730

10/5/20

0815 pick up boxes / packaging ~~supplies~~ supplies.
0850 on-site. Begin decon
1035 finish decontaminating sampling equipment. Allowing air dry prior to wrapping them for shipment.
1230 TF off-site for lunch ~30 min
1300 wrap equipment, pack up boxes
1445 Sample drum for waste disposal (Decon Water Drum)
1630 A Morgan (TF) off-site, mob to Batesville & drop off equipment and samples @ Fed Ex. G. Kuhl breaks down decon station
1700 G. Kuhl turn off water to office and set alarm. G. Kuhl off-site
1708 A. Morgan mob back to hotel in ~~Batesville~~ Grenada.

Scale: 1 square

APPENDIX B

Photographic Sampling Log

P:\PROJECTS\BEAZER\GRENADA\EPA 2018 off-site investigation\Implementation of 2020 Work Plan\Photo Log

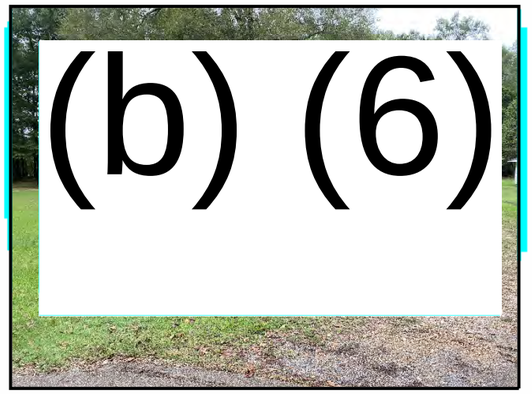


Photo 1: View of KD302 lot (from southeast corner) looking northwest.

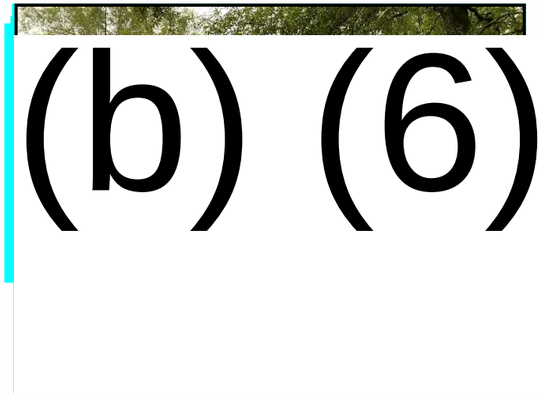


Photo 2: View of KD302SS-1 looking southwest.

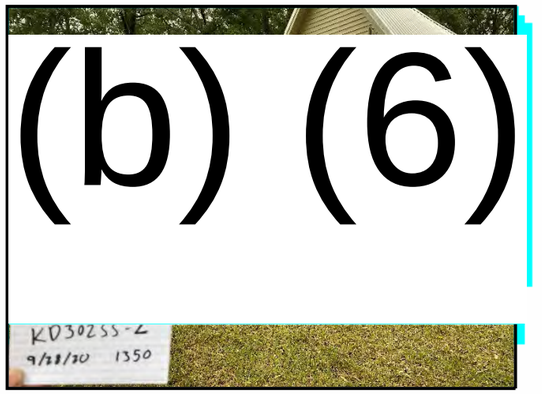


Photo 3: View of KD302SS-2 looking northwest.

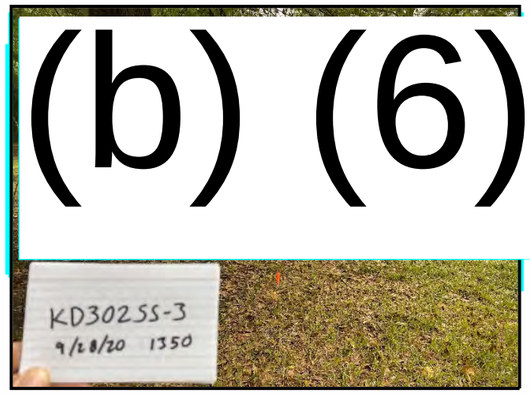


Photo 4: View of KD302SS-3 looking northeast.

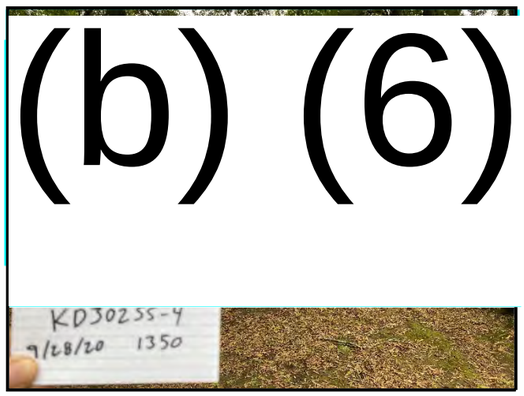


Photo 5: View of KD302SS-4 looking southwest.

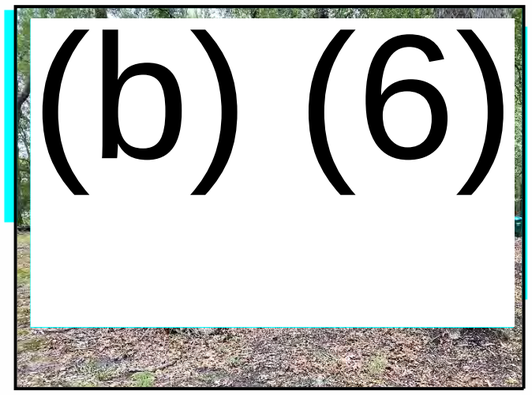


Photo 6: View of burn pile in quadrant 4 of KD302 lot looking north. Located approximately 30 ft from KS302SS-4.

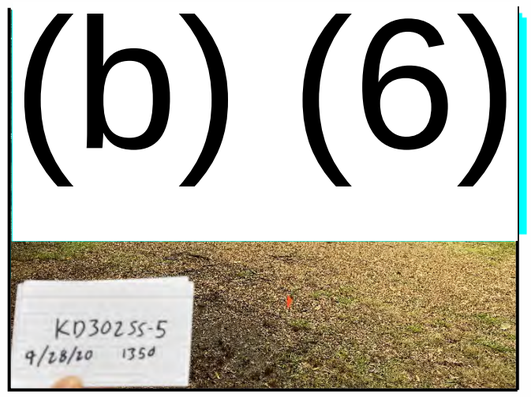


Photo 7: View of KD302SS-5 looking northeast

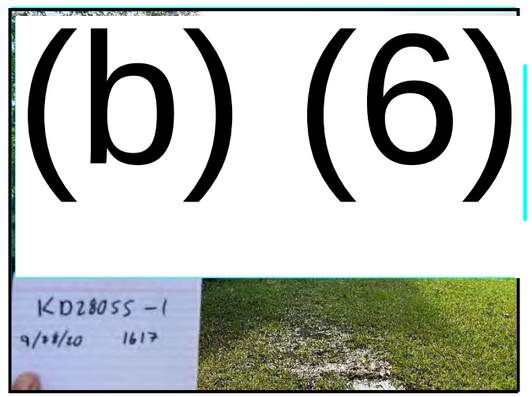


Photo 8: View of KD280SS-1 looking southwest.

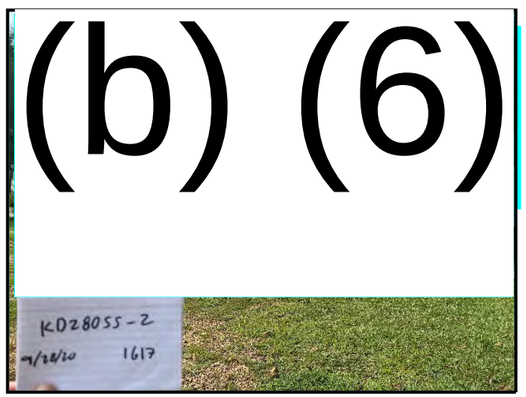


Photo 9: View of KD280SS-2 looking northwest

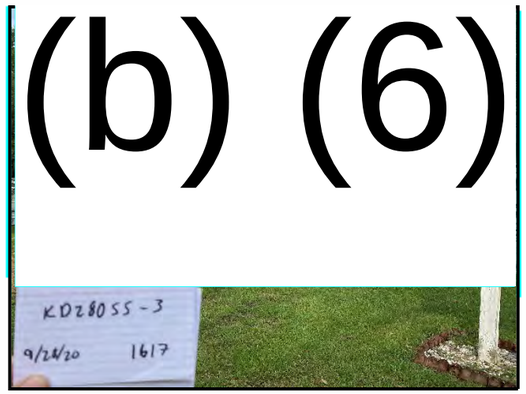


Photo 10: View of KD280SS-3 looking northeast.

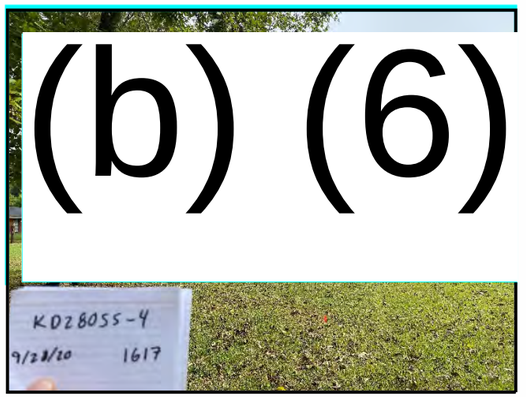


Photo 11: View of KD280SS-4 looking south.

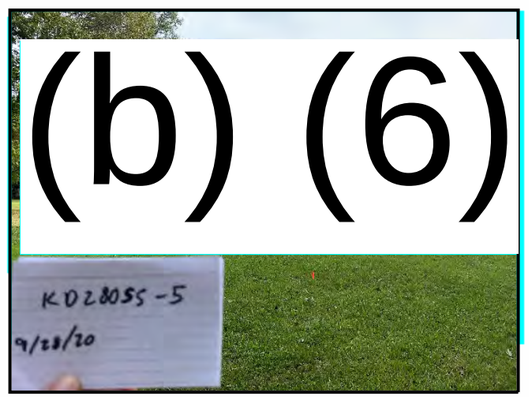


Photo 12: View of KD280SS-5 looking southeast.

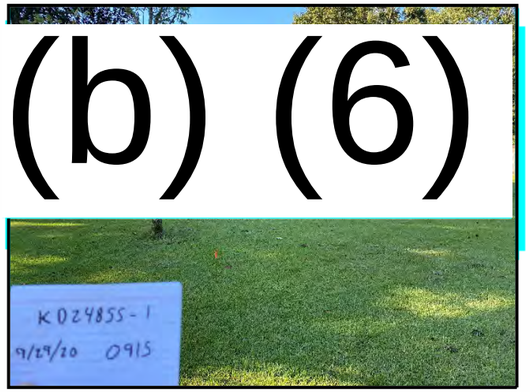


Photo 13: View of KD248SS-1 looking south.

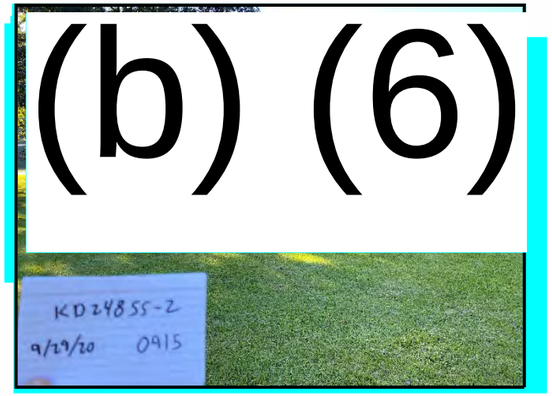


Photo 14: View of KD248SS-2 looking southeast.

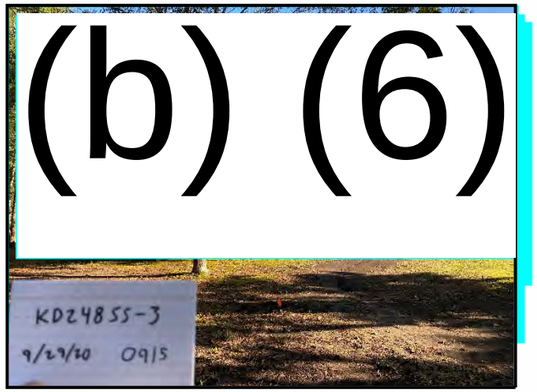


Photo 15: View of KD248SS-3 looking northeast.

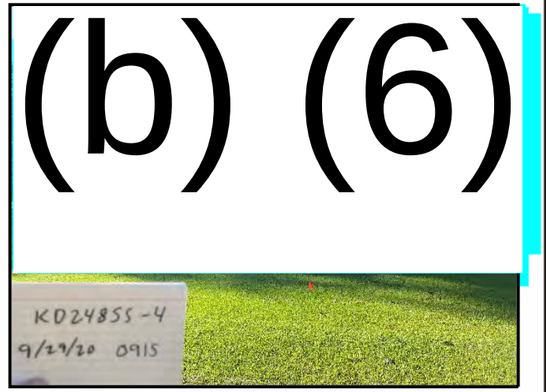


Photo 16: View of KD248SS-4 looking south.

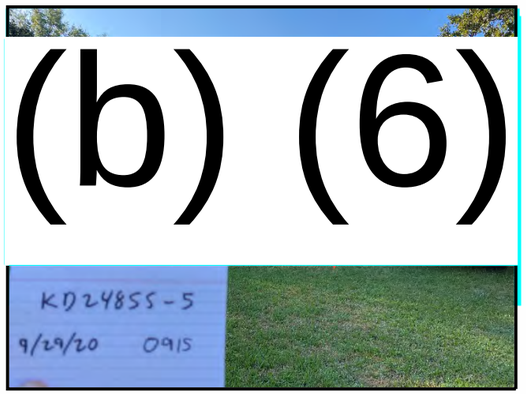


Photo 17: View of KD248SS-5 looking southeast.

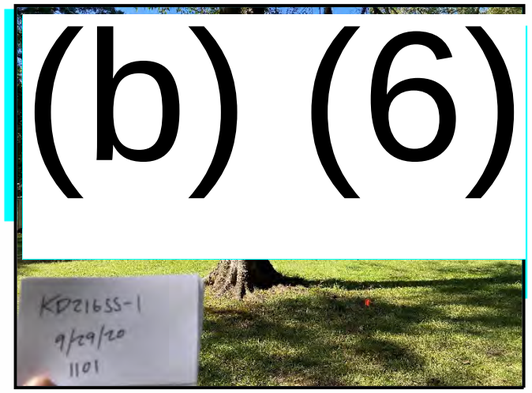


Photo 18: View of KD216SS-1 looking southwest.

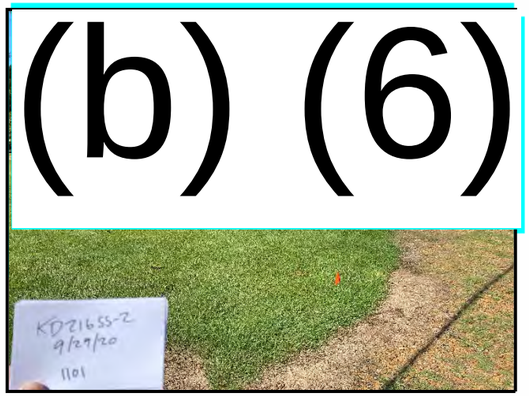


Photo 19: View of KD216SS-2 looking west.

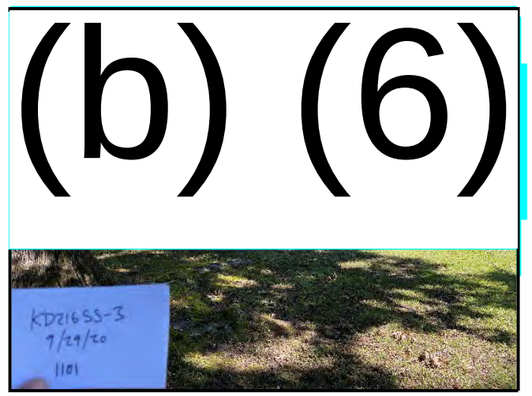


Photo 20: View of KD216SS-3 looking north-northeast.

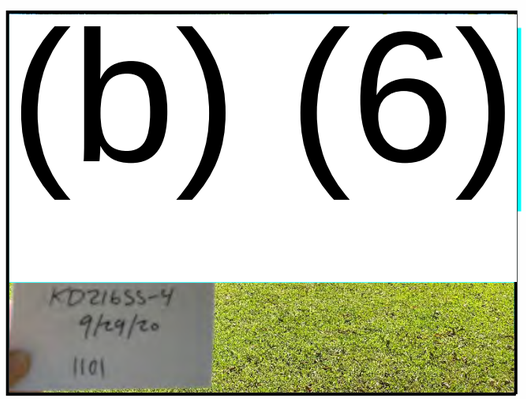


Photo 21: View of KD216SS-4 looking southeast.

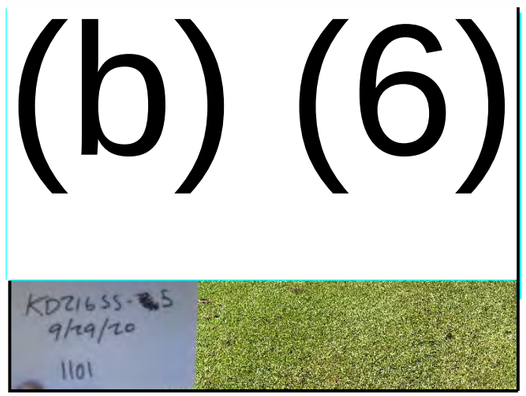


Photo 22: View of KD216SS-5 looking southwest.

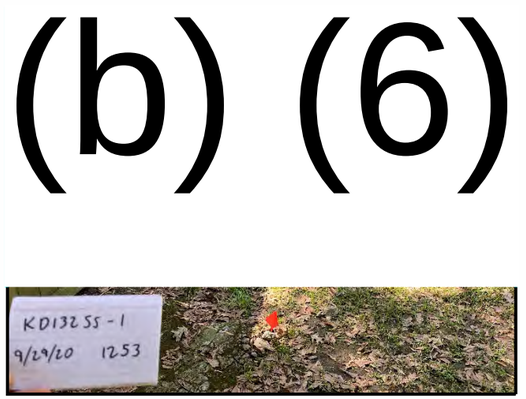


Photo 23: View of KD132SS-1 looking west.

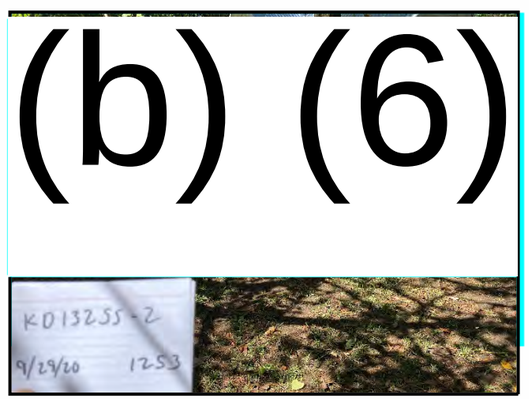


Photo 24: View of KD132SS-2 looking northwest.

(b) (6)

Photo 25: View of KD132SS-3 looking northeast.

(b) (6)

Photo 26: View of KD132SS-4 looking southeast.

(b) (6)

Photo 27: View of KD132SS-5 looking east.

(b) (6)

Photo 28: View of KD132SS-1 looking east with gas/oil containers in background.

Photo 29: Overview of KDEPA9 lot looking NW.

Photo 30: Overview of KDEPA9 lot looking west.

Photo 31: View of KDEPA9SS-3 looking southeast.

(b) (6)

Photo 32: View of KDEPA9SS-2 looking northeast.

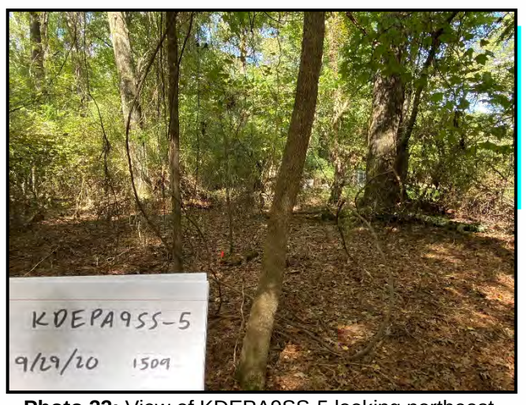


Photo 33: View of KDEPA9SS-5 looking northeast.

Photo 34: View of KDEPA9SS-1 looking northeast.

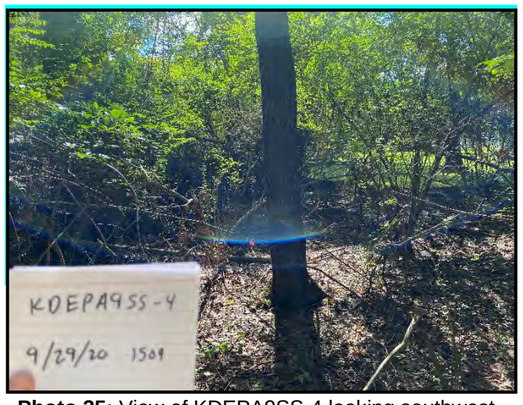


Photo 35: View of KDEPA9SS-4 looking southwest.

(b) (6)

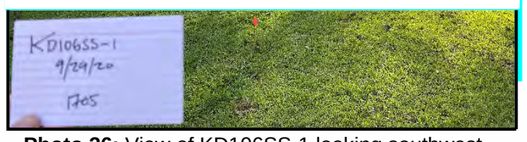


Photo 36: View of KD106SS-1 looking southwest.

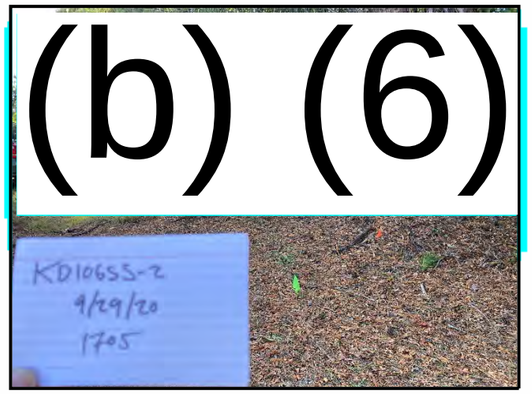


Photo 37: View of KD106SS-2 looking west.

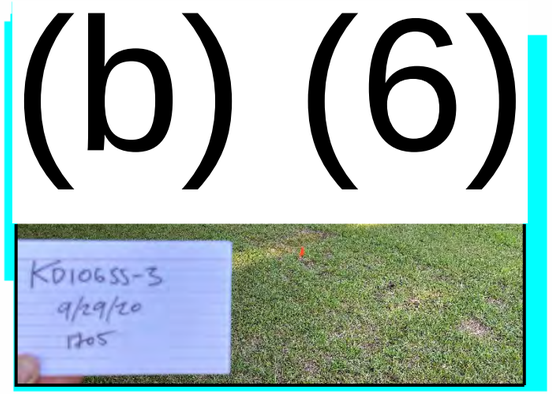


Photo 38: View of KD106SS-3 looking north-northeast.

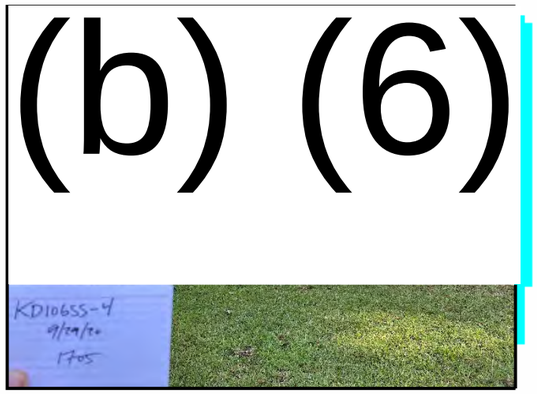


Photo 39: View of KD106SS-4 looking south.

Photo 40: View of KD106SS-5 looking west-northwest.

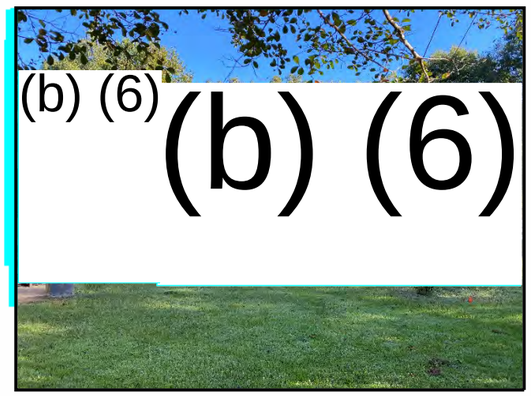


Photo 41: Overview of KD080 quadrants 1 and 2 looking northeast. Heavy vegetation in quadrant 1 shown in background.

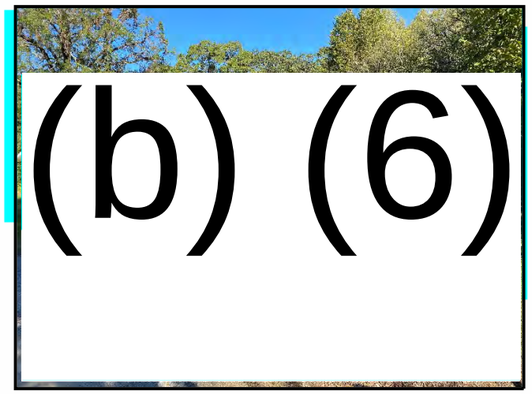


Photo 42: View of gravel driveway in KD080 quadrant 2 looking northwest.

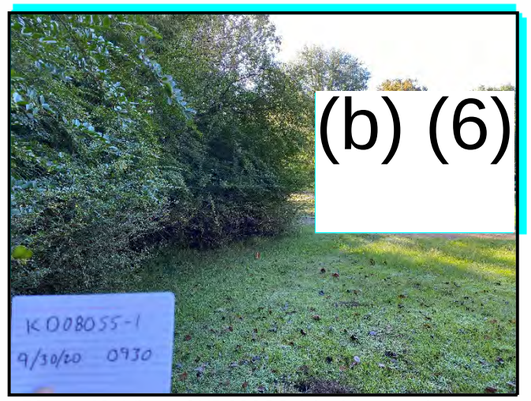


Photo 43: View of KD080SS-1 looking south.

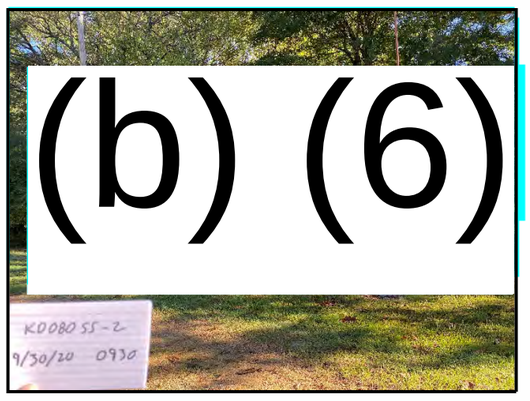


Photo 44: View of KD080SS-2 looking northeast.

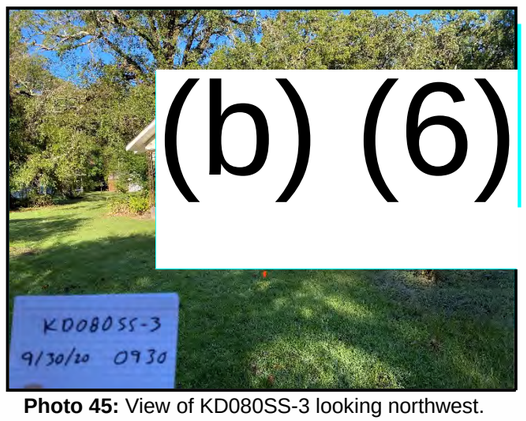


Photo 45: View of KD080SS-3 looking northwest.

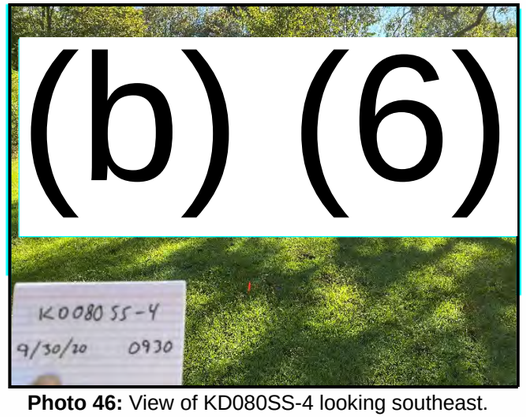


Photo 46: View of KD080SS-4 looking southeast.

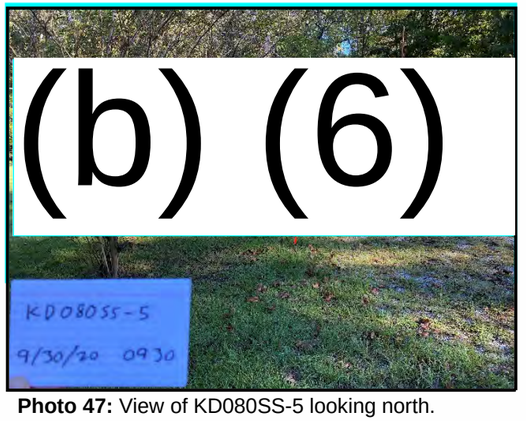


Photo 47: View of KD080SS-5 looking north.

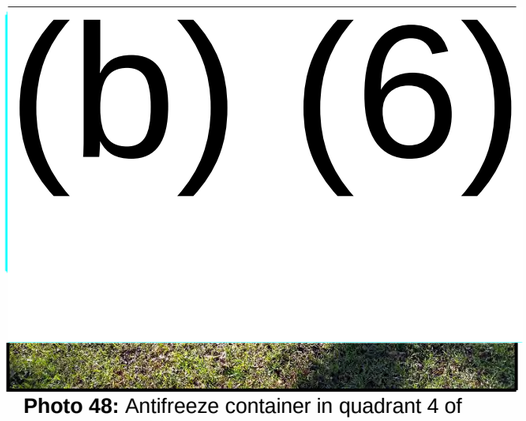


Photo 48: Antifreeze container in quadrant 4 of KD080 lot looking south.

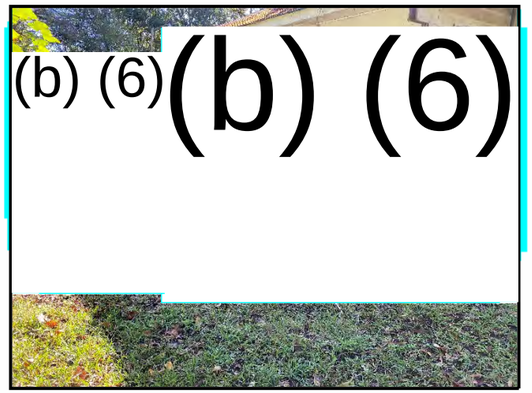


Photo 49: Oil/gas containers in quadrant 4 of KD080 lot looking southeast.

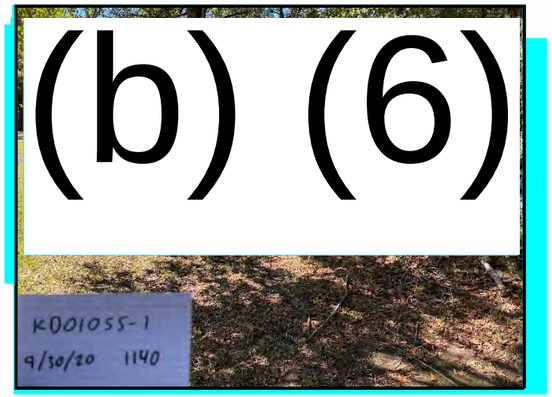


Photo 50: View of KD010SS-1 looking southwest.

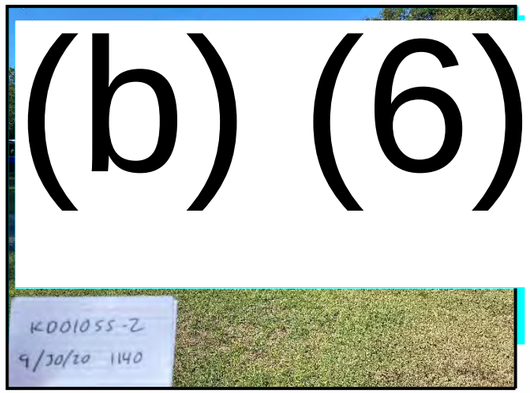


Photo 51: View of KD010SS-2 looking west.

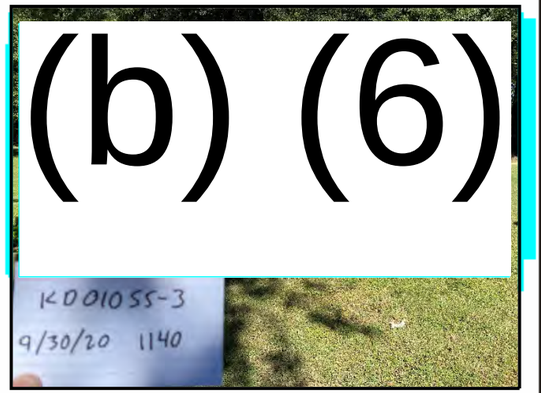


Photo 52: View of KD010SS-3 looking north.

Photo 53: View of KD010SS-4 looking northwest.

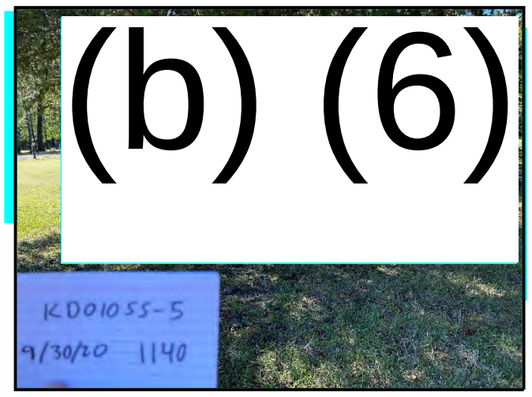


Photo 54: View of KD010SS-5 looking southwest.

Photo 55: View of original location for KD010SS-4 looking northwest. Area appeared to be used for washing vehicles/equipment. A new location for KD010SS-4 was generated due to soil staining.

Photo 56: Close up of KD010 quadrant 4 white stained soil (non-native color) in wash area.

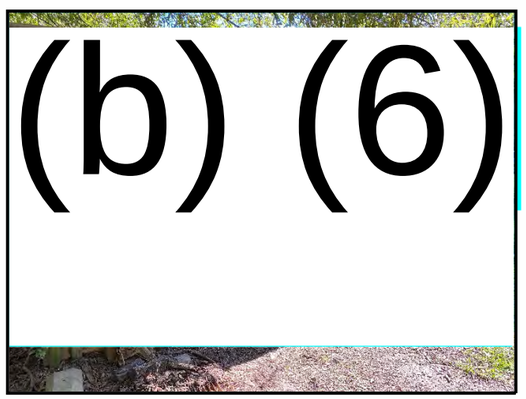


Photo 57: View of original location for KD010SS-5 looking northwest (location in shed). A new location for KD010SS-5 was generated.

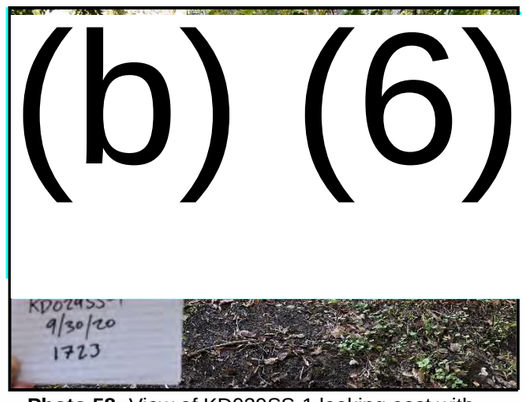


Photo 58: View of KD029SS-1 looking east with burn/trash piles in background.

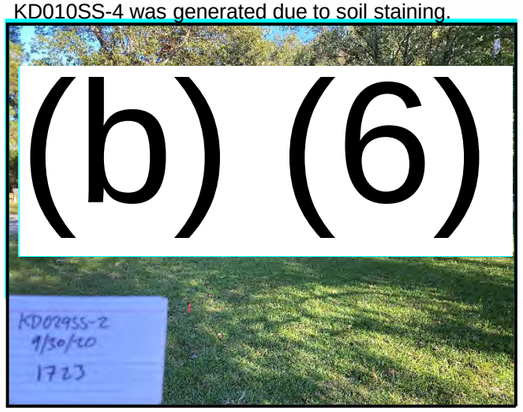


Photo 59: View of KD029SS-2 looking southeast.

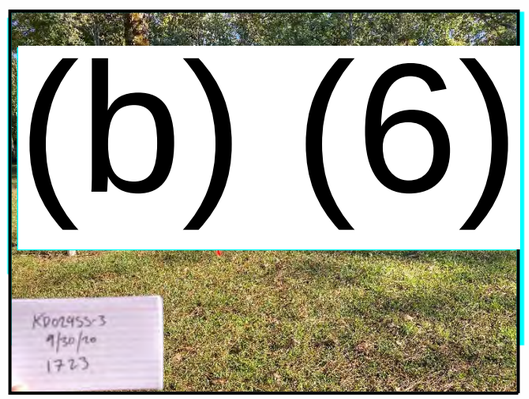


Photo 60: View of KD029SS-3 looking south.

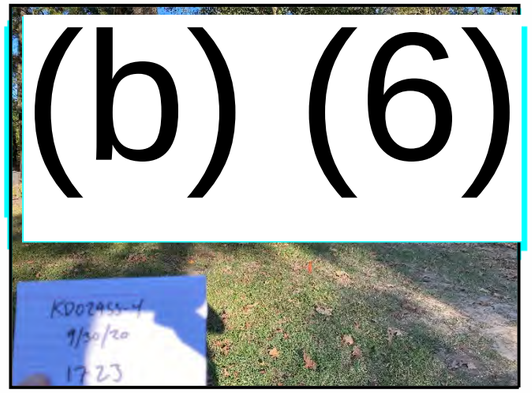


Photo 61: View of KD029SS-4 looking east.

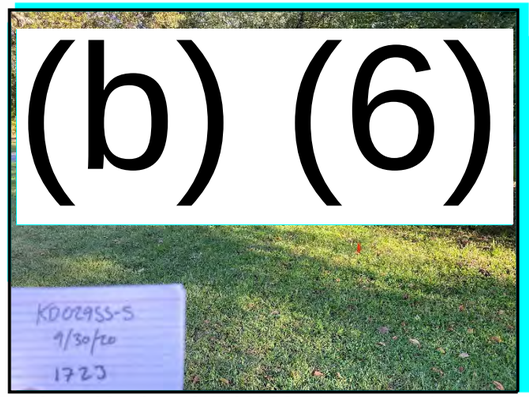


Photo 62: View of KD029SS-5 looking southeast with KD029SS-3 in background.

Photo 63: View of KD029SS-3 looking southeast near telephone pole (~10 ft).

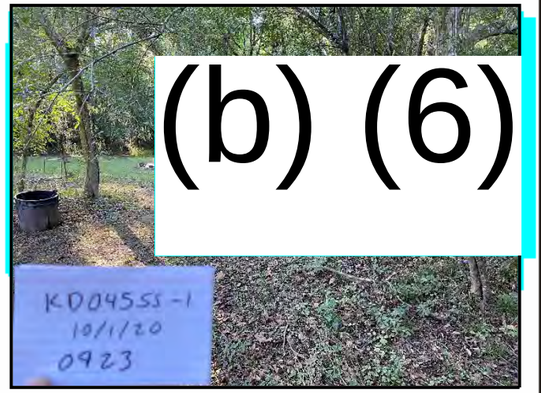


Photo 64: View of KD045SS-1 looking southeast.

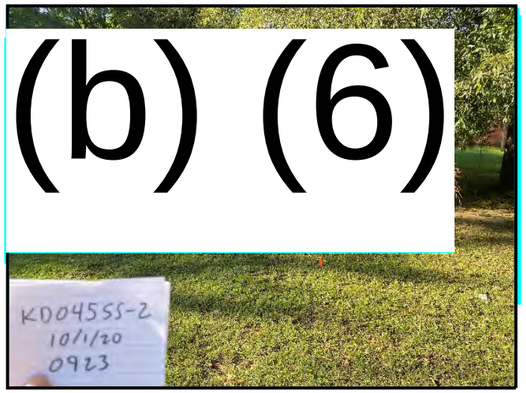


Photo 65: View of KD045SS-2 looking southwest.

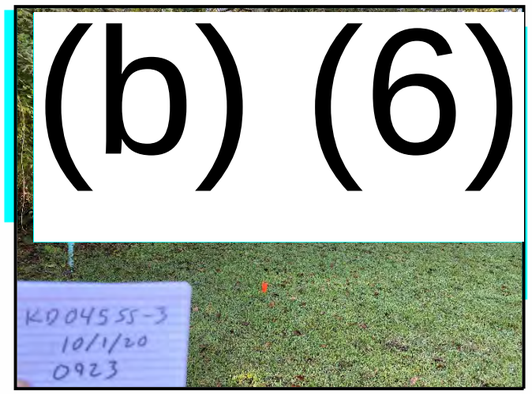


Photo 66: View of KD045SS-3 looking south.

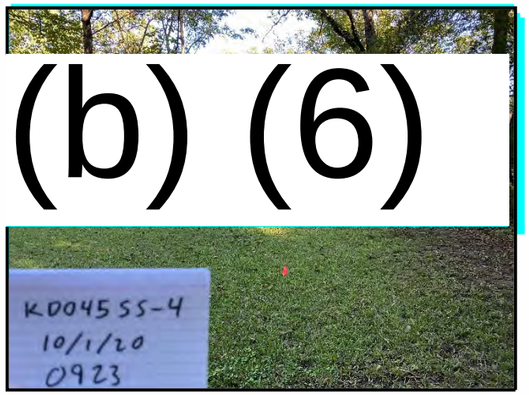


Photo 67: View of KD045SS-4 looking north.

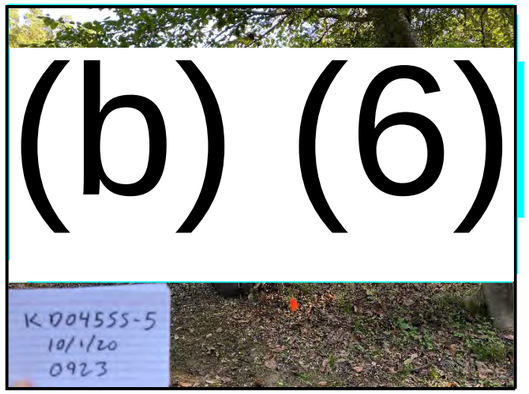


Photo 68: View of KD045SS-5 looking northeast with active deck construction in background.

Photo 69: View of KD045SS-2 looking south. Debris (brick) present in initial attempt.

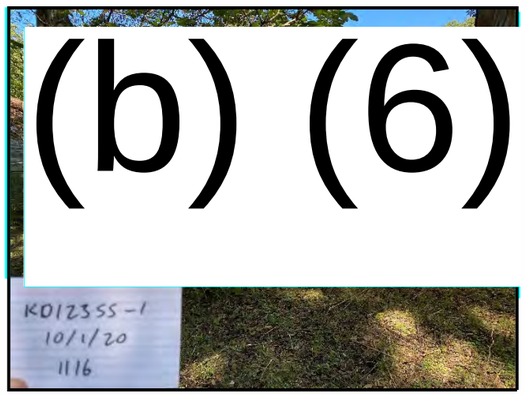


Photo 70: View of KD123SS-1 looking northwest.

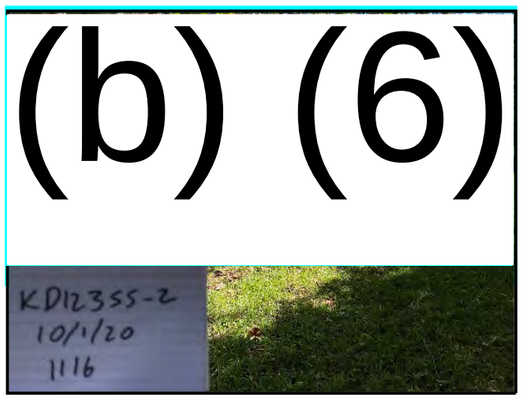


Photo 71: View of KD123SS-2 looking east.

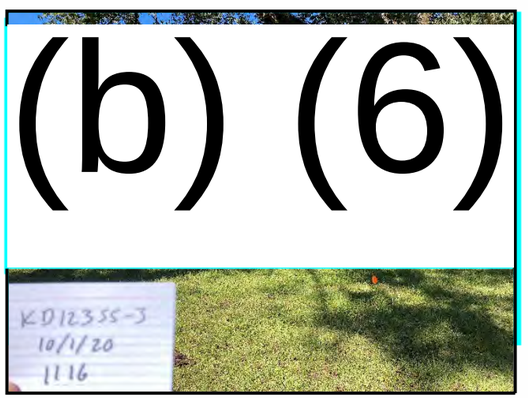


Photo 72: View of KD123SS-3 looking west.

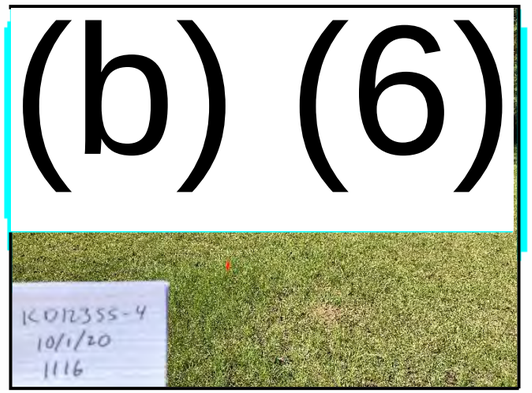


Photo 73: View of KD123SS-4 looking west.

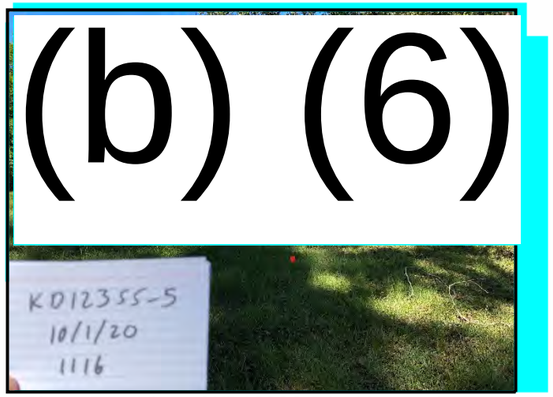


Photo 74a: View of KD123SS-5 looking northwest.

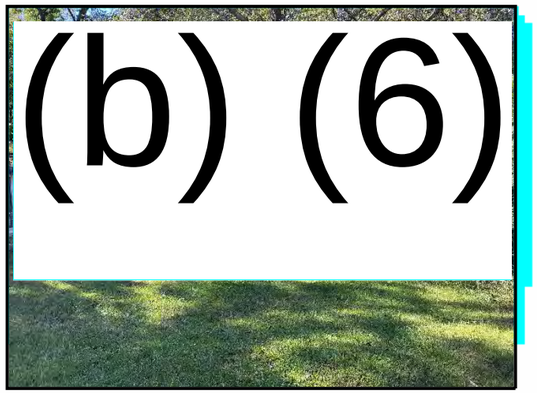


Photo 74b: View of KD123SS-5 original location (under lean-to shed) looking south. A new location for KD123SS-5 was generated.

Photo 75: View of KD149SS-1 looking northeast.

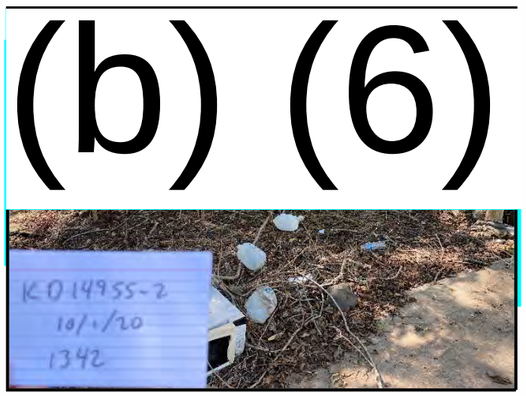


Photo 76: View of KD149SS-2 looking west.

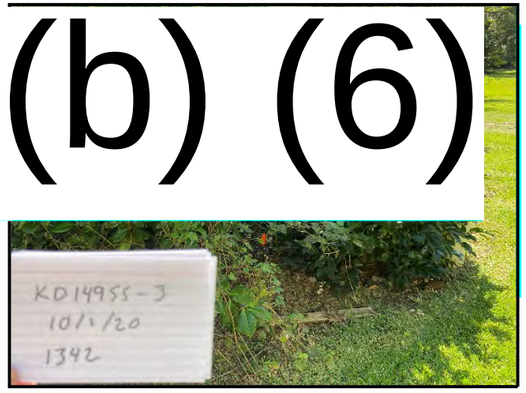


Photo 77: View of KD149SS-3 looking south.

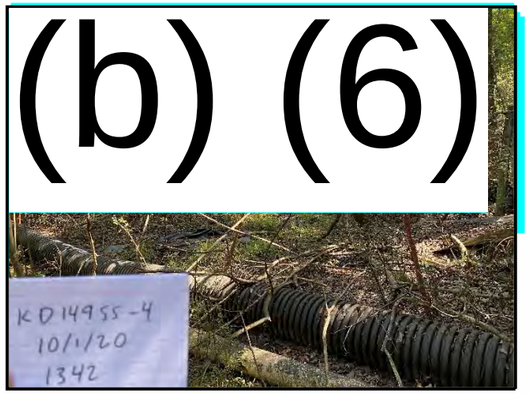


Photo 78: View of KD149SS-4 looking east-southeast.

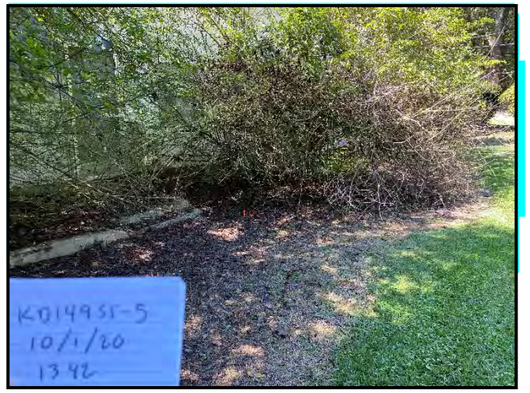


Photo 79: View of KD149SS-5 looking west.

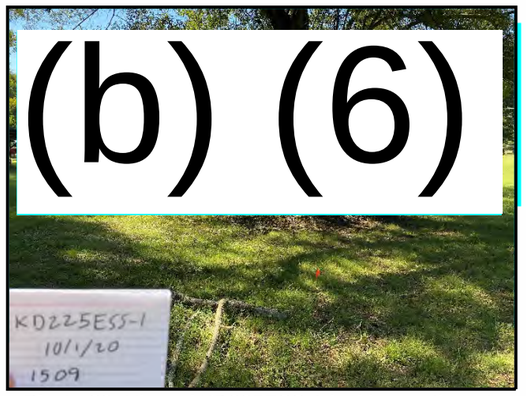


Photo 80: View of KD225ESS-1 looking northwest.

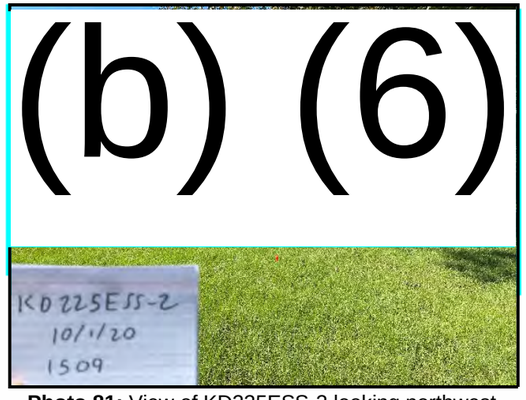


Photo 81: View of KD225ESS-2 looking northwest.

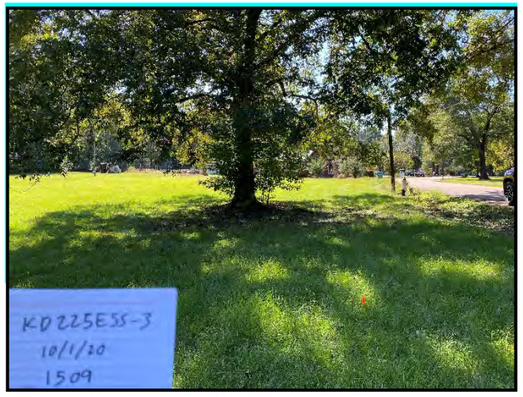


Photo 82: View of KD225ESS-3 looking west.

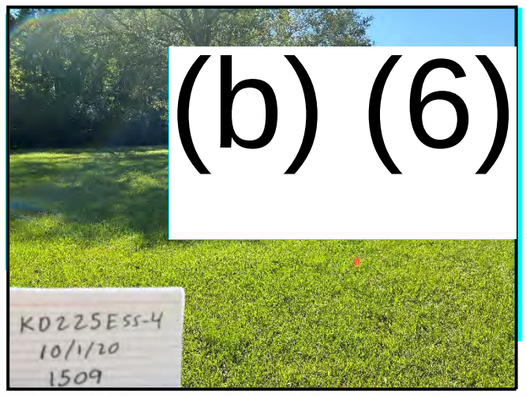


Photo 83: View of KD225ESS-4 looking south.

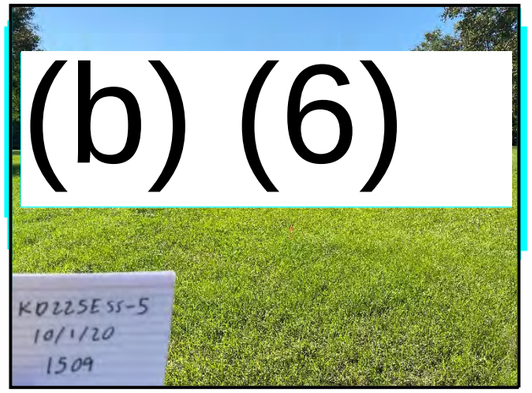


Photo 84: View of KD225ESS-5 looking west-southwest.

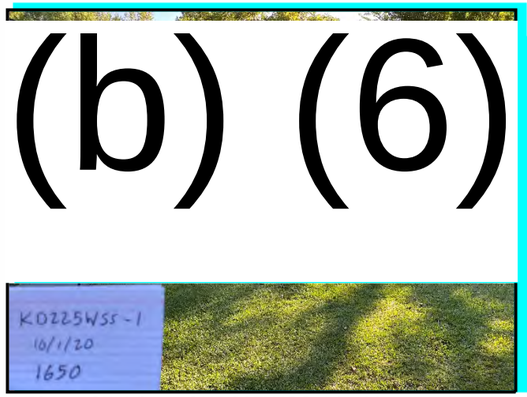


Photo 85: View of KD225WSS-1 looking south.

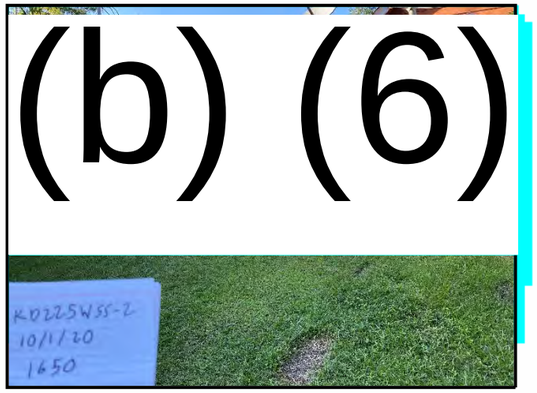


Photo 86: View of KD225WSS-2 looking northwest.

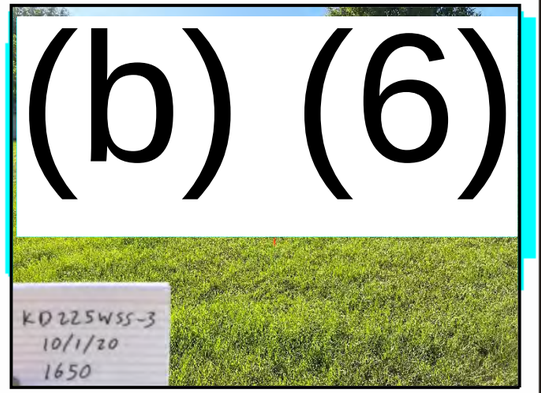


Photo 87: View of KD225WSS-3 looking west.

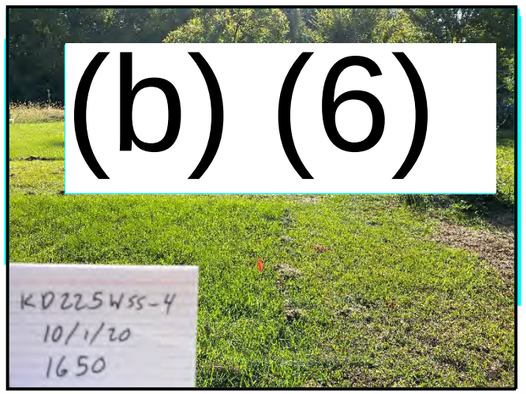


Photo 88: View of KD225WSS-4 looking west.

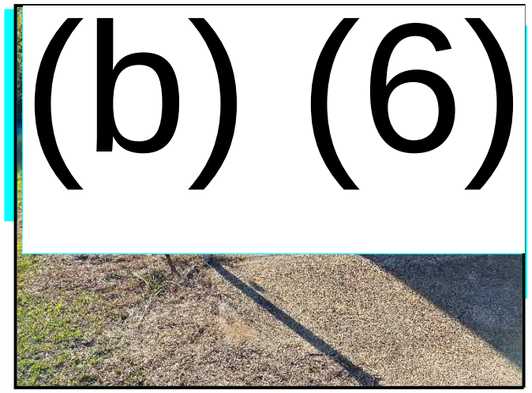


Photo 89: View of original location (under concrete parking slab) for KD225WSS-2 looking west. A new location for KD225WSS-2 was generated.

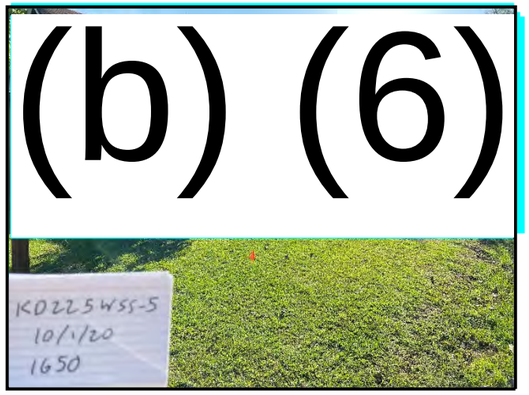


Photo 90: View of KD225WSS-5 looking southwest.

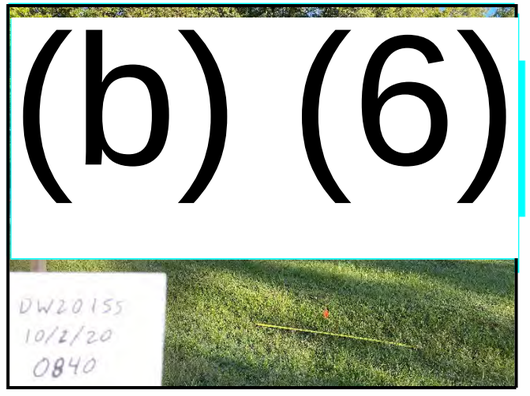


Photo 91: View of DW201SS looking northwest.

Photo 92: View of DW201SS looking northeast (post sample collection).

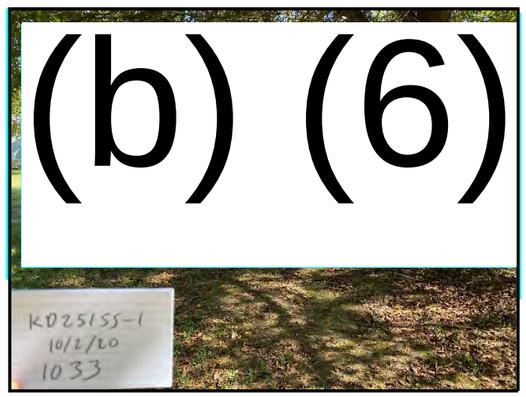


Photo 93: View of KD251SS-1 looking northeast.

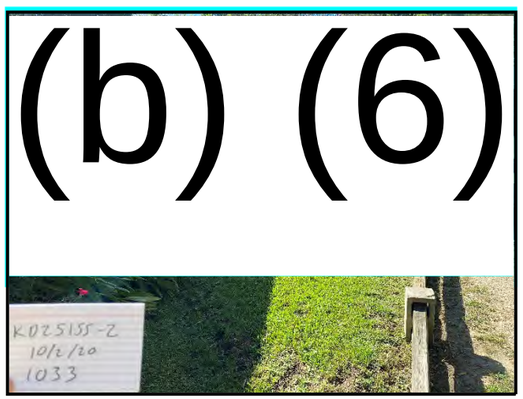


Photo 94: View of KD251SS-2 looking southeast.

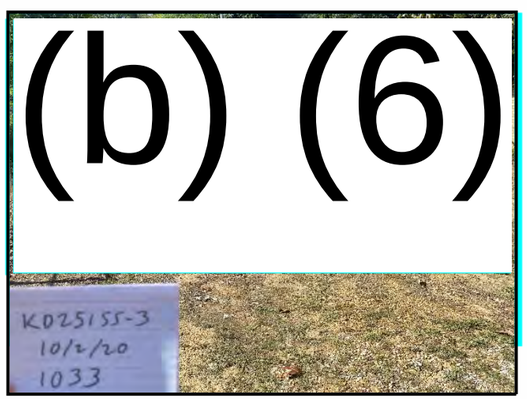


Photo 95: View of KD251SS-3 looking south.

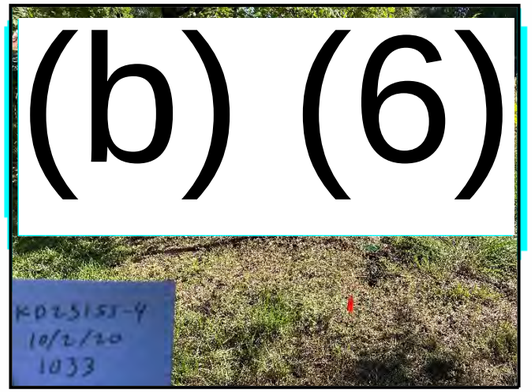


Photo 96: View of KD251SS-4 looking northeast.

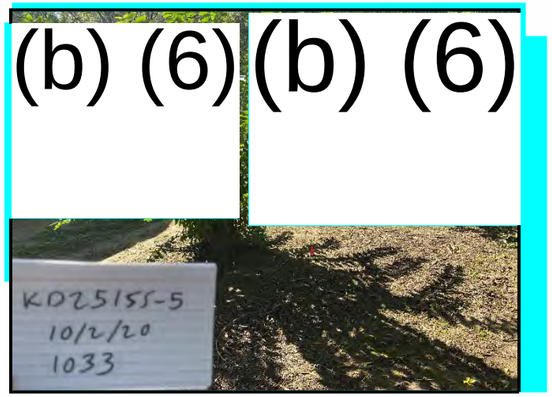


Photo 97: View of KD251SS-5 looking south-southeast.

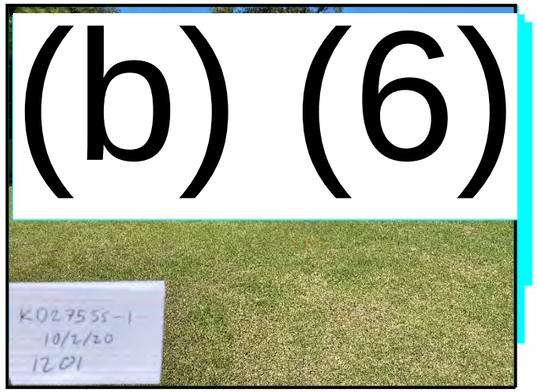


Photo 98: View of KD275SS-1 looking west.

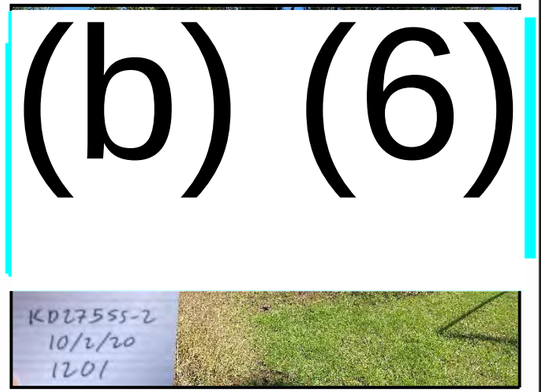


Photo 99: View of KD275SS-2 looking northeast.

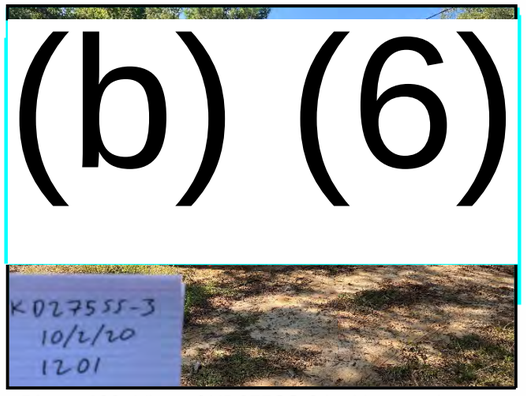


Photo 100: View of KD275SS-3 looking south.

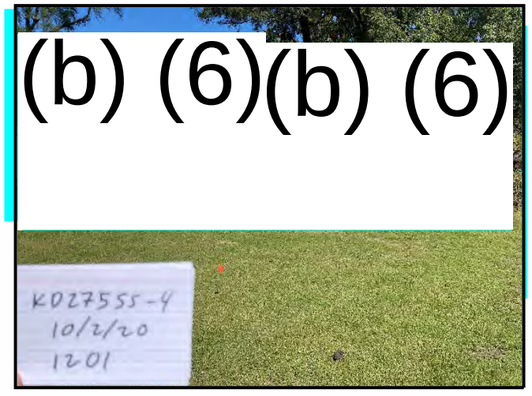


Photo 101: View of KD275SS-4 looking northwest.

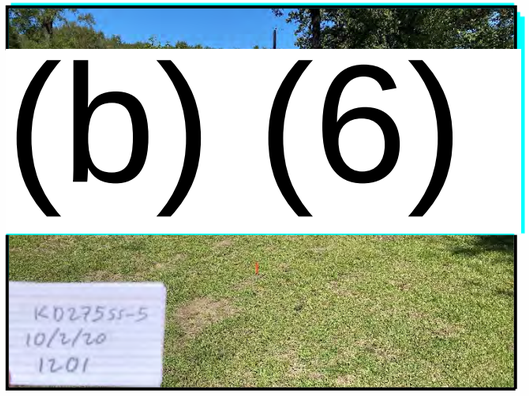


Photo 102: View of KD275SS-5 looking west-northwest.

Photo 103: Closeup of KD275SS-(1 and 2) showing dark streaks in soil.

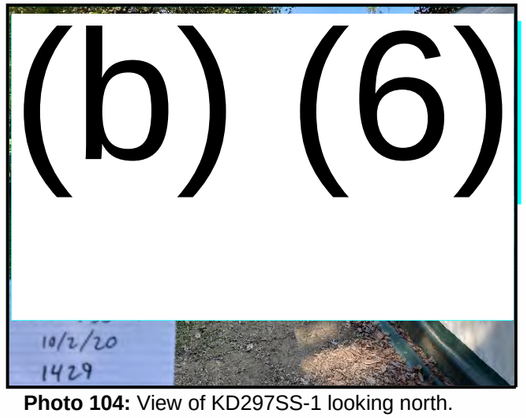


Photo 104: View of KD297SS-1 looking north.

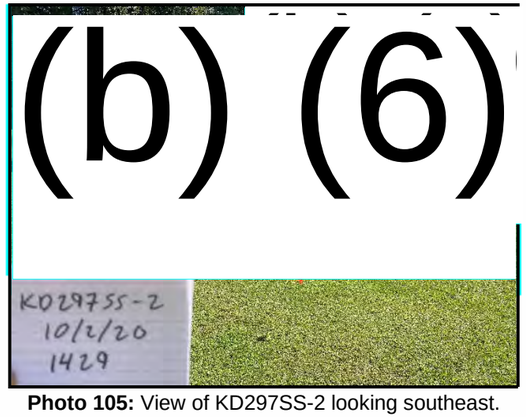


Photo 105: View of KD297SS-2 looking southeast.

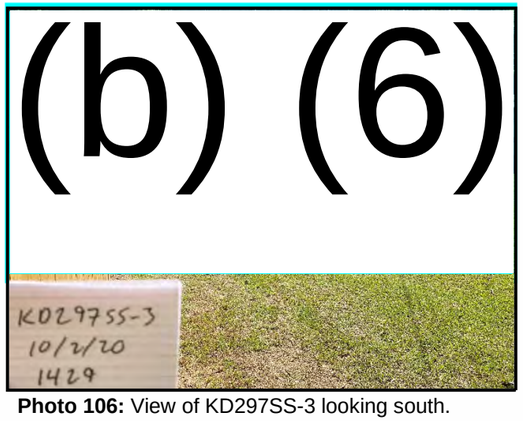


Photo 106: View of KD297SS-3 looking south.

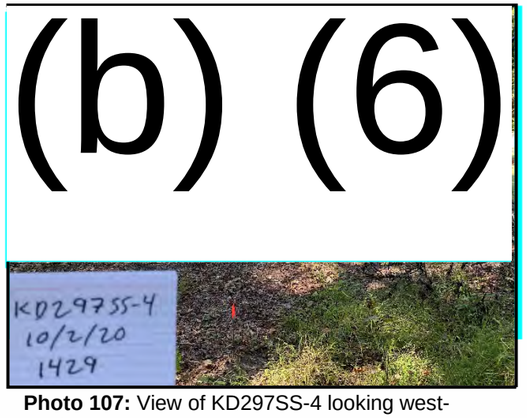


Photo 107: View of KD297SS-4 looking west-northwest.

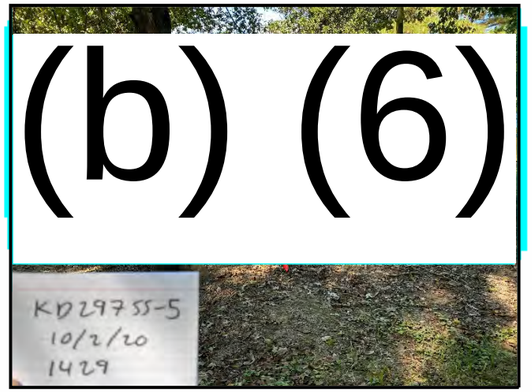


Photo 108: View of KD297SS-5 looking north.

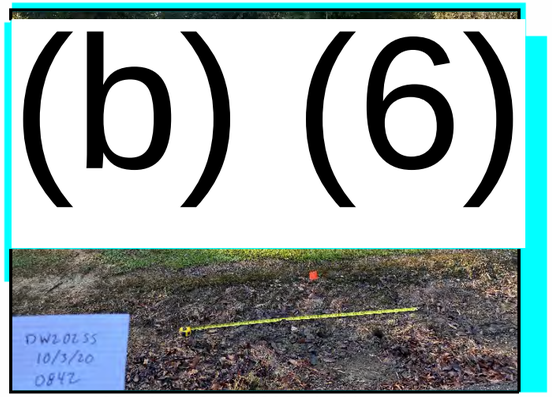


Photo 109: View of DW202SS looking south.

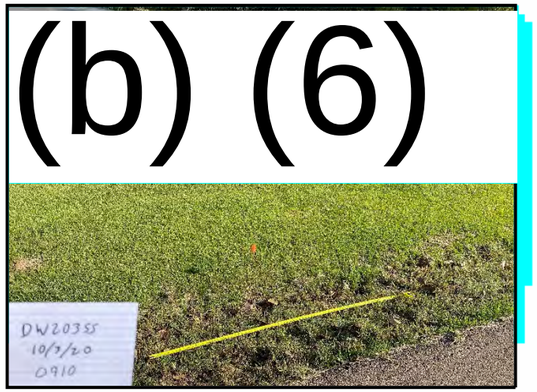


Photo 110: View of DW203SS looking northeast.

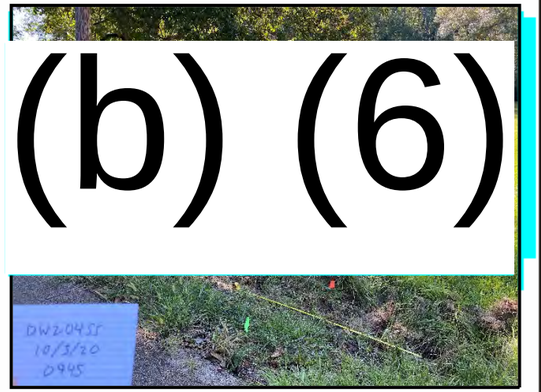


Photo 111: View of DW204SS looking east showing proximity to telephone pole.

Photo 112: View of DW205SS looking northeast.

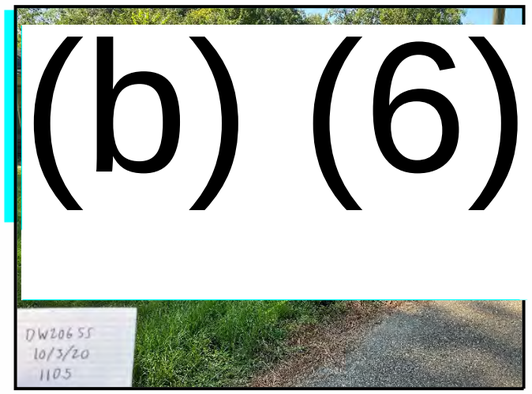


Photo 113: View of DW206SS looking southwest.

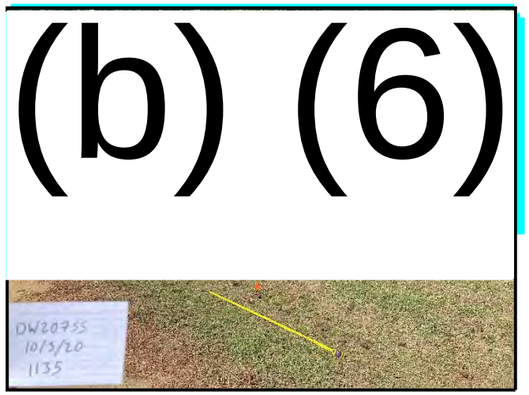


Photo 114: View of DW207SS looking west.

Photo 115: Closeup of hand auger bucket showing black object at DW208SS 5th (furthest east) location.

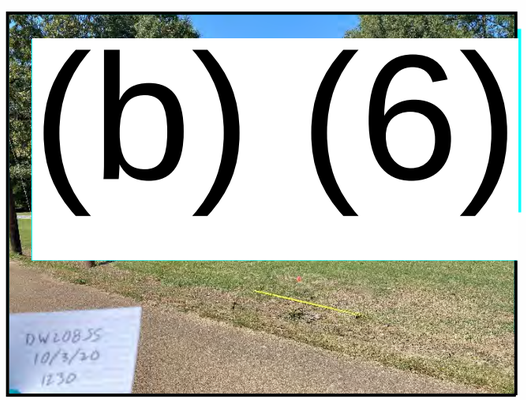


Photo 116: View of DW208SS looking northwest.

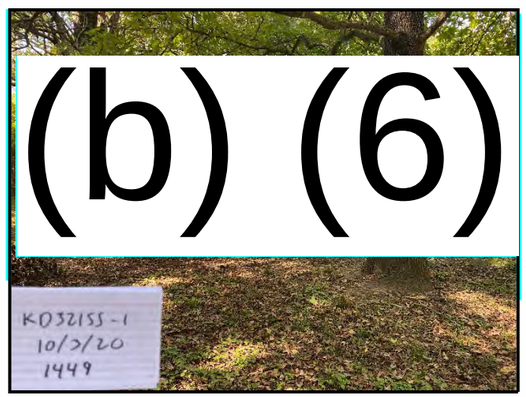


Photo 117: View of KD321SS-1 looking northwest.

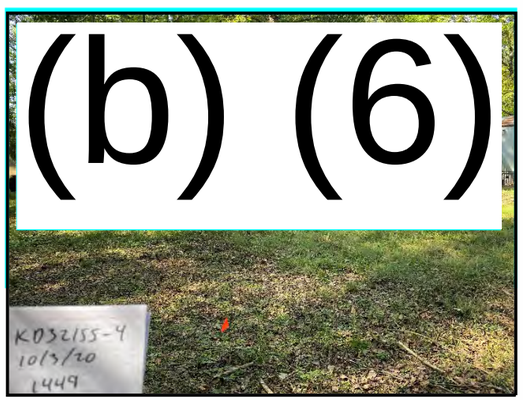


Photo 118: View of KD321SS-4 looking northwest.

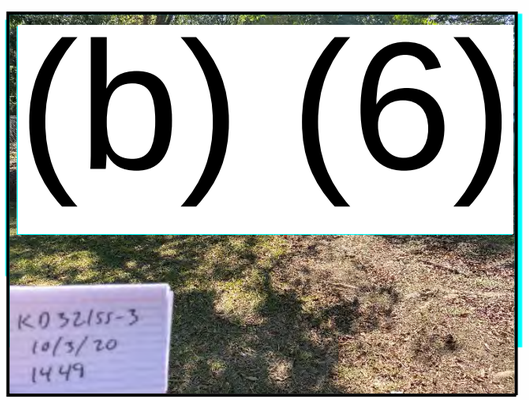


Photo 119: View of KD321SS-3 looking south.

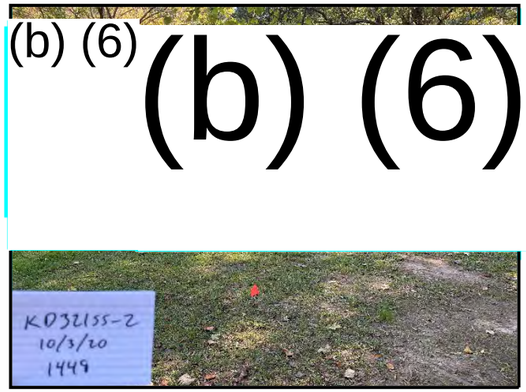


Photo 120: View of KD321SS-2 looking south-southeast.

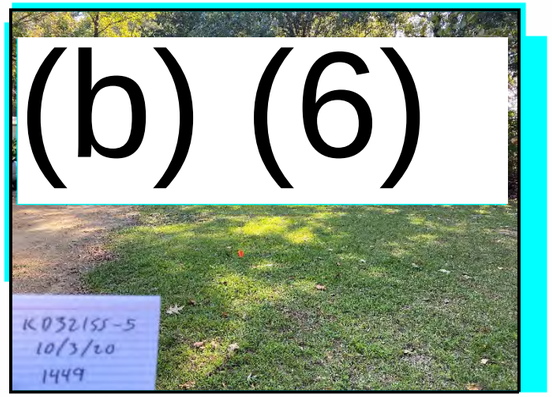


Photo 121: View of KD321SS-5 looking south.

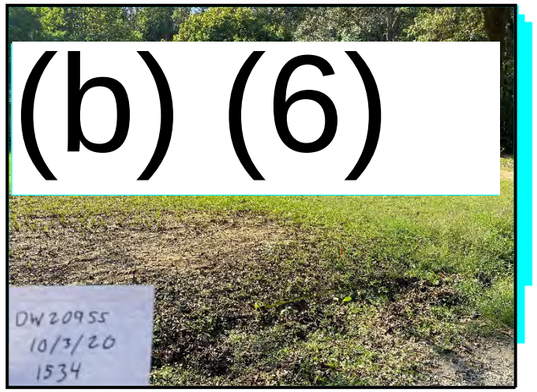


Photo 122: View of DW209SS looking west-northwest.

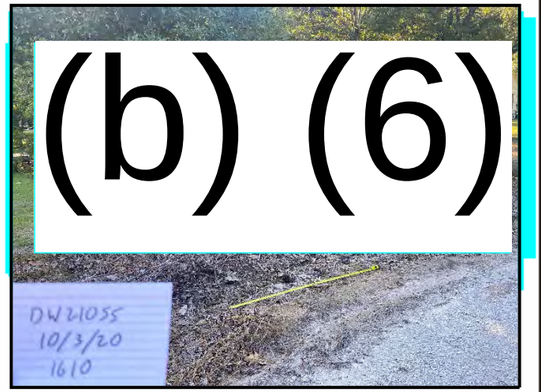


Photo 123: View of DW210SS looking northwest.

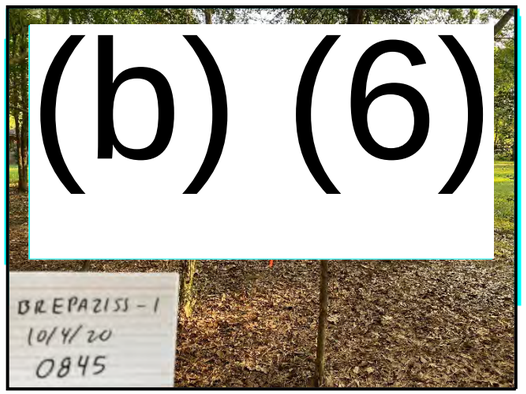


Photo 124: View of BREPA21SS-1 looking north.

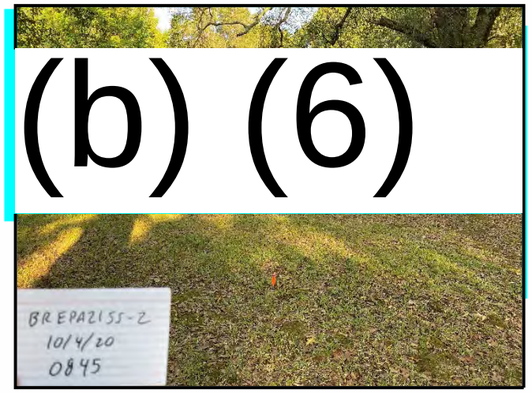


Photo 125: View of BREPA21SS-2 looking west.

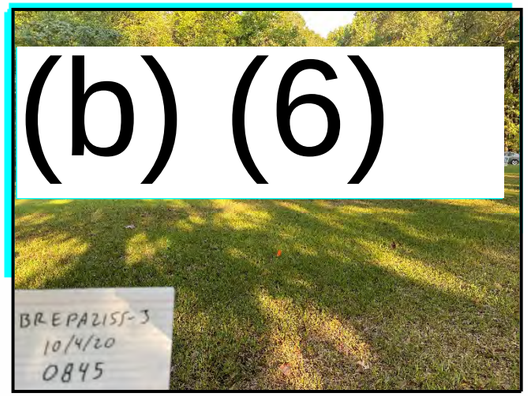


Photo 126: View of BREPA21SS-3 looking northwest.

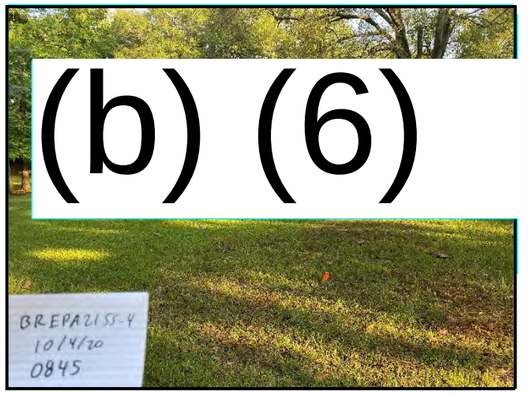


Photo 127: View of BREPA21SS-4 looking northwest.

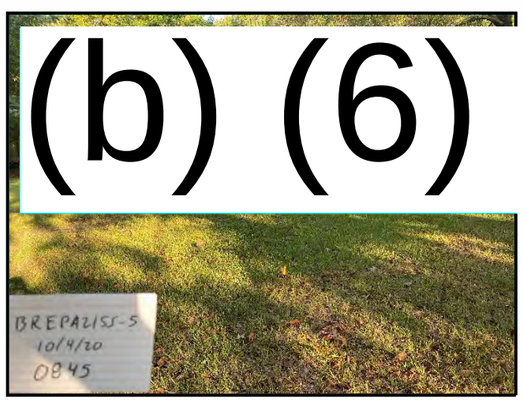


Photo 128: View of BREPA21SS-5 looking northwest.

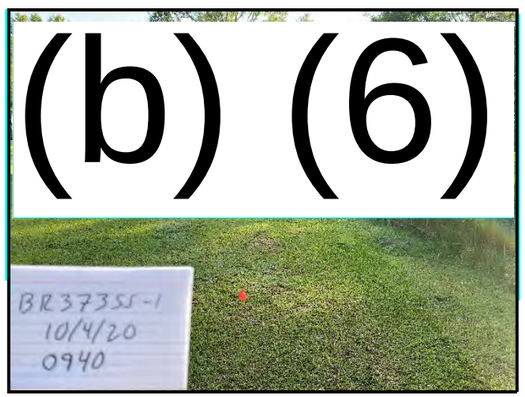


Photo 129: View of BR373SS-1 looking east-northeast.

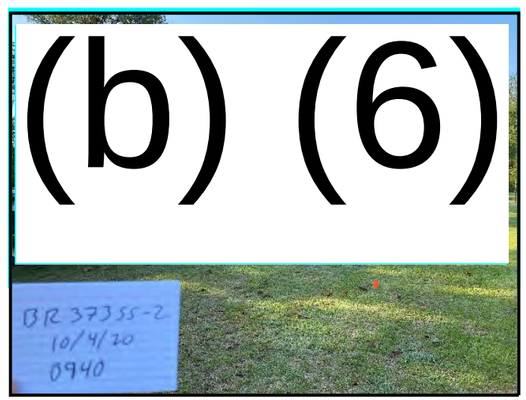


Photo 130: View of BR373SS-2 looking south.

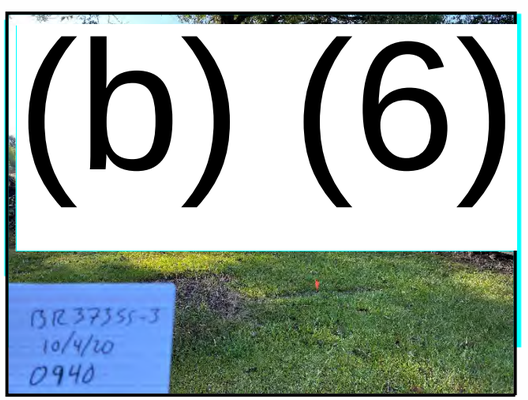


Photo 131: View of BR373SS-3 looking south.

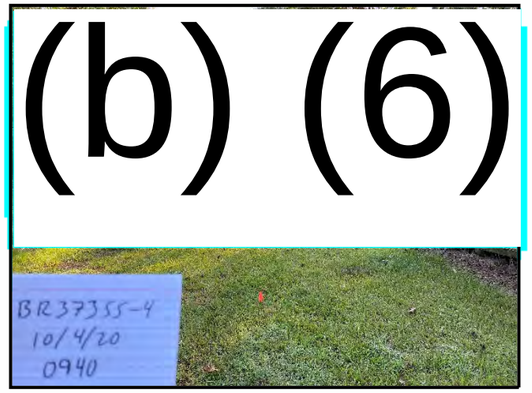


Photo 132: View of BR373SS-4 looking east.

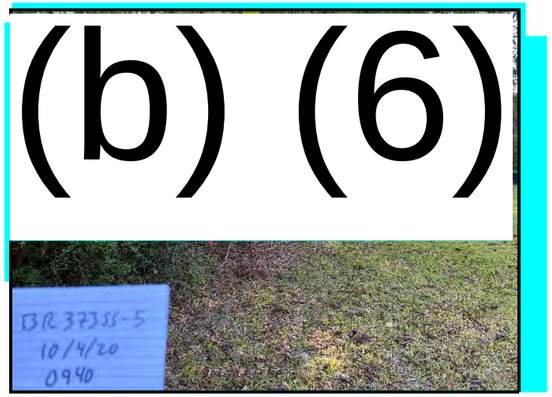


Photo 133: View of BR373SS-5 looking southeast.

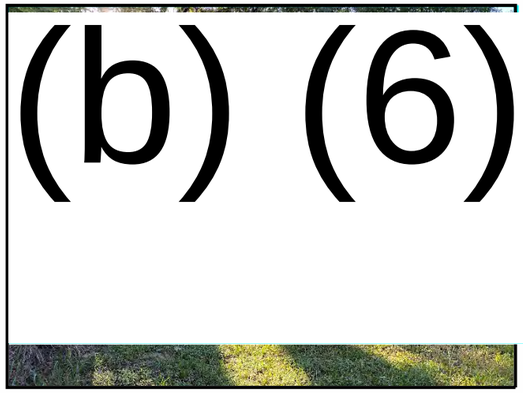


Photo 134: View of drums in quadrant 4 of BR373 lot looking southeast.

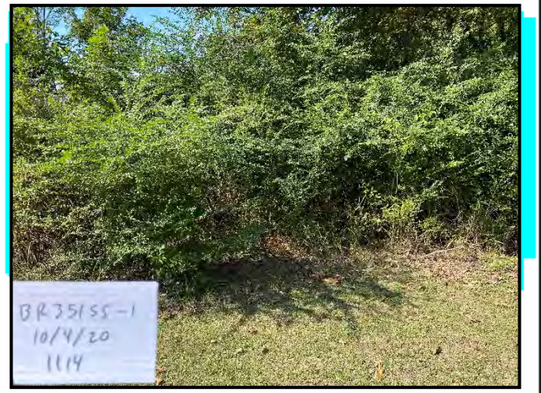


Photo 135: View of BR351SS-1 looking southwest.

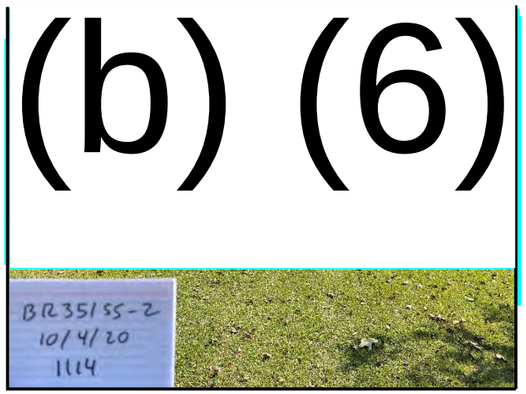


Photo 136: View of BR351SS-2 looking east.

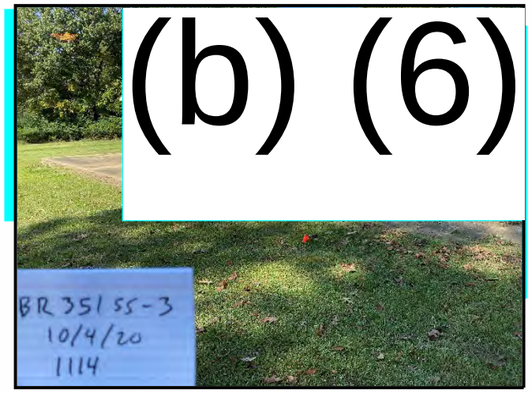


Photo 137: View of BR351SS-3 looking west-northwest.

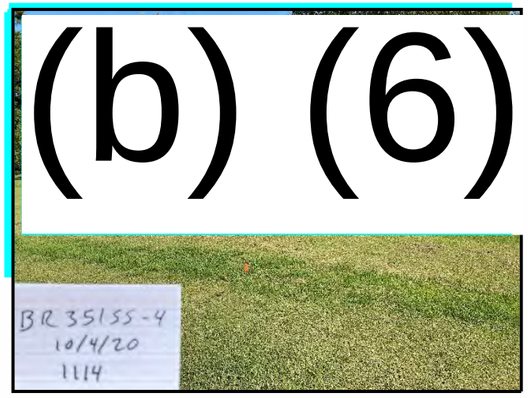


Photo 138: View of BR351SS-4 looking north.

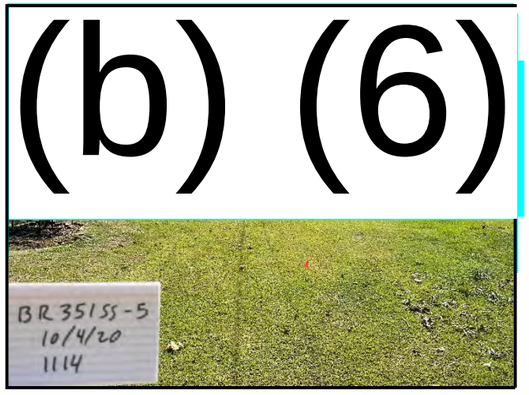


Photo 139: View of BR351SS-5 looking east.

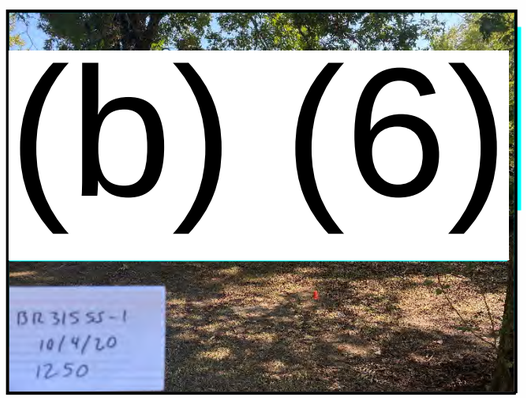


Photo 140: View of BR315SS-1 looking east-northeast.

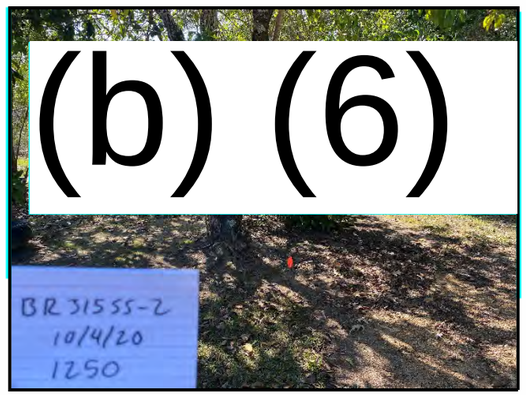


Photo 141: View of BR315SS-2 looking south.

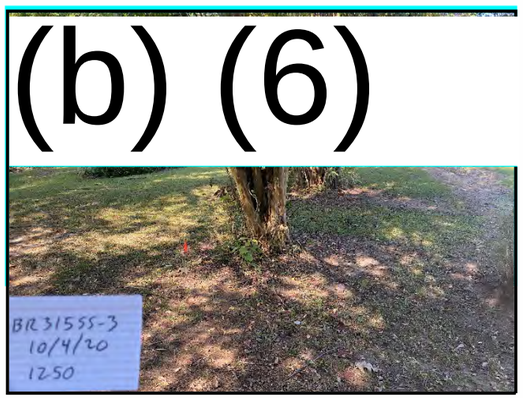


Photo 142: View of BR315SS-3 looking west.

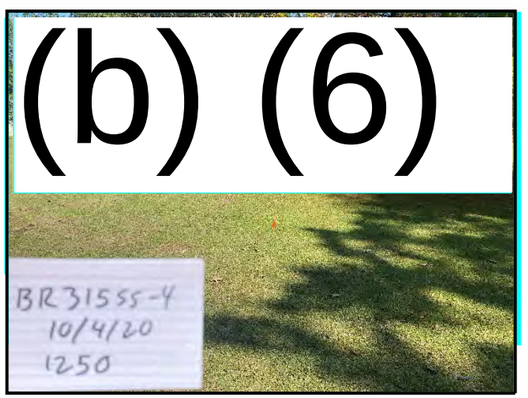


Photo 143: View of BR315SS-4 looking northeast.

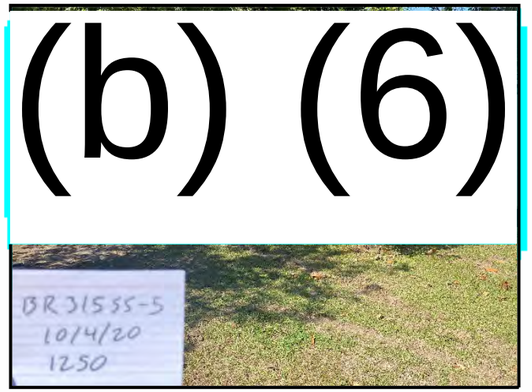


Photo 144: View of BR315SS-5 looking west.

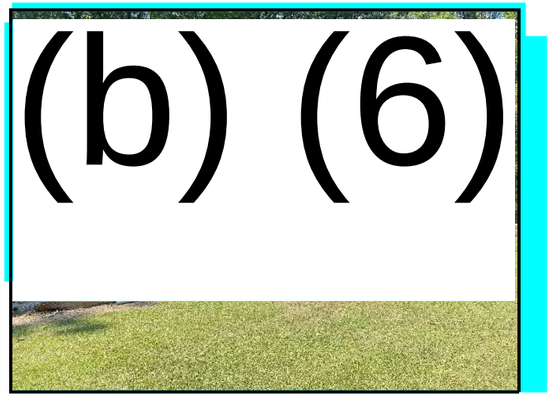


Photo 145: View of drums/debris at back of BR315 property looking west.

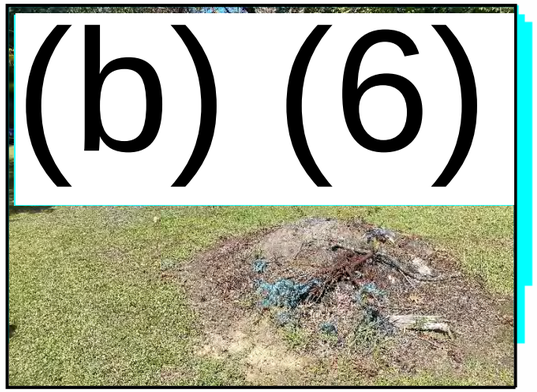


Photo 146: View of inorganic burn piles in BR315 lot (with e-waste in background) looking northwest.

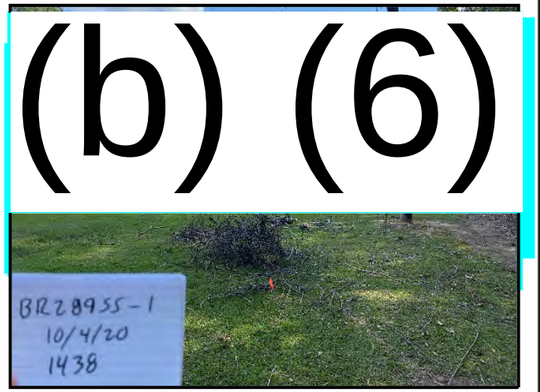


Photo 147: View of BR289SS-1 looking east.

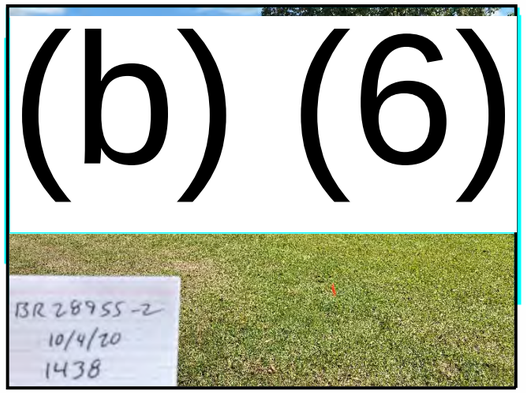


Photo 148: View of BR289SS-2 looking east.

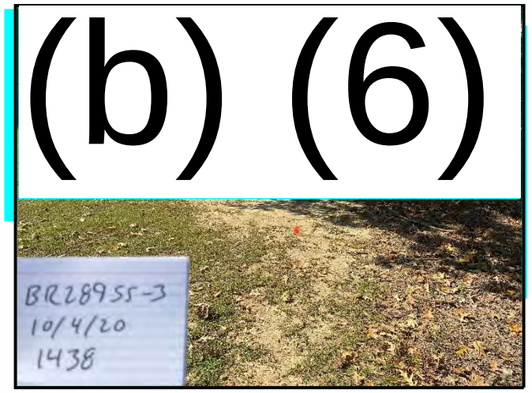


Photo 149: View of BR289SS-3 looking west.

Photo 150: View of BR289SS-4 looking northwest.

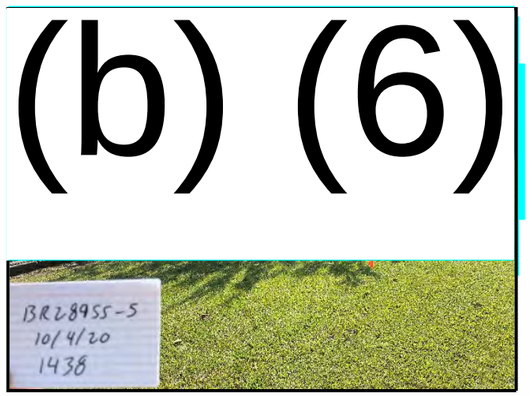


Photo 151: View of BR289SS-5 looking south

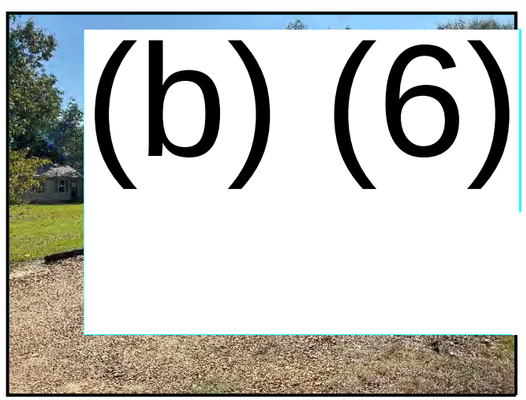


Photo 152: View of BR289 driveway with railroad tie border looking south.

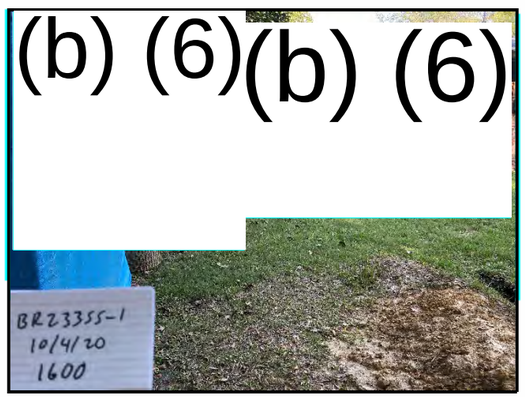


Photo 153: View of BR233SS-1 looking east.

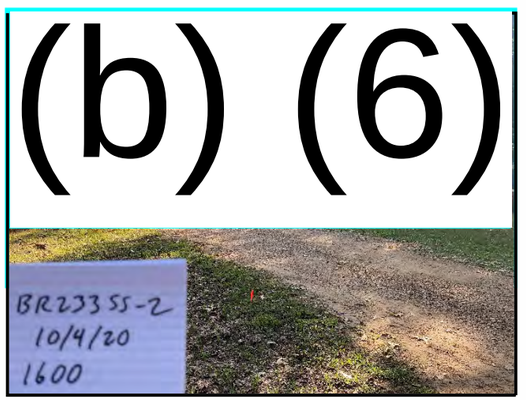


Photo 154: View of BR233SS-2 looking south.

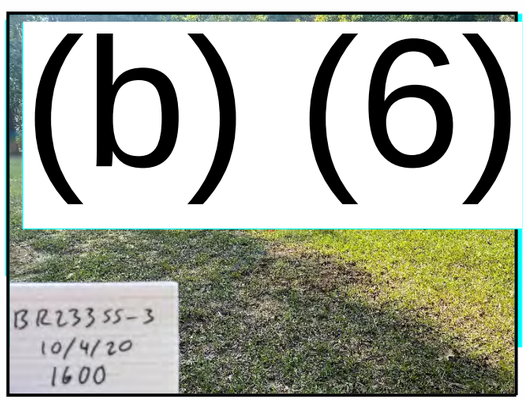


Photo 155: View of BR233SS-3 looking southwest.

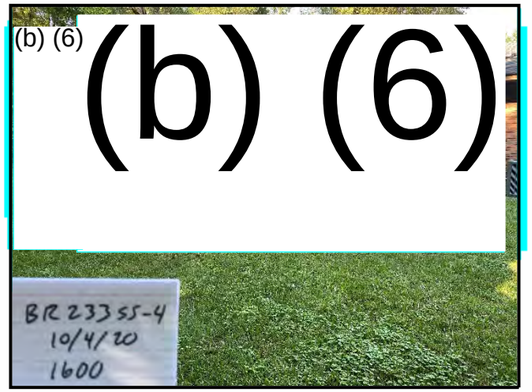


Photo 156: View of BR233SS-4 looking north.

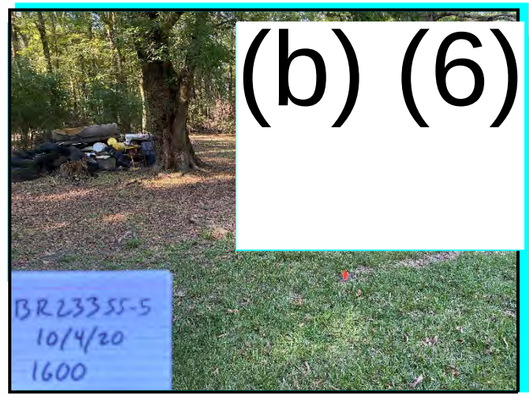


Photo 157: View of BR233SS-5 looking north.

APPENDIX C

2020 Analytical Laboratory Data

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-111697-1
Client Project/Site: Grenada, Mississippi

For:
Tetra Tech GEO
2969 Prospect Park Drive
Suite 100
Rancho Cordova, California 95670

Attn: Ms. Jennifer Abrahams, P.G.

Veronica Bortot

Authorized for release by:
10/27/2020 9:32:08 AM

Veronica Bortot, Senior Project Manager
(412)963-2435
Veronica.Bortot@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Case Narrative

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Job ID: 180-111697-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111697-1

Comments
No additional comments.

Receipt
The samples were received on 10/1/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.7º C.

GC/MS Semi VOA
Method 8270E: The following sample was diluted due to the nature of the sample matrix: KD280SS. Elevated reporting limits (RLs) are provided.

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

Dioxin
Method 8290A: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-419525 and analytical batch 320-420486 recovered outside control limits for 2,3,4,6,7,8-HxCDF. The recoveries for this analyte were within limits in both the LCS and LCSD.

Method 8290A: The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: KDEPA9SS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 8290A: The concentration of OCDD associated with the following sample exceeded the instrument calibration range: KD248SS. These analytes have been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 8290A: The concentration of OCDD associated with the following sample exceeded the instrument calibration range: KD860SS. These analytes have been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

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

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

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

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

Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Qualifiers

GC/MS Semi VOA

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.

Dioxin

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111697-1
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111697-1
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111697-1	KD302SS	Solid	09/28/20 13:50	10/01/20 09:00	
180-111697-2	KD280SS	Solid	09/28/20 16:17	10/01/20 09:00	
180-111697-3	KD280SS-EB	Water	09/28/20 17:45	10/01/20 09:00	
180-111697-4	KD248SS	Solid	09/29/20 09:15	10/01/20 09:00	
180-111697-5	KD216SS	Solid	09/29/20 11:01	10/01/20 09:00	
180-111697-6	KD132SS	Solid	09/29/20 12:53	10/01/20 09:00	
180-111697-7	KDEPA9SS	Solid	09/29/20 15:09	10/01/20 09:00	
180-111697-8	KD106SS-EB	Water	09/29/20 17:55	10/01/20 09:00	
180-111697-9	KD106SS	Solid	09/29/20 17:05	10/01/20 09:00	
180-111697-10	KD080SS	Solid	09/30/20 09:30	10/01/20 09:00	
180-111697-11	KD010SS	Solid	09/30/20 11:40	10/01/20 09:00	
180-111697-12	KD860SS	Solid	09/30/20 12:00	10/01/20 09:00	

Method Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Method	Method Description	Protocol	Laboratory
EPA 8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PIT
EPA 8270E	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
SM 2540G	Total, Fixed, and Volatile Solids	SM	TAL PIT
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL SAC
8290	Soxhlet Extraction of Dioxins and Furans	SW846	TAL SAC

Protocol References:

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:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Client Sample ID: KD302SS
Date Collected: 09/28/20 13:50
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333942	10/19/20 18:36	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD302SS
Date Collected: 09/28/20 13:50
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-1
Matrix: Solid
Percent Solids: 77.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.11 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333005	10/11/20 18:13	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290			9.94 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			422781	10/17/20 23:54	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD280SS
Date Collected: 09/28/20 16:17
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333942	10/19/20 18:36	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD280SS
Date Collected: 09/28/20 16:17
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-2
Matrix: Solid
Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.74 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		3	1 mL	1 mL	333005	10/11/20 18:41	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290			10.37 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			422781	10/18/20 00:42	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD280SS-EB
Date Collected: 09/28/20 17:45
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			240 mL	250 uL	332126	10/02/20 11:12	BJT	TAL PIT
Total/NA	Analysis	EPA 8270D LL		1	1 mL	1 mL	333064	10/12/20 21:17	VVP	TAL PIT
	Instrument ID: CHMSD7									
Total/NA	Prep	8290			977.8 mL	20.0 uL	419525	10/07/20 11:35	NR	TAL SAC
Total/NA	Analysis	8290A		1			420486	10/10/20 11:27	ALM	TAL SAC
	Instrument ID: 3D5									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Client Sample ID: KD248SS
Date Collected: 09/29/20 09:15
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333942	10/19/20 18:36	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD248SS
Date Collected: 09/29/20 09:15
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-4
Matrix: Solid
Percent Solids: 76.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.28 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333005	10/11/20 19:08	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290			10.41 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			422781	10/18/20 01:29	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD216SS
Date Collected: 09/29/20 11:01
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333942	10/19/20 18:36	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD216SS
Date Collected: 09/29/20 11:01
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-5
Matrix: Solid
Percent Solids: 79.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.12 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333005	10/11/20 19:36	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290			10.60 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423107	10/18/20 09:00	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD132SS
Date Collected: 09/29/20 12:53
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333942	10/19/20 18:36	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Client Sample ID: KD132SS
Date Collected: 09/29/20 12:53
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-6
Matrix: Solid
Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.23 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333005	10/11/20 20:03	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290			10.02 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423107	10/18/20 09:47	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KDEPA9SS
Date Collected: 09/29/20 15:09
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333942	10/19/20 18:36	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KDEPA9SS
Date Collected: 09/29/20 15:09
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-7
Matrix: Solid
Percent Solids: 72.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.82 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333005	10/11/20 20:31	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290	RA		10.02 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A	RA	1			424573	10/22/20 13:47	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			10.02 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423107	10/18/20 10:35	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD106SS-EB
Date Collected: 09/29/20 17:55
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			270 mL	2.5 mL	332321	10/05/20 16:50	BJT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333663	10/16/20 13:05	VVP	TAL PIT
	Instrument ID: CH732									
Total/NA	Prep	8290			988.3 mL	20.0 uL	419525	10/07/20 11:35	NR	TAL SAC
Total/NA	Analysis	8290A		1			420486	10/10/20 12:14	ALM	TAL SAC
	Instrument ID: 3D5									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Client Sample ID: KD106SS
Date Collected: 09/29/20 17:05
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333944	10/19/20 19:07	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD106SS
Date Collected: 09/29/20 17:05
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-9
Matrix: Solid
Percent Solids: 76.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.49 g	5.0 mL	332759	10/08/20 14:08	JAS	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333005	10/11/20 20:58	VVP	TAL PIT
	Instrument ID: CH731									
Total/NA	Prep	8290	RA		10.37 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A	RA	1			424573	10/22/20 14:25	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			10.37 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423107	10/18/20 11:23	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD080SS
Date Collected: 09/30/20 09:30
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333944	10/19/20 19:07	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD080SS
Date Collected: 09/30/20 09:30
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-10
Matrix: Solid
Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		3	1 mL	1 mL	333708	10/16/20 18:42	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.80 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423107	10/18/20 12:11	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD010SS
Date Collected: 09/30/20 11:40
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333944	10/19/20 19:07	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Client Sample ID: KD010SS
Date Collected: 09/30/20 11:40
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-11
Matrix: Solid
Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 19:07	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		10.64 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A	RA	1			424573	10/22/20 15:04	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			10.64 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423107	10/18/20 12:59	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: KD860SS
Date Collected: 09/30/20 12:00
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540G		1			333944	10/19/20 19:07	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD860SS
Date Collected: 09/30/20 12:00
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-12
Matrix: Solid
Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 19:33	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		10.75 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A	RA	1			424573	10/22/20 15:42	SMA	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			10.75 g	20.0 uL	419261	10/06/20 13:56	SR1	TAL SAC
Total/NA	Analysis	8290A		1			423405	10/20/20 04:21	AS	TAL SAC
	Instrument ID: DFS 1									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Analyst References:

Lab: TAL PIT

Batch Type: Prep

BJT = Bill Trout
CSC = Chayce Cockroft
JAS = Jeremy Stundon

Batch Type: Analysis

PMH = Paloma Hoelzle
VVP = Vincent Piccolino

Lab: TAL SAC

Batch Type: Prep

NR = Noe Ruiz
SR1 = Sina Rafieefar

Batch Type: Analysis

ALM = Adrian Messecar
AS = Ajay Sharda
SMA = Saleh Arghestani

Client Sample ID: KD302SS

Date Collected: 09/28/20 13:50
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-1

Matrix: Solid
Percent Solids: 77.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		85	24	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Acenaphthylene	ND		85	19	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Anthracene	ND		85	22	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Benzo[a]anthracene	**51**	**J**	85	38	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Benzo[b]fluoranthene	**83**	**J**	85	21	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Benzo[k]fluoranthene	ND		85	26	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Benzo[g,h,i]perylene	**36**	**J**	85	18	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Benzo[a]pyrene	ND		85	37	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Chrysene	**59**	**J**	85	47	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Dibenz(a,h)anthracene	ND		85	54	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Fluoranthene	**79**	**J**	85	22	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Fluorene	ND		85	17	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Indeno[1,2,3-cd]pyrene	ND		85	42	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Naphthalene	**31**	**J**	85	17	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Phenanthrene	**70**	**J**	85	23	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1
Pyrene	**71**	**J**	85	20	ug/Kg	☼	10/08/20 14:08	10/11/20 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*45 - 105*	*10/08/20 14:08*	*10/11/20 18:13*	*1*
2-Fluorophenol (Surr)	*77*		*42 - 105*	*10/08/20 14:08*	*10/11/20 18:13*	*1*
2,4,6-Tribromophenol (Surr)	*79*		*31 - 105*	*10/08/20 14:08*	*10/11/20 18:13*	*1*
Nitrobenzene-d5 (Surr)	*87*		*53 - 105*	*10/08/20 14:08*	*10/11/20 18:13*	*1*
Phenol-d5 (Surr)	*76*		*47 - 105*	*10/08/20 14:08*	*10/11/20 18:13*	*1*
Terphenyl-d14 (Surr)	*81*		*46 - 105*	*10/08/20 14:08*	*10/11/20 18:13*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.32	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total TCDD	**1.2**	**J**	1.3	0.32	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,7,8-PeCDD	**0.62**	**J q**	6.5	0.23	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total PeCDD	**4.5**	**J q**	6.5	0.23	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,4,7,8-HxCDD	**1.7**	**J B**	6.5	0.12	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,6,7,8-HxCDD	**3.3**	**J**	6.5	0.12	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,7,8,9-HxCDD	**2.9**	**J**	6.5	0.11	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total HxCDD	**32**	**q B**	6.5	0.12	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,4,6,7,8-HpCDD	**88**	**B**	6.5	0.53	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total HpCDD	**210**	**B**	6.5	0.53	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
OCDD	**1500**	**B**	13	1.2	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
2,3,7,8-TCDF	**0.65**	**J**	1.3	0.23	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total TCDF	**1.3**		1.3	0.23	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,7,8-PeCDF	**0.45**	**J**	6.5	0.13	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
2,3,4,7,8-PeCDF	**0.49**	**J**	6.5	0.13	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total PeCDF	**5.3**	**J**	6.5	0.13	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,4,7,8-HxCDF	**1.1**	**J**	6.5	0.19	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,6,7,8-HxCDF	**0.85**	**J**	6.5	0.17	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
2,3,4,6,7,8-HxCDF	**0.67**	**J**	6.5	0.18	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,7,8,9-HxCDF	**0.29**	**J**	6.5	0.18	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
Total HxCDF	**16**		6.5	0.18	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,4,6,7,8-HpCDF	**15**		6.5	0.23	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
1,2,3,4,7,8,9-HpCDF	**1.1**	**J**	6.5	0.26	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1

Client Sample ID: KD302SS

Date Collected: 09/28/20 13:50
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-1

Matrix: Solid
Percent Solids: 77.8

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	46		6.5	0.25	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1
OCDF	49	B	13	0.14	pg/g	☼	10/06/20 13:56	10/17/20 23:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*65*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-OCDD	*82*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-2,3,7,8-TCDF	*63*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-1,2,3,4,7,8-HxCDF	*67*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*40 - 135*	*10/06/20 13:56*	*10/17/20 23:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	79		0.50	0.50	%			10/19/20 18:36	1

Client Sample ID: KD280SS

Date Collected: 09/28/20 16:17
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-2

Matrix: Solid
Percent Solids: 80.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		240	68	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Acenaphthylene	ND		240	52	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Anthracene	ND		240	61	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Benzo[a]anthracene	ND		240	110	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Benzo[b]fluoranthene	ND		240	58	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Benzo[k]fluoranthene	ND		240	71	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Benzo[g,h,i]perylene	ND		240	51	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Benzo[a]pyrene	ND		240	100	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Chrysene	ND		240	130	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Dibenz(a,h)anthracene	ND		240	150	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Fluoranthene	ND		240	62	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Fluorene	ND		240	46	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Indeno[1,2,3-cd]pyrene	ND		240	120	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Naphthalene	ND		240	46	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Phenanthrene	ND		240	63	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3
Pyrene	ND		240	56	ug/Kg	☼	10/08/20 14:08	10/11/20 18:41	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*46*		*45 - 105*	*10/08/20 14:08*	*10/11/20 18:41*	*3*
2-Fluorophenol (Surr)	*53*		*42 - 105*	*10/08/20 14:08*	*10/11/20 18:41*	*3*
2,4,6-Tribromophenol (Surr)	*48*		*31 - 105*	*10/08/20 14:08*	*10/11/20 18:41*	*3*
Nitrobenzene-d5 (Surr)	*57*		*53 - 105*	*10/08/20 14:08*	*10/11/20 18:41*	*3*
Phenol-d5 (Surr)	*54*		*47 - 105*	*10/08/20 14:08*	*10/11/20 18:41*	*3*
Terphenyl-d14 (Surr)	*49*		*46 - 105*	*10/08/20 14:08*	*10/11/20 18:41*	*3*

Client Sample ID: KD280SS

Date Collected: 09/28/20 16:17
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-2

Matrix: Solid
Percent Solids: 80.6

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.27	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total TCDD	ND		1.2	0.27	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,7,8-PeCDD	**0.64**	**J**	6.0	0.19	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total PeCDD	**4.3**	**J**	6.0	0.19	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,4,7,8-HxCDD	**1.7**	**J B**	6.0	0.12	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,6,7,8-HxCDD	**4.1**	**J**	6.0	0.11	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,7,8,9-HxCDD	**3.1**	**J**	6.0	0.11	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total HxCDD	**34**	**q B**	6.0	0.11	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,4,6,7,8-HpCDD	**110**	**B**	6.0	0.55	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total HpCDD	**260**	**B**	6.0	0.55	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
OCDD	**1300**	**B**	12	1.0	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
2,3,7,8-TCDF	ND		1.2	0.22	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total TCDF	**0.54**	**J q**	1.2	0.22	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,7,8-PeCDF	ND		6.0	0.13	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
2,3,4,7,8-PeCDF	**0.42**	**J**	6.0	0.13	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total PeCDF	**5.2**	**J**	6.0	0.13	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,4,7,8-HxCDF	**1.2**	**J**	6.0	0.17	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,6,7,8-HxCDF	**0.79**	**J q**	6.0	0.15	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
2,3,4,6,7,8-HxCDF	**0.79**	**J**	6.0	0.15	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,7,8,9-HxCDF	**0.24**	**J q**	6.0	0.16	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total HxCDF	**24**	**q**	6.0	0.16	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,4,6,7,8-HpCDF	**24**		6.0	0.28	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
1,2,3,4,7,8,9-HpCDF	**1.4**	**J**	6.0	0.31	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
Total HpCDF	**73**		6.0	0.29	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1
OCDF	**66**	**B**	12	0.19	pg/g	☼	10/06/20 13:56	10/18/20 00:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-1,2,3,6,7,8-HxCDD	*70*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-OCDD	*82*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-2,3,7,8-TCDF	*62*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-1,2,3,7,8-PeCDF	*61*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-1,2,3,4,7,8-HxCDF	*66*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*40 - 135*	*10/06/20 13:56*	*10/18/20 00:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	**80**		0.50	0.50	%			10/19/20 18:36	1

Client Sample ID: KD280SS-EB

Date Collected: 09/28/20 17:45
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-3

Matrix: Water

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.068	ug/L		10/02/20 11:12	10/12/20 21:17	1
Acenaphthylene	ND		0.20	0.068	ug/L		10/02/20 11:12	10/12/20 21:17	1
Anthracene	ND		0.20	0.051	ug/L		10/02/20 11:12	10/12/20 21:17	1
Benzo[a]anthracene	ND		0.20	0.078	ug/L		10/02/20 11:12	10/12/20 21:17	1

Client Sample ID: KD280SS-EB
Date Collected: 09/28/20 17:45
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-3
Matrix: Water

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.20	0.055	ug/L		10/02/20 11:12	10/12/20 21:17	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		10/02/20 11:12	10/12/20 21:17	1
Benzo[g,h,i]perylene	ND		0.20	0.072	ug/L		10/02/20 11:12	10/12/20 21:17	1
Benzo[k]fluoranthene	ND		0.20	0.092	ug/L		10/02/20 11:12	10/12/20 21:17	1
Chrysene	ND		0.20	0.084	ug/L		10/02/20 11:12	10/12/20 21:17	1
Dibenz(a,h)anthracene	ND		0.20	0.075	ug/L		10/02/20 11:12	10/12/20 21:17	1
Fluoranthene	ND		0.20	0.063	ug/L		10/02/20 11:12	10/12/20 21:17	1
Fluorene	ND		0.20	0.072	ug/L		10/02/20 11:12	10/12/20 21:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.089	ug/L		10/02/20 11:12	10/12/20 21:17	1
Naphthalene	ND		0.20	0.061	ug/L		10/02/20 11:12	10/12/20 21:17	1
Pentachlorophenol	ND		5.2	0.88	ug/L		10/02/20 11:12	10/12/20 21:17	1
Phenanthrene	ND		0.20	0.057	ug/L		10/02/20 11:12	10/12/20 21:17	1
Pyrene	ND		0.20	0.056	ug/L		10/02/20 11:12	10/12/20 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*23 - 105*	*10/02/20 11:12*	*10/12/20 21:17*	*1*
2-Fluorophenol (Surr)	*69*		*20 - 105*	*10/02/20 11:12*	*10/12/20 21:17*	*1*
Nitrobenzene-d5 (Surr)	*71*		*28 - 111*	*10/02/20 11:12*	*10/12/20 21:17*	*1*
Phenol-d5 (Surr)	*73*		*21 - 105*	*10/02/20 11:12*	*10/12/20 21:17*	*1*
Terphenyl-d14 (Surr)	*73*		*20 - 126*	*10/02/20 11:12*	*10/12/20 21:17*	*1*
2,4,6-Tribromophenol (Surr)	*71*		*29 - 113*	*10/02/20 11:12*	*10/12/20 21:17*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.78**	**J q**	10	0.51	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total TCDD	**0.78**	**J q**	10	0.51	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,7,8-PeCDD	**0.65**	**J q**	51	0.60	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total PeCDD	**0.65**	**J q**	51	0.60	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,4,7,8-HxCDD	**1.8**	**J**	51	0.95	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,6,7,8-HxCDD	ND		51	0.94	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,7,8,9-HxCDD	ND		51	0.86	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total HxCDD	**1.8**	**J**	51	0.92	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,4,6,7,8-HpCDD	**2.8**	**J B**	51	0.27	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total HpCDD	**3.9**	**J q B**	51	0.27	pg/L		10/07/20 11:35	10/10/20 11:27	1
OCDD	**11**	**J B**	100	0.37	pg/L		10/07/20 11:35	10/10/20 11:27	1
2,3,7,8-TCDF	**0.99**	**J B**	10	0.42	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total TCDF	**1.8**	**J B**	10	0.42	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,7,8-PeCDF	**1.0**	**J**	51	0.40	pg/L		10/07/20 11:35	10/10/20 11:27	1
2,3,4,7,8-PeCDF	ND		51	0.41	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total PeCDF	**1.0**	**J**	51	0.40	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,4,7,8-HxCDF	**1.2**	**J**	51	0.59	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,6,7,8-HxCDF	**1.0**	**J q**	51	0.56	pg/L		10/07/20 11:35	10/10/20 11:27	1
2,3,4,6,7,8-HxCDF	**1.1**	**J *1**	51	0.60	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,7,8,9-HxCDF	ND		51	0.59	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total HxCDF	**3.4**	**J q**	51	0.58	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,4,6,7,8-HpCDF	**1.6**	**J q B**	51	0.28	pg/L		10/07/20 11:35	10/10/20 11:27	1
1,2,3,4,7,8,9-HpCDF	**1.5**	**J**	51	0.32	pg/L		10/07/20 11:35	10/10/20 11:27	1
Total HpCDF	**3.1**	**J q B**	51	0.30	pg/L		10/07/20 11:35	10/10/20 11:27	1
OCDF	**3.8**	**J q**	100	0.32	pg/L		10/07/20 11:35	10/10/20 11:27	1

Client Sample ID: KD280SS-EB

Date Collected: 09/28/20 17:45
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-3

Matrix: Water

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*92*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-1,2,3,7,8-PeCDD	*94*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*106*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-OCDD	*109*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-2,3,7,8-TCDF	*96*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-1,2,3,7,8-PeCDF	*87*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*99*		*40 - 135*	*10/07/20 11:35*	*10/10/20 11:27*	*1*

Client Sample ID: KD248SS

Date Collected: 09/29/20 09:15
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-4

Matrix: Solid
Percent Solids: 76.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		86	25	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Acenaphthylene	**120**		86	19	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Anthracene	**160**		86	22	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Benzo[a]anthracene	**610**		86	38	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Benzo[b]fluoranthene	**970**		86	21	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Benzo[k]fluoranthene	**230**		86	26	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Benzo[g,h,i]perylene	**360**		86	18	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Benzo[a]pyrene	**510**		86	37	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Chrysene	**690**		86	47	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Dibenz(a,h)anthracene	**130**		86	55	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Fluoranthene	**790**		86	23	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Fluorene	ND		86	17	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Indeno[1,2,3-cd]pyrene	**330**		86	42	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Naphthalene	**110**		86	17	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Phenanthrene	**230**		86	23	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1
Pyrene	**810**		86	20	ug/Kg	☼	10/08/20 14:08	10/11/20 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*45 - 105*	*10/08/20 14:08*	*10/11/20 19:08*	*1*
2-Fluorophenol (Surr)	*75*		*42 - 105*	*10/08/20 14:08*	*10/11/20 19:08*	*1*
2,4,6-Tribromophenol (Surr)	*81*		*31 - 105*	*10/08/20 14:08*	*10/11/20 19:08*	*1*
Nitrobenzene-d5 (Surr)	*91*		*53 - 105*	*10/08/20 14:08*	*10/11/20 19:08*	*1*
Phenol-d5 (Surr)	*79*		*47 - 105*	*10/08/20 14:08*	*10/11/20 19:08*	*1*
Terphenyl-d14 (Surr)	*78*		*46 - 105*	*10/08/20 14:08*	*10/11/20 19:08*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.30	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total TCDD	**1.1**	**J**	1.3	0.30	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,7,8-PeCDD	**1.5**	**J**	6.3	0.24	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total PeCDD	**12**	**q**	6.3	0.24	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,4,7,8-HxCDD	**5.2**	**J B**	6.3	0.22	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,6,7,8-HxCDD	**19**		6.3	0.21	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,7,8,9-HxCDD	**8.3**		6.3	0.20	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total HxCDD	**120**	**B**	6.3	0.21	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1

Client Sample ID: KD248SS
Date Collected: 09/29/20 09:15
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-4
Matrix: Solid
Percent Solids: 76.8

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,6,7,8-HpCDD	580	B	6.3	2.3	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total HpCDD	1400	B	6.3	2.3	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
OCDD	8500	E B	13	5.0	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
2,3,7,8-TCDF	ND		1.3	0.32	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total TCDF	ND	G	5.4	5.4	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,7,8-PeCDF	0.71	J	6.3	0.21	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
2,3,4,7,8-PeCDF	0.56	J q	6.3	0.22	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total PeCDF	13	q	6.3	0.21	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,4,7,8-HxCDF	3.7	J	6.3	0.54	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,6,7,8-HxCDF	2.5	J	6.3	0.48	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
2,3,4,6,7,8-HxCDF	1.8	J	6.3	0.50	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,7,8,9-HxCDF	ND		6.3	0.52	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total HxCDF	140		6.3	0.51	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,4,6,7,8-HpCDF	150		6.3	1.4	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
1,2,3,4,7,8,9-HpCDF	8.2		6.3	1.5	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
Total HpCDF	630		6.3	1.5	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1
OCDF	600	B	13	0.48	pg/g	☼	10/06/20 13:56	10/18/20 01:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*68*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-OCDD	*88*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-2,3,7,8-TCDF	*66*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-1,2,3,7,8-PeCDF	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*70*		*40 - 135*	*10/06/20 13:56*	*10/18/20 01:29*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	76		0.50	0.50	%			10/19/20 18:36	1

Client Sample ID: KD216SS
Date Collected: 09/29/20 11:01
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-5
Matrix: Solid
Percent Solids: 79.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		83	24	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Acenaphthylene	ND		83	18	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Anthracene	ND		83	22	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Benzo[a]anthracene	75	J	83	37	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Benzo[b]fluoranthene	130		83	20	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Benzo[k]fluoranthene	53	J	83	25	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Benzo[g,h,i]perylene	67	J	83	18	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Benzo[a]pyrene	55	J	83	36	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Chrysene	96		83	46	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Dibenz(a,h)anthracene	ND		83	53	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Fluoranthene	130		83	22	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Fluorene	ND		83	16	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1

Client Sample ID: KD216SS
Date Collected: 09/29/20 11:01
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-5
Matrix: Solid
Percent Solids: 79.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	**64**	**J**	83	41	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Naphthalene	**32**	**J**	83	16	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Phenanthrene	**66**	**J**	83	22	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1
Pyrene	**110**		83	20	ug/Kg	☼	10/08/20 14:08	10/11/20 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*45 - 105*	*10/08/20 14:08*	*10/11/20 19:36*	*1*
2-Fluorophenol (Surr)	*74*		*42 - 105*	*10/08/20 14:08*	*10/11/20 19:36*	*1*
2,4,6-Tribromophenol (Surr)	*86*		*31 - 105*	*10/08/20 14:08*	*10/11/20 19:36*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 105*	*10/08/20 14:08*	*10/11/20 19:36*	*1*
Phenol-d5 (Surr)	*77*		*47 - 105*	*10/08/20 14:08*	*10/11/20 19:36*	*1*
Terphenyl-d14 (Surr)	*81*		*46 - 105*	*10/08/20 14:08*	*10/11/20 19:36*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.31	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total TCDD	ND		1.2	0.31	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,7,8-PeCDD	**0.68**	**J**	5.9	0.26	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total PeCDD	**3.6**	**J q**	5.9	0.26	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,4,7,8-HxCDD	**1.8**	**J B**	5.9	0.13	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,6,7,8-HxCDD	**3.8**	**J**	5.9	0.12	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,7,8,9-HxCDD	**3.4**	**J**	5.9	0.12	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total HxCDD	**37**	**B**	5.9	0.12	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,4,6,7,8-HpCDD	**120**	**B**	5.9	0.85	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total HpCDD	**280**	**B**	5.9	0.85	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
OCDD	**2700**	**B**	12	2.7	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
2,3,7,8-TCDF	ND		1.2	0.23	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total TCDF	ND		1.2	0.44	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,7,8-PeCDF	**0.37**	**J q**	5.9	0.14	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
2,3,4,7,8-PeCDF	ND		5.9	0.14	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total PeCDF	**3.4**	**J q**	5.9	0.14	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,4,7,8-HxCDF	**1.5**	**J**	5.9	0.19	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,6,7,8-HxCDF	**1.2**	**J**	5.9	0.17	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
2,3,4,6,7,8-HxCDF	**0.95**	**J**	5.9	0.17	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,7,8,9-HxCDF	ND		5.9	0.18	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total HxCDF	**20**		5.9	0.18	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,4,6,7,8-HpCDF	**25**		5.9	0.38	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
1,2,3,4,7,8,9-HpCDF	**1.4**	**J**	5.9	0.42	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
Total HpCDF	**68**		5.9	0.40	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1
OCDF	**85**	**B**	12	0.19	pg/g	☼	10/06/20 13:56	10/18/20 09:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-OCDD	*77*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-2,3,7,8-TCDF	*59*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-1,2,3,7,8-PeCDF	*61*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-1,2,3,4,7,8-HxCDF	*63*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:00*	*1*

Client Sample ID: KD216SS

Date Collected: 09/29/20 11:01
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-5

Matrix: Solid
Percent Solids: 79.7

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	**80**		0.50	0.50	%			10/19/20 18:36	1

Client Sample ID: KD132SS

Date Collected: 09/29/20 12:53
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-6

Matrix: Solid
Percent Solids: 78.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		84	24	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Acenaphthylene	**20**	**J**	84	18	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Anthracene	**28**	**J**	84	22	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Benzo[a]anthracene	**79**	**J**	84	38	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Benzo[b]fluoranthene	**140**		84	20	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Benzo[k]fluoranthene	**37**	**J**	84	25	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Benzo[g,h,i]perylene	**78**	**J**	84	18	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Benzo[a]pyrene	**65**	**J**	84	36	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Chrysene	**120**		84	46	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Dibenz(a,h)anthracene	ND		84	53	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Fluoranthene	**110**		84	22	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Fluorene	ND		84	16	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Indeno[1,2,3-cd]pyrene	**52**	**J**	84	41	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Naphthalene	**45**	**J**	84	16	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Phenanthrene	**76**	**J**	84	22	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1
Pyrene	**150**		84	20	ug/Kg	☼	10/08/20 14:08	10/11/20 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*45 - 105*	*10/08/20 14:08*	*10/11/20 20:03*	*1*
2-Fluorophenol (Surr)	*78*		*42 - 105*	*10/08/20 14:08*	*10/11/20 20:03*	*1*
2,4,6-Tribromophenol (Surr)	*77*		*31 - 105*	*10/08/20 14:08*	*10/11/20 20:03*	*1*
Nitrobenzene-d5 (Surr)	*89*		*53 - 105*	*10/08/20 14:08*	*10/11/20 20:03*	*1*
Phenol-d5 (Surr)	*82*		*47 - 105*	*10/08/20 14:08*	*10/11/20 20:03*	*1*
Terphenyl-d14 (Surr)	*83*		*46 - 105*	*10/08/20 14:08*	*10/11/20 20:03*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.34	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total TCDD	**2.8**	**q**	1.3	0.34	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,7,8-PeCDD	**1.0**	**J**	6.3	0.30	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total PeCDD	**9.4**	**q**	6.3	0.30	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,4,7,8-HxCDD	**2.9**	**J B**	6.3	0.17	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,6,7,8-HxCDD	**7.3**		6.3	0.17	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,7,8,9-HxCDD	**5.7**	**J**	6.3	0.16	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total HxCDD	**65**	**B**	6.3	0.17	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,4,6,7,8-HpCDD	**240**	**B**	6.3	1.1	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total HpCDD	**570**	**B**	6.3	1.1	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
OCDD	**3100**	**B**	13	2.2	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
2,3,7,8-TCDF	**0.90**	**J**	1.3	0.27	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total TCDF	**3.5**		1.3	0.27	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,7,8-PeCDF	**0.44**	**J q**	6.3	0.18	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
2,3,4,7,8-PeCDF	ND		6.3	0.18	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1

Client Sample ID: KD132SS

Date Collected: 09/29/20 12:53
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-6

Matrix: Solid
Percent Solids: 78.9

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	5.9	J q	6.3	0.18	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,4,7,8-HxCDF	2.1	J	6.3	0.30	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,6,7,8-HxCDF	1.3	J	6.3	0.26	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
2,3,4,6,7,8-HxCDF	1.3	J	6.3	0.27	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,7,8,9-HxCDF	0.45	J	6.3	0.28	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total HxCDF	34		6.3	0.28	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,4,6,7,8-HpCDF	40		6.3	0.35	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
1,2,3,4,7,8,9-HpCDF	2.3	J	6.3	0.39	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
Total HpCDF	130		6.3	0.37	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1
OCDF	160	B	13	0.23	pg/g	☼	10/06/20 13:56	10/18/20 09:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*59*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-1,2,3,7,8-PeCDD	*59*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-OCDD	*77*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-2,3,7,8-TCDF	*57*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-1,2,3,7,8-PeCDF	*57*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-1,2,3,4,7,8-HxCDF	*61*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*10/06/20 13:56*	*10/18/20 09:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	80		0.50	0.50	%			10/19/20 18:36	1

Client Sample ID: KDEPA9SS

Date Collected: 09/29/20 15:09
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-7

Matrix: Solid
Percent Solids: 72.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		87	25	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Acenaphthylene	44	J	87	19	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Anthracene	72	J	87	22	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Benzo[a]anthracene	120		87	39	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Benzo[b]fluoranthene	210		87	21	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Benzo[k]fluoranthene	74	J	87	26	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Benzo[g,h,i]perylene	110		87	19	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Benzo[a]pyrene	100		87	38	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Chrysene	180		87	48	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Dibenz(a,h)anthracene	ND		87	56	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Fluoranthene	200		87	23	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Fluorene	ND		87	17	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Indeno[1,2,3-cd]pyrene	99		87	43	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Naphthalene	70	J	87	17	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Phenanthrene	110		87	23	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1
Pyrene	200		87	21	ug/Kg	☼	10/08/20 14:08	10/11/20 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*45 - 105*	*10/08/20 14:08*	*10/11/20 20:31*	*1*

Client Sample ID: KDEPA9SS
Date Collected: 09/29/20 15:09
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-7
Matrix: Solid
Percent Solids: 72.9

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol (Surr)	70		42 - 105	10/08/20 14:08	10/11/20 20:31	1
2,4,6-Tribromophenol (Surr)	80		31 - 105	10/08/20 14:08	10/11/20 20:31	1
Nitrobenzene-d5 (Surr)	85		53 - 105	10/08/20 14:08	10/11/20 20:31	1
Phenol-d5 (Surr)	68		47 - 105	10/08/20 14:08	10/11/20 20:31	1
Terphenyl-d14 (Surr)	73		46 - 105	10/08/20 14:08	10/11/20 20:31	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.4	0.40	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total TCDD	**5.1**		1.4	0.40	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,7,8-PeCDD	**1.9**	**J**	6.8	0.35	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total PeCDD	**21**	**q**	6.8	0.35	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,4,7,8-HxCDD	**5.2**	**J B**	6.8	0.31	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,6,7,8-HxCDD	**19**		6.8	0.30	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,7,8,9-HxCDD	**6.6**	**J**	6.8	0.28	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total HxCDD	**120**	**B**	6.8	0.29	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,4,6,7,8-HpCDD	**580**	**B**	6.8	2.0	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total HpCDD	**1100**	**B**	6.8	2.0	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
OCDD	**6200**	**E B**	14	3.9	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total TCDF	**8.2**		1.4	0.35	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,7,8-PeCDF	**0.84**	**J**	6.8	0.19	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
2,3,4,7,8-PeCDF	**0.85**	**J**	6.8	0.19	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total PeCDF	**14**		6.8	0.19	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,4,7,8-HxCDF	**3.1**	**J**	6.8	0.54	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,6,7,8-HxCDF	**2.3**	**J**	6.8	0.48	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
2,3,4,6,7,8-HxCDF	**2.3**	**J**	6.8	0.50	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,7,8,9-HxCDF	ND		6.8	0.52	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total HxCDF	**100**	**q**	6.8	0.51	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,4,6,7,8-HpCDF	**120**		6.8	1.2	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
1,2,3,4,7,8,9-HpCDF	**4.5**	**J**	6.8	1.3	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
Total HpCDF	**480**		6.8	1.2	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1
OCDF	**520**	**B**	14	0.41	pg/g	☼	10/06/20 13:56	10/18/20 10:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	59		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-1,2,3,7,8-PeCDD	61		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-1,2,3,6,7,8-HxCDD	66		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-1,2,3,4,6,7,8-HpCDD	70		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-OCDD	83		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-2,3,7,8-TCDF	56		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-1,2,3,7,8-PeCDF	58		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-1,2,3,4,7,8-HxCDF	61		40 - 135	10/06/20 13:56	10/18/20 10:35	1
13C-1,2,3,4,6,7,8-HpCDF	67		40 - 135	10/06/20 13:56	10/18/20 10:35	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.61**	**J q**	1.4	0.14	pg/g	☼	10/06/20 13:56	10/22/20 13:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	80		40 - 135	10/06/20 13:56	10/22/20 13:47	1

Client Sample ID: KDEPA9SS

Lab Sample ID: 180-111697-7
Date Collected: 09/29/20 15:09
Matrix: Solid
Date Received: 10/01/20 09:00
Percent Solids: 72.9

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	**74**		0.50	0.50	%			10/19/20 18:36	1

Client Sample ID: KD106SS-EB

Lab Sample ID: 180-111697-8
Date Collected: 09/29/20 17:55
Matrix: Water
Date Received: 10/01/20 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.8	0.60	ug/L		10/05/20 16:50	10/16/20 13:05	1
Acenaphthylene	ND		1.8	0.60	ug/L		10/05/20 16:50	10/16/20 13:05	1
Anthracene	ND		1.8	0.45	ug/L		10/05/20 16:50	10/16/20 13:05	1
Benzo[a]anthracene	ND		1.8	0.69	ug/L		10/05/20 16:50	10/16/20 13:05	1
Benzo[b]fluoranthene	ND		1.8	0.90	ug/L		10/05/20 16:50	10/16/20 13:05	1
Benzo[k]fluoranthene	ND		1.8	0.81	ug/L		10/05/20 16:50	10/16/20 13:05	1
Benzo[g,h,i]perylene	ND		1.8	0.64	ug/L		10/05/20 16:50	10/16/20 13:05	1
Benzo[a]pyrene	ND		1.8	0.49	ug/L		10/05/20 16:50	10/16/20 13:05	1
Chrysene	ND		1.8	0.75	ug/L		10/05/20 16:50	10/16/20 13:05	1
Dibenz(a,h)anthracene	ND		1.8	0.67	ug/L		10/05/20 16:50	10/16/20 13:05	1
Fluoranthene	ND		1.8	0.56	ug/L		10/05/20 16:50	10/16/20 13:05	1
Fluorene	ND		1.8	0.64	ug/L		10/05/20 16:50	10/16/20 13:05	1
Indeno[1,2,3-cd]pyrene	ND		1.8	0.79	ug/L		10/05/20 16:50	10/16/20 13:05	1
Naphthalene	ND		1.8	0.55	ug/L		10/05/20 16:50	10/16/20 13:05	1
Phenanthrene	ND		1.8	0.51	ug/L		10/05/20 16:50	10/16/20 13:05	1
Pyrene	ND		1.8	0.50	ug/L		10/05/20 16:50	10/16/20 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*44 - 105*	*10/05/20 16:50*	*10/16/20 13:05*	*1*
2-Fluorophenol (Surr)	*61*		*38 - 105*	*10/05/20 16:50*	*10/16/20 13:05*	*1*
2,4,6-Tribromophenol (Surr)	*90*		*38 - 111*	*10/05/20 16:50*	*10/16/20 13:05*	*1*
Nitrobenzene-d5 (Surr)	*66*		*45 - 108*	*10/05/20 16:50*	*10/16/20 13:05*	*1*
Phenol-d5 (Surr)	*66*		*40 - 105*	*10/05/20 16:50*	*10/16/20 13:05*	*1*
Terphenyl-d14 (Surr)	*85*		*20 - 128*	*10/05/20 16:50*	*10/16/20 13:05*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.40	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total TCDD	ND		10	0.40	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,7,8-PeCDD	ND		51	0.48	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total PeCDD	ND		51	0.48	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,4,7,8-HxCDD	ND		51	0.92	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,6,7,8-HxCDD	ND		51	0.92	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,7,8,9-HxCDD	ND		51	0.84	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total HxCDD	ND		51	0.92	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,4,6,7,8-HpCDD	**0.60**	**J B**	51	0.20	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total HpCDD	**1.5**	**J B**	51	0.20	pg/L		10/07/20 11:35	10/10/20 12:14	1
OCDD	**2.9**	**J B**	100	0.28	pg/L		10/07/20 11:35	10/10/20 12:14	1
2,3,7,8-TCDF	ND		10	0.41	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total TCDF	ND		10	0.41	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,7,8-PeCDF	ND		51	0.39	pg/L		10/07/20 11:35	10/10/20 12:14	1
2,3,4,7,8-PeCDF	ND		51	0.40	pg/L		10/07/20 11:35	10/10/20 12:14	1

Client Sample ID: KD106SS-EB

Date Collected: 09/29/20 17:55
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDF	ND		51	0.40	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,4,7,8-HxCDF	ND		51	0.45	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,6,7,8-HxCDF	ND		51	0.42	pg/L		10/07/20 11:35	10/10/20 12:14	1
2,3,4,6,7,8-HxCDF	ND	*1	51	0.46	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,7,8,9-HxCDF	ND		51	0.45	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total HxCDF	ND		51	0.46	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,4,6,7,8-HpCDF	**0.33**	**J q B**	51	0.15	pg/L		10/07/20 11:35	10/10/20 12:14	1
1,2,3,4,7,8,9-HpCDF	ND		51	0.17	pg/L		10/07/20 11:35	10/10/20 12:14	1
Total HpCDF	**0.33**	**J q B**	51	0.16	pg/L		10/07/20 11:35	10/10/20 12:14	1
OCDF	ND		100	0.28	pg/L		10/07/20 11:35	10/10/20 12:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*103*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-1,2,3,7,8-PeCDD	*93*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*81*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*105*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-OCDD	*98*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-2,3,7,8-TCDF	*94*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*82*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*98*		*40 - 135*	*10/07/20 11:35*	*10/10/20 12:14*	*1*

Client Sample ID: KD106SS

Date Collected: 09/29/20 17:05
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-9

Matrix: Solid
Percent Solids: 76.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		84	24	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Acenaphthylene	**120**		84	18	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Anthracene	**230**		84	22	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Benzo[a]anthracene	**670**		84	38	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Benzo[b]fluoranthene	**740**		84	21	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Benzo[k]fluoranthene	**350**		84	25	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Benzo[g,h,i]perylene	**300**		84	18	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Benzo[a]pyrene	**340**		84	36	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Chrysene	**770**		84	47	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Dibenz(a,h)anthracene	**100**		84	54	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Fluoranthene	**1200**		84	22	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Fluorene	ND		84	17	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Indeno[1,2,3-cd]pyrene	**300**		84	42	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Naphthalene	**150**		84	16	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Phenanthrene	**440**		84	23	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1
Pyrene	**960**		84	20	ug/Kg	☼	10/08/20 14:08	10/11/20 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*45 - 105*	*10/08/20 14:08*	*10/11/20 20:58*	*1*
2-Fluorophenol (Surr)	*71*		*42 - 105*	*10/08/20 14:08*	*10/11/20 20:58*	*1*
2,4,6-Tribromophenol (Surr)	*75*		*31 - 105*	*10/08/20 14:08*	*10/11/20 20:58*	*1*
Nitrobenzene-d5 (Surr)	*80*		*53 - 105*	*10/08/20 14:08*	*10/11/20 20:58*	*1*
Phenol-d5 (Surr)	*74*		*47 - 105*	*10/08/20 14:08*	*10/11/20 20:58*	*1*

Client Sample ID: KD106SS

Date Collected: 09/29/20 17:05
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-9

Matrix: Solid
Percent Solids: 76.8

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	*72*		*46 - 105*	*10/08/20 14:08*	*10/11/20 20:58*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.35	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total TCDD	**3.1**		1.3	0.35	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,7,8-PeCDD	**1.7**	**J**	6.3	0.37	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total PeCDD	**20**		6.3	0.37	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,4,7,8-HxCDD	**4.4**	**J B**	6.3	0.24	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,6,7,8-HxCDD	**14**		6.3	0.23	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,7,8,9-HxCDD	**6.8**		6.3	0.22	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total HxCDD	**120**	**B**	6.3	0.23	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,4,6,7,8-HpCDD	**410**	**B**	6.3	1.8	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total HpCDD	**1000**	**B**	6.3	1.8	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
OCDD	**4500**	**B**	13	3.1	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total TCDF	**19**		1.3	0.39	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,7,8-PeCDF	**1.5**	**J q**	6.3	0.35	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
2,3,4,7,8-PeCDF	**3.0**	**J**	6.3	0.36	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total PeCDF	**25**	**q**	6.3	0.36	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,4,7,8-HxCDF	**6.5**		6.3	0.44	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,6,7,8-HxCDF	**4.1**	**J**	6.3	0.39	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
2,3,4,6,7,8-HxCDF	**4.3**	**J**	6.3	0.40	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,7,8,9-HxCDF	ND		6.3	0.42	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total HxCDF	**100**	**q**	6.3	0.41	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,4,6,7,8-HpCDF	**84**		6.3	0.91	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
1,2,3,4,7,8,9-HpCDF	**5.2**	**J**	6.3	1.0	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
Total HpCDF	**270**		6.3	0.96	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1
OCDF	**270**	**B**	13	0.26	pg/g	☼	10/06/20 13:56	10/18/20 11:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-1,2,3,7,8-PeCDD	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-OCDD	*86*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-2,3,7,8-TCDF	*63*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-1,2,3,7,8-PeCDF	*65*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-1,2,3,4,7,8-HxCDF	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*71*		*40 - 135*	*10/06/20 13:56*	*10/18/20 11:23*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.5**		1.3	0.15	pg/g	☼	10/06/20 13:56	10/22/20 14:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*10/06/20 13:56*	*10/22/20 14:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	**78**		0.50	0.50	%			10/19/20 19:07	1

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

Client Sample ID: KD080SS

Date Collected: 09/30/20 09:30
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-10

Matrix: Solid
Percent Solids: 78.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		260	74	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Acenaphthylene	**110**	**J**	260	56	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Anthracene	**170**	**J**	260	66	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Benzo[a]anthracene	**270**		260	120	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Benzo[b]fluoranthene	**370**		260	63	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Benzo[k]fluoranthene	**140**	**J**	260	77	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Benzo[g,h,i]perylene	**190**	**J**	260	55	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Benzo[a]pyrene	**180**	**J**	260	110	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Chrysene	**310**		260	140	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Dibenz(a,h)anthracene	**260**		260	160	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Fluoranthene	**430**		260	67	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Fluorene	ND		260	50	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Indeno[1,2,3-cd]pyrene	**160**	**J**	260	130	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Naphthalene	**100**	**J**	260	50	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Phenanthrene	**210**	**J**	260	69	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3
Pyrene	**450**		260	60	ug/Kg	☼	10/14/20 08:24	10/16/20 18:42	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*45 - 105*	*10/14/20 08:24*	*10/16/20 18:42*	*3*
2-Fluorophenol (Surr)	*77*		*42 - 105*	*10/14/20 08:24*	*10/16/20 18:42*	*3*
2,4,6-Tribromophenol (Surr)	*38*		*31 - 105*	*10/14/20 08:24*	*10/16/20 18:42*	*3*
Nitrobenzene-d5 (Surr)	*78*		*53 - 105*	*10/14/20 08:24*	*10/16/20 18:42*	*3*
Phenol-d5 (Surr)	*68*		*47 - 105*	*10/14/20 08:24*	*10/16/20 18:42*	*3*
Terphenyl-d14 (Surr)	*78*		*46 - 105*	*10/14/20 08:24*	*10/16/20 18:42*	*3*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.34	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total TCDD	ND		1.2	0.34	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,7,8-PeCDD	ND		5.9	0.26	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total PeCDD	**3.0**	**J q**	5.9	0.26	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,4,7,8-HxCDD	**1.5**	**J B**	5.9	0.12	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,6,7,8-HxCDD	**3.6**	**J**	5.9	0.12	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,7,8,9-HxCDD	**2.9**	**J**	5.9	0.11	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total HxCDD	**33**	**B**	5.9	0.12	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,4,6,7,8-HpCDD	**110**	**B**	5.9	0.81	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total HpCDD	**270**	**B**	5.9	0.81	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
OCDD	**2000**	**B**	12	1.6	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
2,3,7,8-TCDF	**1.1**	**J**	1.2	0.22	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total TCDF	**2.3**	**q**	1.2	0.22	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,7,8-PeCDF	**0.51**	**J**	5.9	0.13	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
2,3,4,7,8-PeCDF	**0.69**	**J**	5.9	0.13	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total PeCDF	**7.2**	**q**	5.9	0.13	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,4,7,8-HxCDF	**2.0**	**J**	5.9	0.22	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,6,7,8-HxCDF	**0.97**	**J**	5.9	0.20	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
2,3,4,6,7,8-HxCDF	**1.1**	**J**	5.9	0.20	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,7,8,9-HxCDF	ND		5.9	0.21	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
Total HxCDF	**19**		5.9	0.21	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,4,6,7,8-HpCDF	**19**		5.9	0.32	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
1,2,3,4,7,8,9-HpCDF	**1.2**	**J**	5.9	0.36	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1

Client Sample ID: KD080SS

Date Collected: 09/30/20 09:30
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-10

Matrix: Solid
Percent Solids: 78.4

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	58		5.9	0.34	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1
OCDF	67	B	12	0.18	pg/g	☼	10/06/20 13:56	10/18/20 12:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*55*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-1,2,3,7,8-PeCDD	*55*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-1,2,3,6,7,8-HxCDD	*60*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*63*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-OCDD	*71*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-2,3,7,8-TCDF	*53*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-1,2,3,7,8-PeCDF	*53*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-1,2,3,4,7,8-HxCDF	*56*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*60*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	80		0.50	0.50	%			10/19/20 19:07	1

Client Sample ID: KD010SS

Date Collected: 09/30/20 11:40
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-11

Matrix: Solid
Percent Solids: 81.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	34	J	82	24	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Acenaphthylene	490		82	18	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Anthracene	650		82	21	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Benzo[a]anthracene	920		82	37	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Benzo[b]fluoranthene	2100		82	20	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Benzo[k]fluoranthene	720		82	25	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Benzo[g,h,i]perylene	830		82	18	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Benzo[a]pyrene	1100		82	35	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Chrysene	1200		82	45	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Dibenz(a,h)anthracene	310		82	52	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Fluoranthene	1400		82	22	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Fluorene	56	J	82	16	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Indeno[1,2,3-cd]pyrene	850		82	41	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Naphthalene	490		82	16	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Phenanthrene	710		82	22	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1
Pyrene	1800		82	19	ug/Kg	☼	10/14/20 08:24	10/16/20 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*45 - 105*	*10/14/20 08:24*	*10/16/20 19:07*	*1*
2-Fluorophenol (Surr)	*74*		*42 - 105*	*10/14/20 08:24*	*10/16/20 19:07*	*1*
2,4,6-Tribromophenol (Surr)	*50*		*31 - 105*	*10/14/20 08:24*	*10/16/20 19:07*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/14/20 08:24*	*10/16/20 19:07*	*1*
Phenol-d5 (Surr)	*65*		*47 - 105*	*10/14/20 08:24*	*10/16/20 19:07*	*1*
Terphenyl-d14 (Surr)	*66*		*46 - 105*	*10/14/20 08:24*	*10/16/20 19:07*	*1*

Client Sample ID: KD010SS

Date Collected: 09/30/20 11:40
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-11

Matrix: Solid
Percent Solids: 81.1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.32	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total TCDD	**2.5**	**q**	1.2	0.32	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,7,8-PeCDD	**2.8**	**J**	5.8	0.33	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total PeCDD	**31**		5.8	0.33	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,4,7,8-HxCDD	**7.6**	**B**	5.8	0.29	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,6,7,8-HxCDD	**20**		5.8	0.28	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,7,8,9-HxCDD	**14**		5.8	0.26	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total HxCDD	**190**	**B**	5.8	0.28	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,4,6,7,8-HpCDD	**660**	**B**	5.8	2.5	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total HpCDD	**1600**	**B**	5.8	2.5	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
OCDD	**6900**	**E B**	12	4.3	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total TCDF	**6.2**	**q**	1.2	0.24	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,7,8-PeCDF	**0.75**	**J q**	5.8	0.17	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
2,3,4,7,8-PeCDF	**0.94**	**J**	5.8	0.17	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total PeCDF	**11**	**q**	5.8	0.17	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,4,7,8-HxCDF	**4.5**	**J**	5.8	0.51	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,6,7,8-HxCDF	**3.5**	**J**	5.8	0.46	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
2,3,4,6,7,8-HxCDF	**3.1**	**J**	5.8	0.48	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,7,8,9-HxCDF	ND		5.8	0.49	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total HxCDF	**100**		5.8	0.49	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,4,6,7,8-HpCDF	**120**		5.8	1.2	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
1,2,3,4,7,8,9-HpCDF	**7.6**		5.8	1.3	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
Total HpCDF	**410**		5.8	1.2	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1
OCDF	**490**	**B**	12	0.42	pg/g	☼	10/06/20 13:56	10/18/20 12:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*62*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-1,2,3,6,7,8-HxCDD	*65*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-OCDD	*78*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-2,3,7,8-TCDF	*59*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-1,2,3,7,8-PeCDF	*59*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-1,2,3,4,7,8-HxCDF	*60*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*65*		*40 - 135*	*10/06/20 13:56*	*10/18/20 12:59*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.59**	**J**	1.2	0.11	pg/g	☼	10/06/20 13:56	10/22/20 15:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*84*		*40 - 135*	*10/06/20 13:56*	*10/22/20 15:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	**82**		0.50	0.50	%			10/19/20 19:07	1

Client Sample ID: KD860SS

Date Collected: 09/30/20 12:00
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-12

Matrix: Solid
Percent Solids: 81.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	43	J	81	23	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Acenaphthylene	480		81	18	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Anthracene	640		81	21	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Benzo[a]anthracene	1200		81	36	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Benzo[b]fluoranthene	2200		81	20	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Benzo[k]fluoranthene	740		81	24	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Benzo[g,h,i]perylene	760		81	17	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Benzo[a]pyrene	990		81	35	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Chrysene	1500		81	45	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Dibenz(a,h)anthracene	280		81	52	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Fluoranthene	2000		81	21	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Fluorene	44	J	81	16	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Indeno[1,2,3-cd]pyrene	790		81	40	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Naphthalene	480		81	16	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Phenanthrene	660		81	22	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1
Pyrene	2600		81	19	ug/Kg	☼	10/14/20 08:24	10/16/20 19:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*45 - 105*	*10/14/20 08:24*	*10/16/20 19:33*	*1*
2-Fluorophenol (Surr)	*74*		*42 - 105*	*10/14/20 08:24*	*10/16/20 19:33*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*31 - 105*	*10/14/20 08:24*	*10/16/20 19:33*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/14/20 08:24*	*10/16/20 19:33*	*1*
Phenol-d5 (Surr)	*66*		*47 - 105*	*10/14/20 08:24*	*10/16/20 19:33*	*1*
Terphenyl-d14 (Surr)	*77*		*46 - 105*	*10/14/20 08:24*	*10/16/20 19:33*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.1	0.43	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total TCDD	12		1.1	0.43	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,7,8-PeCDD	5.5	J	5.7	0.65	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total PeCDD	72		5.7	0.65	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,4,7,8-HxCDD	14	B	5.7	0.45	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,6,7,8-HxCDD	37		5.7	0.43	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,7,8,9-HxCDD	25		5.7	0.40	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total HxCDD	360	B	5.7	0.43	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,4,6,7,8-HpCDD	1200	B	5.7	4.3	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total HpCDD	2800	B	5.7	4.3	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
OCDD	14000	E B	11	8.2	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total TCDF	14		1.1	0.49	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,7,8-PeCDF	1.3	J q	5.7	0.79	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
2,3,4,7,8-PeCDF	1.2	J q	5.7	0.80	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total PeCDF	37	q	5.7	0.80	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,4,7,8-HxCDF	7.1		5.7	1.6	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,6,7,8-HxCDF	4.8	J	5.7	1.5	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
2,3,4,6,7,8-HxCDF	5.4	J	5.7	1.5	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,7,8,9-HxCDF	ND		5.7	1.6	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total HxCDF	190		5.7	1.6	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,4,6,7,8-HpCDF	210		5.7	1.8	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
1,2,3,4,7,8,9-HpCDF	13		5.7	2.0	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1
Total HpCDF	710		5.7	1.9	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1

Client Sample ID: KD860SS

Date Collected: 09/30/20 12:00
Date Received: 10/01/20 09:00

Lab Sample ID: 180-111697-12

Matrix: Solid
Percent Solids: 81.8

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	840	B	11	0.62	pg/g	☼	10/06/20 13:56	10/20/20 04:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*77*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-OCDD	*91*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-1,2,3,7,8-PeCDF	*68*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-1,2,3,4,7,8-HxCDF	*73*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*73*		*40 - 135*	*10/06/20 13:56*	*10/20/20 04:21*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	1.2		1.1	0.17	pg/g	☼	10/06/20 13:56	10/22/20 15:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*85*		*40 - 135*	*10/06/20 13:56*	*10/22/20 15:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Solids	82		0.50	0.50	%			10/19/20 19:07	1

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-332126/1-A
Matrix: Water
Analysis Batch: 333064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332126

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.065	ug/L		10/02/20 11:12	10/12/20 13:11	1
Acenaphthylene	ND		0.19	0.065	ug/L		10/02/20 11:12	10/12/20 13:11	1
Anthracene	ND		0.19	0.049	ug/L		10/02/20 11:12	10/12/20 13:11	1
Benzo[a]anthracene	ND		0.19	0.075	ug/L		10/02/20 11:12	10/12/20 13:11	1
Benzo[a]pyrene	ND		0.19	0.053	ug/L		10/02/20 11:12	10/12/20 13:11	1
Benzo[b]fluoranthene	ND		0.19	0.097	ug/L		10/02/20 11:12	10/12/20 13:11	1
Benzo[g,h,i]perylene	ND		0.19	0.069	ug/L		10/02/20 11:12	10/12/20 13:11	1
Benzo[k]fluoranthene	ND		0.19	0.088	ug/L		10/02/20 11:12	10/12/20 13:11	1
Chrysene	ND		0.19	0.081	ug/L		10/02/20 11:12	10/12/20 13:11	1
Dibenz(a,h)anthracene	ND		0.19	0.072	ug/L		10/02/20 11:12	10/12/20 13:11	1
Fluoranthene	ND		0.19	0.060	ug/L		10/02/20 11:12	10/12/20 13:11	1
Fluorene	ND		0.19	0.069	ug/L		10/02/20 11:12	10/12/20 13:11	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.085	ug/L		10/02/20 11:12	10/12/20 13:11	1
Naphthalene	ND		0.19	0.059	ug/L		10/02/20 11:12	10/12/20 13:11	1
Pentachlorophenol	ND		5.0	0.85	ug/L		10/02/20 11:12	10/12/20 13:11	1
Phenanthrene	ND		0.19	0.055	ug/L		10/02/20 11:12	10/12/20 13:11	1
Pyrene	ND		0.19	0.054	ug/L		10/02/20 11:12	10/12/20 13:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*23 - 105*	*10/02/20 11:12*	*10/12/20 13:11*	*1*
2-Fluorophenol (Surr)	*71*		*20 - 105*	*10/02/20 11:12*	*10/12/20 13:11*	*1*
Nitrobenzene-d5 (Surr)	*70*		*28 - 111*	*10/02/20 11:12*	*10/12/20 13:11*	*1*
Phenol-d5 (Surr)	*75*		*21 - 105*	*10/02/20 11:12*	*10/12/20 13:11*	*1*
Terphenyl-d14 (Surr)	*68*		*20 - 126*	*10/02/20 11:12*	*10/12/20 13:11*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*29 - 113*	*10/02/20 11:12*	*10/12/20 13:11*	*1*

Lab Sample ID: LCS 180-332126/2-A
Matrix: Water
Analysis Batch: 333064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332126

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	20.0	15.2		ug/L		76	50 - 100
Acenaphthylene	20.0	15.9		ug/L		80	51 - 100
Anthracene	20.0	16.1		ug/L		81	53 - 100
Benzo[a]anthracene	20.0	16.9		ug/L		85	51 - 100
Benzo[a]pyrene	20.0	16.2		ug/L		81	51 - 100
Benzo[b]fluoranthene	20.0	14.4		ug/L		72	45 - 100
Benzo[g,h,i]perylene	20.0	16.8		ug/L		84	51 - 100
Benzo[k]fluoranthene	20.0	15.0		ug/L		75	49 - 100
Chrysene	20.0	17.0		ug/L		85	51 - 100
Dibenz(a,h)anthracene	20.0	17.1		ug/L		86	50 - 100
Fluoranthene	20.0	17.8		ug/L		89	54 - 100
Fluorene	20.0	15.4		ug/L		77	53 - 100
Indeno[1,2,3-cd]pyrene	20.0	16.8		ug/L		84	50 - 100
Naphthalene	20.0	15.7		ug/L		78	55 - 100
Pentachlorophenol	40.0	27.6		ug/L		69	35 - 100
Phenanthrene	20.0	15.1		ug/L		75	51 - 100
Pyrene	20.0	14.9		ug/L		74	47 - 100

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-332126/2-A
Matrix: Water
Analysis Batch: 333064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*69*		*23 - 105*
2-Fluorophenol (Surr)	*82*		*20 - 105*
Nitrobenzene-d5 (Surr)	*80*		*28 - 111*
Phenol-d5 (Surr)	*86*		*21 - 105*
Terphenyl-d14 (Surr)	*76*		*20 - 126*
2,4,6-Tribromophenol (Surr)	*67*		*29 - 113*

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

Lab Sample ID: MB 180-332321/1-A
Matrix: Water
Analysis Batch: 333663

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.9	0.65	ug/L		10/05/20 13:10	10/16/20 09:34	1
Acenaphthylene	ND		1.9	0.65	ug/L		10/05/20 13:10	10/16/20 09:34	1
Anthracene	ND		1.9	0.49	ug/L		10/05/20 13:10	10/16/20 09:34	1
Benzo[a]anthracene	ND		1.9	0.75	ug/L		10/05/20 13:10	10/16/20 09:34	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		10/05/20 13:10	10/16/20 09:34	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		10/05/20 13:10	10/16/20 09:34	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		10/05/20 13:10	10/16/20 09:34	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		10/05/20 13:10	10/16/20 09:34	1
Chrysene	ND		1.9	0.81	ug/L		10/05/20 13:10	10/16/20 09:34	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		10/05/20 13:10	10/16/20 09:34	1
Fluoranthene	ND		1.9	0.60	ug/L		10/05/20 13:10	10/16/20 09:34	1
Fluorene	ND		1.9	0.69	ug/L		10/05/20 13:10	10/16/20 09:34	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		10/05/20 13:10	10/16/20 09:34	1
Naphthalene	ND		1.9	0.59	ug/L		10/05/20 13:10	10/16/20 09:34	1
Phenanthrene	ND		1.9	0.55	ug/L		10/05/20 13:10	10/16/20 09:34	1
Pyrene	ND		1.9	0.54	ug/L		10/05/20 13:10	10/16/20 09:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*44 - 105*	*10/05/20 13:10*	*10/16/20 09:34*	*1*
2-Fluorophenol (Surr)	*53*		*38 - 105*	*10/05/20 13:10*	*10/16/20 09:34*	*1*
2,4,6-Tribromophenol (Surr)	*53*		*38 - 111*	*10/05/20 13:10*	*10/16/20 09:34*	*1*
Nitrobenzene-d5 (Surr)	*60*		*45 - 108*	*10/05/20 13:10*	*10/16/20 09:34*	*1*
Phenol-d5 (Surr)	*59*		*40 - 105*	*10/05/20 13:10*	*10/16/20 09:34*	*1*
Terphenyl-d14 (Surr)	*58*		*20 - 128*	*10/05/20 13:10*	*10/16/20 09:34*	*1*

Lab Sample ID: LCS 180-332321/2-A
Matrix: Water
Analysis Batch: 333663

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	134		ug/L		67	51 - 100
Acenaphthylene	200	139		ug/L		70	47 - 100
Anthracene	200	138		ug/L		69	51 - 100
Benzo[a]anthracene	200	142		ug/L		71	49 - 100

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

Lab Sample ID: LCS 180-332321/2-A
Matrix: Water
Analysis Batch: 333663

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[b]fluoranthene	200	128		ug/L		64	47 - 100
Benzo[k]fluoranthene	200	135		ug/L		67	47 - 100
Benzo[g,h,i]perylene	200	142		ug/L		71	50 - 100
Benzo[a]pyrene	200	144		ug/L		72	49 - 100
Chrysene	200	144		ug/L		72	49 - 100
Dibenz(a,h)anthracene	200	143		ug/L		72	50 - 100
Fluoranthene	200	141		ug/L		71	52 - 100
Fluorene	200	134		ug/L		67	52 - 100
Indeno[1,2,3-cd]pyrene	200	144		ug/L		72	51 - 100
Naphthalene	200	134		ug/L		67	53 - 100
Phenanthrene	200	133		ug/L		67	49 - 100
Pyrene	200	151		ug/L		76	45 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*44 - 105*
2-Fluorophenol (Surr)	*76*		*38 - 105*
2,4,6-Tribromophenol (Surr)	*82*		*38 - 111*
Nitrobenzene-d5 (Surr)	*70*		*45 - 108*
Phenol-d5 (Surr)	*72*		*40 - 105*
Terphenyl-d14 (Surr)	*77*		*20 - 128*

Lab Sample ID: MB 180-332759/1-A
Matrix: Solid
Analysis Batch: 333001

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332759

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		34	9.6	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Acenaphthylene	ND		34	7.3	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Anthracene	ND		34	8.7	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Benzo[a]anthracene	ND		34	15	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Benzo[b]fluoranthene	ND		34	8.2	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Benzo[k]fluoranthene	ND		34	10	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Benzo[g,h,i]perylene	ND		34	7.2	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Benzo[a]pyrene	ND		34	14	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Chrysene	ND		34	19	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Dibenz(a,h)anthracene	ND		34	21	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Fluoranthene	ND		34	8.8	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Fluorene	ND		34	6.6	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Indeno[1,2,3-cd]pyrene	ND		34	17	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Naphthalene	ND		34	6.5	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Phenanthrene	ND		34	9.0	ug/Kg		10/08/20 14:08	10/11/20 15:41	1
Pyrene	ND		34	7.9	ug/Kg		10/08/20 14:08	10/11/20 15:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*45 - 105*	*10/08/20 14:08*	*10/11/20 15:41*	*1*
2-Fluorophenol (Surr)	*76*		*42 - 105*	*10/08/20 14:08*	*10/11/20 15:41*	*1*
2,4,6-Tribromophenol (Surr)	*65*		*31 - 105*	*10/08/20 14:08*	*10/11/20 15:41*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/08/20 14:08*	*10/11/20 15:41*	*1*

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

Lab Sample ID: MB 180-332759/1-A
Matrix: Solid
Analysis Batch: 333001

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332759

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	78		47 - 105	10/08/20 14:08	10/11/20 15:41	1
Terphenyl-d14 (Surr)	73		46 - 105	10/08/20 14:08	10/11/20 15:41	1

Lab Sample ID: LCS 180-332759/2-A
Matrix: Solid
Analysis Batch: 333001

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332759

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	3330	2290		ug/Kg		69	49 - 107
Acenaphthylene	3330	2430		ug/Kg		73	46 - 110
Anthracene	3330	2510		ug/Kg		75	47 - 116
Benzo[a]anthracene	3330	2670		ug/Kg		80	48 - 101
Benzo[b]fluoranthene	3330	2200		ug/Kg		66	46 - 100
Benzo[k]fluoranthene	3330	2340		ug/Kg		70	43 - 114
Benzo[g,h,i]perylene	3330	2620		ug/Kg		79	49 - 111
Benzo[a]pyrene	3330	2470		ug/Kg		74	46 - 114
Chrysene	3330	2670		ug/Kg		80	49 - 100
Dibenz(a,h)anthracene	3330	2590		ug/Kg		78	49 - 112
Fluoranthene	3330	2790		ug/Kg		84	54 - 105
Fluorene	3330	2380		ug/Kg		71	50 - 106
Indeno[1,2,3-cd]pyrene	3330	2600		ug/Kg		78	49 - 112
Naphthalene	3330	2420		ug/Kg		72	53 - 100
Phenanthrene	3330	2360		ug/Kg		71	46 - 111
Pyrene	3330	2330		ug/Kg		70	49 - 100

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		45 - 105
2-Fluorophenol (Surr)	79		42 - 105
2,4,6-Tribromophenol (Surr)	64		31 - 105
Nitrobenzene-d5 (Surr)	76		53 - 105
Phenol-d5 (Surr)	84		47 - 105
Terphenyl-d14 (Surr)	73		46 - 105

Lab Sample ID: MB 180-333372/1-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		67	19	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Acenaphthylene	ND		67	15	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Anthracene	ND		67	17	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]anthracene	ND		67	30	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[b]fluoranthene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[k]fluoranthene	ND		67	20	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[g,h,i]perylene	ND		67	14	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]pyrene	ND		67	29	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Chrysene	ND		67	37	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Dibenz(a,h)anthracene	ND		67	43	ug/Kg		10/14/20 08:24	10/16/20 12:16	1

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

Lab Sample ID: MB 180-333372/1-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluorene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Indeno[1,2,3-cd]pyrene	ND		67	33	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Naphthalene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Phenanthrene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Pyrene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*45 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
2-Fluorophenol (Surr)	*64*		*42 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*31 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Nitrobenzene-d5 (Surr)	*70*		*53 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Phenol-d5 (Surr)	*61*		*47 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*

Lab Sample ID: LCS 180-333372/2-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	6670	5160		ug/Kg		77	49 - 107
Acenaphthylene	6670	5240		ug/Kg		79	46 - 110
Anthracene	6670	5380		ug/Kg		81	47 - 116
Benzo[a]anthracene	6670	4840		ug/Kg		73	48 - 101
Benzo[b]fluoranthene	6670	4630		ug/Kg		69	46 - 100
Benzo[k]fluoranthene	6670	4660		ug/Kg		70	43 - 114
Benzo[g,h,i]perylene	6670	4500		ug/Kg		68	49 - 111
Benzo[a]pyrene	6670	4770		ug/Kg		72	46 - 114
Chrysene	6670	4350		ug/Kg		65	49 - 100
Dibenz(a,h)anthracene	6670	4320		ug/Kg		65	49 - 112
Fluoranthene	6670	5050		ug/Kg		76	54 - 105
Fluorene	6670	5240		ug/Kg		79	50 - 106
Indeno[1,2,3-cd]pyrene	6670	5010		ug/Kg		75	49 - 112
Naphthalene	6670	4820		ug/Kg		72	53 - 100
Phenanthrene	6670	5130		ug/Kg		77	46 - 111
Pyrene	6670	4880		ug/Kg		73	49 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*45 - 105*
2-Fluorophenol (Surr)	*90*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*80*		*31 - 105*
Nitrobenzene-d5 (Surr)	*88*		*53 - 105*
Phenol-d5 (Surr)	*78*		*47 - 105*
Terphenyl-d14 (Surr)	*85*		*46 - 105*

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

Lab Sample ID: MB 320-419261/1-A
Matrix: Solid
Analysis Batch: 423107

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419261

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.30	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total TCDD	ND		1.0	0.30	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,7,8-PeCDD	ND		5.0	0.15	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total PeCDD	ND		5.0	0.15	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,4,7,8-HxCDD	0.231	J	5.0	0.060	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.057	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.054	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total HxCDD	0.231	J	5.0	0.057	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,4,6,7,8-HpCDD	0.209	J	5.0	0.058	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total HpCDD	0.209	J	5.0	0.058	pg/g		10/06/20 13:56	10/18/20 06:36	1
OCDD	0.664	J	10	0.063	pg/g		10/06/20 13:56	10/18/20 06:36	1
2,3,7,8-TCDF	ND		1.0	0.14	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total TCDF	ND		1.0	0.14	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,7,8-PeCDF	ND		5.0	0.068	pg/g		10/06/20 13:56	10/18/20 06:36	1
2,3,4,7,8-PeCDF	ND		5.0	0.069	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total PeCDF	ND		5.0	0.069	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.068	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.061	pg/g		10/06/20 13:56	10/18/20 06:36	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.063	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.065	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total HxCDF	ND		5.0	0.068	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.040	pg/g		10/06/20 13:56	10/18/20 06:36	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.044	pg/g		10/06/20 13:56	10/18/20 06:36	1
Total HpCDF	ND		5.0	0.044	pg/g		10/06/20 13:56	10/18/20 06:36	1
OCDF	0.522	J q	10	0.098	pg/g		10/06/20 13:56	10/18/20 06:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*60*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-1,2,3,6,7,8-HxCDD	*67*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*69*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-OCDD	*72*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-2,3,7,8-TCDF	*58*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-1,2,3,7,8-PeCDF	*62*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-1,2,3,4,7,8-HxCDF	*62*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*66*		*40 - 135*	*10/06/20 13:56*	*10/18/20 06:36*	*1*

Lab Sample ID: LCS 320-419261/2-A
Matrix: Solid
Analysis Batch: 423107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	19.2		pg/g		96	77 - 130
1,2,3,7,8-PeCDD	100	93.8		pg/g		94	79 - 134
1,2,3,4,7,8-HxCDD	100	95.7		pg/g		96	65 - 144
1,2,3,6,7,8-HxCDD	100	95.8		pg/g		96	73 - 147
1,2,3,7,8,9-HxCDD	100	95.6		pg/g		96	80 - 143
1,2,3,4,6,7,8-HpCDD	100	93.5		pg/g		94	86 - 134
OCDD	200	189		pg/g		95	80 - 137

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

Lab Sample ID: LCS 320-419261/2-A
Matrix: Solid
Analysis Batch: 423107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419261

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDF			20.0	20.4		pg/g		102	79 - 137		
1,2,3,7,8-PeCDF			100	98.2		pg/g		98	81 - 134		
2,3,4,7,8-PeCDF			100	97.0		pg/g		97	76 - 132		
1,2,3,4,7,8-HxCDF			100	102		pg/g		102	72 - 140		
1,2,3,6,7,8-HxCDF			100	106		pg/g		106	63 - 152		
2,3,4,6,7,8-HxCDF			100	109		pg/g		109	72 - 151		
1,2,3,7,8,9-HxCDF			100	105		pg/g		105	72 - 152		
1,2,3,4,6,7,8-HpCDF			100	95.3		pg/g		95	81 - 137		
1,2,3,4,7,8,9-HpCDF			100	97.4		pg/g		97	79 - 139		
OCDF			200	194		pg/g		97	75 - 141		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*49*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*51*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*55*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*
13C-OCDD	*63*		*40 - 135*
13C-2,3,7,8-TCDF	*48*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*48*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*49*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*57*		*40 - 135*

Lab Sample ID: LCSD 320-419261/3-A
Matrix: Solid
Analysis Batch: 423107

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 419261

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			20.0	18.1		pg/g		91	77 - 130	6	20
1,2,3,7,8-PeCDD			100	92.3		pg/g		92	79 - 134	2	20
1,2,3,4,7,8-HxCDD			100	92.6		pg/g		93	65 - 144	3	20
1,2,3,6,7,8-HxCDD			100	93.1		pg/g		93	73 - 147	3	20
1,2,3,7,8,9-HxCDD			100	89.8		pg/g		90	80 - 143	6	20
1,2,3,4,6,7,8-HpCDD			100	93.0		pg/g		93	86 - 134	1	20
OCDD			200	188		pg/g		94	80 - 137	1	20
2,3,7,8-TCDF			20.0	19.3		pg/g		96	79 - 137	6	20
1,2,3,7,8-PeCDF			100	93.6		pg/g		94	81 - 134	5	20
2,3,4,7,8-PeCDF			100	93.4		pg/g		93	76 - 132	4	20
1,2,3,4,7,8-HxCDF			100	98.9		pg/g		99	72 - 140	3	20
1,2,3,6,7,8-HxCDF			100	104		pg/g		104	63 - 152	2	20
2,3,4,6,7,8-HxCDF			100	104		pg/g		104	72 - 151	5	20
1,2,3,7,8,9-HxCDF			100	97.3		pg/g		97	72 - 152	8	20
1,2,3,4,6,7,8-HpCDF			100	93.2		pg/g		93	81 - 137	2	20
1,2,3,4,7,8,9-HpCDF			100	92.5		pg/g		93	79 - 139	5	20
OCDF			200	192		pg/g		96	75 - 141	1	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*62*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*63*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*69*		*40 - 135*

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

Lab Sample ID: LCSD 320-419261/3-A
Matrix: Solid
Analysis Batch: 423107

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 419261

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDD	70		40 - 135
13C-OCDD	71		40 - 135
13C-2,3,7,8-TCDF	58		40 - 135
13C-1,2,3,7,8-PeCDF	61		40 - 135
13C-1,2,3,4,7,8-HxCDF	61		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	68		40 - 135

Lab Sample ID: MB 320-419525/1-A
Matrix: Water
Analysis Batch: 420486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419525

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.61	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total TCDD	ND		10	0.61	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8-PeCDD	ND		50	0.62	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total PeCDD	ND		50	0.62	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,7,8-HxCDD	ND		50	0.99	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,6,7,8-HxCDD	ND		50	0.98	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8,9-HxCDD	ND		50	0.90	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HxCDD	ND		50	0.99	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,6,7,8-HpCDD	0.630	J q	50	0.35	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HpCDD	0.630	J q	50	0.35	pg/L		10/07/20 11:35	10/10/20 09:04	1
OCDD	2.16	J	100	0.41	pg/L		10/07/20 11:35	10/10/20 09:04	1
2,3,7,8-TCDF	1.00	J q	10	0.54	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total TCDF	1.00	J q	10	0.54	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8-PeCDF	ND		50	0.48	pg/L		10/07/20 11:35	10/10/20 09:04	1
2,3,4,7,8-PeCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total PeCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,7,8-HxCDF	ND		50	0.49	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,6,7,8-HxCDF	ND		50	0.47	pg/L		10/07/20 11:35	10/10/20 09:04	1
2,3,4,6,7,8-HxCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8,9-HxCDF	ND		50	0.49	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HxCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,6,7,8-HpCDF	0.569	J	50	0.31	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.35	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HpCDF	0.569	J	50	0.33	pg/L		10/07/20 11:35	10/10/20 09:04	1
OCDF	ND		100	0.41	pg/L		10/07/20 11:35	10/10/20 09:04	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	98		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-1,2,3,7,8-PeCDD	95		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-1,2,3,6,7,8-HxCDD	91		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-1,2,3,4,6,7,8-HpCDD	85		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-OCDD	98		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-2,3,7,8-TCDF	100		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-1,2,3,7,8-PeCDF	90		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-1,2,3,4,7,8-HxCDF	100		40 - 135	10/07/20 11:35	10/10/20 09:04	1
13C-1,2,3,4,6,7,8-HpCDF	80		40 - 135	10/07/20 11:35	10/10/20 09:04	1

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

Lab Sample ID: LCS 320-419525/2-A
Matrix: Water
Analysis Batch: 420486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419525

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			200	212		pg/L		106	64 - 142		
1,2,3,7,8-PeCDD			1000	940		pg/L		94	71 - 140		
1,2,3,4,7,8-HxCDD			1000	886		pg/L		89	56 - 146		
1,2,3,6,7,8-HxCDD			1000	897		pg/L		90	73 - 144		
1,2,3,7,8,9-HxCDD			1000	868		pg/L		87	71 - 151		
1,2,3,4,6,7,8-HpCDD			1000	890		pg/L		89	78 - 139		
OCDD			2000	1730		pg/L		87	80 - 132		
2,3,7,8-TCDF			200	212		pg/L		106	71 - 142		
1,2,3,7,8-PeCDF			1000	973		pg/L		97	76 - 135		
2,3,4,7,8-PeCDF			1000	988		pg/L		99	74 - 137		
1,2,3,4,7,8-HxCDF			1000	972		pg/L		97	75 - 131		
1,2,3,6,7,8-HxCDF			1000	1030		pg/L		103	76 - 133		
2,3,4,6,7,8-HxCDF			1000	917		pg/L		92	80 - 137		
1,2,3,7,8,9-HxCDF			1000	946		pg/L		95	77 - 142		
1,2,3,4,6,7,8-HpCDF			1000	936		pg/L		94	79 - 133		
1,2,3,4,7,8,9-HpCDF			1000	913		pg/L		91	83 - 130		
OCDF			2000	2040		pg/L		102	72 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*87*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*102*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*
13C-OCDD	*92*		*40 - 135*
13C-2,3,7,8-TCDF	*99*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*89*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*94*		*40 - 135*

Lab Sample ID: LCSD 320-419525/3-A
Matrix: Water
Analysis Batch: 421505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 419525

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	205		pg/L		102	64 - 142	4	20
1,2,3,7,8-PeCDD			1000	988		pg/L		99	71 - 140	5	20
1,2,3,4,7,8-HxCDD			1000	982		pg/L		98	56 - 146	10	20
1,2,3,6,7,8-HxCDD			1000	1000		pg/L		100	73 - 144	11	20
1,2,3,7,8,9-HxCDD			1000	1010		pg/L		101	71 - 151	15	20
1,2,3,4,6,7,8-HpCDD			1000	946		pg/L		95	78 - 139	6	20
OCDD			2000	1880		pg/L		94	80 - 132	8	20
2,3,7,8-TCDF			200	212		pg/L		106	71 - 142	0	20
1,2,3,7,8-PeCDF			1000	1010		pg/L		101	76 - 135	4	20
2,3,4,7,8-PeCDF			1000	961		pg/L		96	74 - 137	3	20
1,2,3,4,7,8-HxCDF			1000	1040		pg/L		104	75 - 131	6	20
1,2,3,6,7,8-HxCDF			1000	1100		pg/L		110	76 - 133	7	20
2,3,4,6,7,8-HxCDF			1000	1140	*1	pg/L		114	80 - 137	22	20
1,2,3,7,8,9-HxCDF			1000	1090		pg/L		109	77 - 142	14	20
1,2,3,4,6,7,8-HpCDF			1000	970		pg/L		97	79 - 133	4	20

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

Lab Sample ID: LCSD 320-419525/3-A
Matrix: Water
Analysis Batch: 421505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 419525

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,4,7,8,9-HpCDF			1000	988		pg/L		99	83 - 130	8	20
OCDF			2000	2050		pg/L		103	72 - 140	1	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*88*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*92*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*92*		*40 - 135*
13C-OCDD	*103*		*40 - 135*
13C-2,3,7,8-TCDF	*96*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*94*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*96*		*40 - 135*

Method: SM 2540G - Total, Fixed, and Volatile Solids

Lab Sample ID: 180-111697-1 DU
Matrix: Solid
Analysis Batch: 333942

Client Sample ID: KD302SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	79			78.6		%				0.2	10

Lab Sample ID: 180-111697-2 DU
Matrix: Solid
Analysis Batch: 333942

Client Sample ID: KD280SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	80			80.1		%				0.3	10

Lab Sample ID: 180-111697-9 DU
Matrix: Solid
Analysis Batch: 333944

Client Sample ID: KD106SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	78			78.4		%				0.3	10

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

GC/MS Semi VOA

Prep Batch: 332126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-3	KD280SS-EB	Total/NA	Water	3520C	
MB 180-332126/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-332126/2-A	Lab Control Sample	Total/NA	Water	3520C	

Prep Batch: 332321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-8	KD106SS-EB	Total/NA	Water	3520C	
MB 180-332321/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-332321/2-A	Lab Control Sample	Total/NA	Water	3520C	

Prep Batch: 332759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-1	KD302SS	Total/NA	Solid	3541	
180-111697-2	KD280SS	Total/NA	Solid	3541	
180-111697-4	KD248SS	Total/NA	Solid	3541	
180-111697-5	KD216SS	Total/NA	Solid	3541	
180-111697-6	KD132SS	Total/NA	Solid	3541	
180-111697-7	KDEPA9SS	Total/NA	Solid	3541	
180-111697-9	KD106SS	Total/NA	Solid	3541	
MB 180-332759/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-332759/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 333001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-332759/1-A	Method Blank	Total/NA	Solid	EPA 8270E	332759
LCS 180-332759/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	332759

Analysis Batch: 333005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-1	KD302SS	Total/NA	Solid	EPA 8270E	332759
180-111697-2	KD280SS	Total/NA	Solid	EPA 8270E	332759
180-111697-4	KD248SS	Total/NA	Solid	EPA 8270E	332759
180-111697-5	KD216SS	Total/NA	Solid	EPA 8270E	332759
180-111697-6	KD132SS	Total/NA	Solid	EPA 8270E	332759
180-111697-7	KDEPA9SS	Total/NA	Solid	EPA 8270E	332759
180-111697-9	KD106SS	Total/NA	Solid	EPA 8270E	332759

Analysis Batch: 333064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-3	KD280SS-EB	Total/NA	Water	EPA 8270D LL	332126
MB 180-332126/1-A	Method Blank	Total/NA	Water	EPA 8270D LL	332126
LCS 180-332126/2-A	Lab Control Sample	Total/NA	Water	EPA 8270D LL	332126

Prep Batch: 333372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-10	KD080SS	Total/NA	Solid	3541	
180-111697-11	KD010SS	Total/NA	Solid	3541	
180-111697-12	KD860SS	Total/NA	Solid	3541	
MB 180-333372/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	3541	

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111697-1

GC/MS Semi VOA

Analysis Batch: 333663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-8	KD106SS-EB	Total/NA	Water	EPA 8270E	332321
MB 180-332321/1-A	Method Blank	Total/NA	Water	EPA 8270E	332321
LCS 180-332321/2-A	Lab Control Sample	Total/NA	Water	EPA 8270E	332321

Analysis Batch: 333708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-10	KD080SS	Total/NA	Solid	EPA 8270E	333372
180-111697-11	KD010SS	Total/NA	Solid	EPA 8270E	333372
180-111697-12	KD860SS	Total/NA	Solid	EPA 8270E	333372
MB 180-333372/1-A	Method Blank	Total/NA	Solid	EPA 8270E	333372
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	333372

Specialty Organics

Prep Batch: 419261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-1	KD302SS	Total/NA	Solid	8290	
180-111697-2	KD280SS	Total/NA	Solid	8290	
180-111697-4	KD248SS	Total/NA	Solid	8290	
180-111697-5	KD216SS	Total/NA	Solid	8290	
180-111697-6	KD132SS	Total/NA	Solid	8290	
180-111697-7 - RA	KDEPA9SS	Total/NA	Solid	8290	
180-111697-7	KDEPA9SS	Total/NA	Solid	8290	
180-111697-9 - RA	KD106SS	Total/NA	Solid	8290	
180-111697-9	KD106SS	Total/NA	Solid	8290	
180-111697-10	KD080SS	Total/NA	Solid	8290	
180-111697-11 - RA	KD010SS	Total/NA	Solid	8290	
180-111697-11	KD010SS	Total/NA	Solid	8290	
180-111697-12 - RA	KD860SS	Total/NA	Solid	8290	
180-111697-12	KD860SS	Total/NA	Solid	8290	
MB 320-419261/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-419261/2-A	Lab Control Sample	Total/NA	Solid	8290	
LCSD 320-419261/3-A	Lab Control Sample Dup	Total/NA	Solid	8290	

Prep Batch: 419525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-3	KD280SS-EB	Total/NA	Water	8290	
180-111697-8	KD106SS-EB	Total/NA	Water	8290	
MB 320-419525/1-A	Method Blank	Total/NA	Water	8290	
LCS 320-419525/2-A	Lab Control Sample	Total/NA	Water	8290	
LCSD 320-419525/3-A	Lab Control Sample Dup	Total/NA	Water	8290	

Analysis Batch: 420486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-3	KD280SS-EB	Total/NA	Water	8290A	419525
180-111697-8	KD106SS-EB	Total/NA	Water	8290A	419525
MB 320-419525/1-A	Method Blank	Total/NA	Water	8290A	419525
LCS 320-419525/2-A	Lab Control Sample	Total/NA	Water	8290A	419525

Specialty Organics

Analysis Batch: 421505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-419525/3-A	Lab Control Sample Dup	Total/NA	Water	8290A	419525

Analysis Batch: 422781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-1	KD302SS	Total/NA	Solid	8290A	419261
180-111697-2	KD280SS	Total/NA	Solid	8290A	419261
180-111697-4	KD248SS	Total/NA	Solid	8290A	419261

Analysis Batch: 423107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-5	KD216SS	Total/NA	Solid	8290A	419261
180-111697-6	KD132SS	Total/NA	Solid	8290A	419261
180-111697-7	KDEPA9SS	Total/NA	Solid	8290A	419261
180-111697-9	KD106SS	Total/NA	Solid	8290A	419261
180-111697-10	KD080SS	Total/NA	Solid	8290A	419261
180-111697-11	KD010SS	Total/NA	Solid	8290A	419261
MB 320-419261/1-A	Method Blank	Total/NA	Solid	8290A	419261
LCS 320-419261/2-A	Lab Control Sample	Total/NA	Solid	8290A	419261
LCSD 320-419261/3-A	Lab Control Sample Dup	Total/NA	Solid	8290A	419261

Analysis Batch: 423405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-12	KD860SS	Total/NA	Solid	8290A	419261

Analysis Batch: 424573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-7 - RA	KDEPA9SS	Total/NA	Solid	8290A	419261
180-111697-9 - RA	KD106SS	Total/NA	Solid	8290A	419261
180-111697-11 - RA	KD010SS	Total/NA	Solid	8290A	419261
180-111697-12 - RA	KD860SS	Total/NA	Solid	8290A	419261

General Chemistry

Analysis Batch: 333942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-1	KD302SS	Total/NA	Solid	SM 2540G	
180-111697-2	KD280SS	Total/NA	Solid	SM 2540G	
180-111697-4	KD248SS	Total/NA	Solid	SM 2540G	
180-111697-5	KD216SS	Total/NA	Solid	SM 2540G	
180-111697-6	KD132SS	Total/NA	Solid	SM 2540G	
180-111697-7	KDEPA9SS	Total/NA	Solid	SM 2540G	
180-111697-1 DU	KD302SS	Total/NA	Solid	SM 2540G	
180-111697-2 DU	KD280SS	Total/NA	Solid	SM 2540G	

Analysis Batch: 333944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111697-9	KD106SS	Total/NA	Solid	SM 2540G	
180-111697-10	KD080SS	Total/NA	Solid	SM 2540G	
180-111697-11	KD010SS	Total/NA	Solid	SM 2540G	
180-111697-12	KD860SS	Total/NA	Solid	SM 2540G	
180-111697-9 DU	KD106SS	Total/NA	Solid	SM 2540G	

>> Select a Laboratory or Service Center <<
#N/A
#N/A
#N/A
##

Chain of Custody Record

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

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Jennifer Abrahams	Site Contact: Garrett Kuhl	Date:	COC No:
Your Company Name here: Tetra tech	Email: Jennifer.Abrahams@tetratech.com	Lab Contact: Veronica Bartot	Carrier:	1 of 1 COCs
Address: 3101 Zinfandel Dr.	Tel/Fax: 916-853-4526			TALS Project #:
City/State/Zip: Rancho Cordova, CA, 95670	Analysis Turnaround Time: ☒ CALENDAR DAYS ☐ WORKING DAYS			Sampler:
(xxx) xxx-xxxx Phone: 916-853-4526	TAT if different from Below: ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			For Lab Use Only: Walk-in Client: Lab Sampling:
(xxx) xxx-xxxx FAX				
Project Name: Additional Off-site Sampling				Job / SDG No.:
Site: Grenada, MS				
PO# 117-2201456A				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PAHs (EPA 8270)	(17) 2,3,7,8 PCDD/PCDF congeners (EPA 8290)	Sample Specific Notes:
KD3025S	9/28/20	1350	C	Soil	2	N	N	X	X	
KD2805S	9/28/20	1617	C	Soil	2	N	N	X	X	
KD2805S-EB	9/28/20	1745	G	water	4	N	N	X	X	
KD2485S	9/29/20	0915	C	Soil	2	N	N	X	X	
KD2165S	9/29/20	1101	C	Soil	2	N	N	X	X	
KD1325S	9/29/20	1253	C	Soil	2	N	N	X	X	
KDEPA95S	9/29/20	1509	C	Soil	2	N	N	X	X	
KD1065S-EB	9/29/20	1755	G	water	4	N	N	X	X	
KD1065S	9/29/20	1705	C	Soil	2	N	N	X	X	
KD0805S	9/30/20	0930	C	Soil	2	N	N	X	X	
KD0105S	9/30/20	1140	C	Soil	2	N	N	X	X	
KD8605S	9/30/20	1200	C	Soil	2	N	N	X	X	

180-111697 Chain of Custody

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

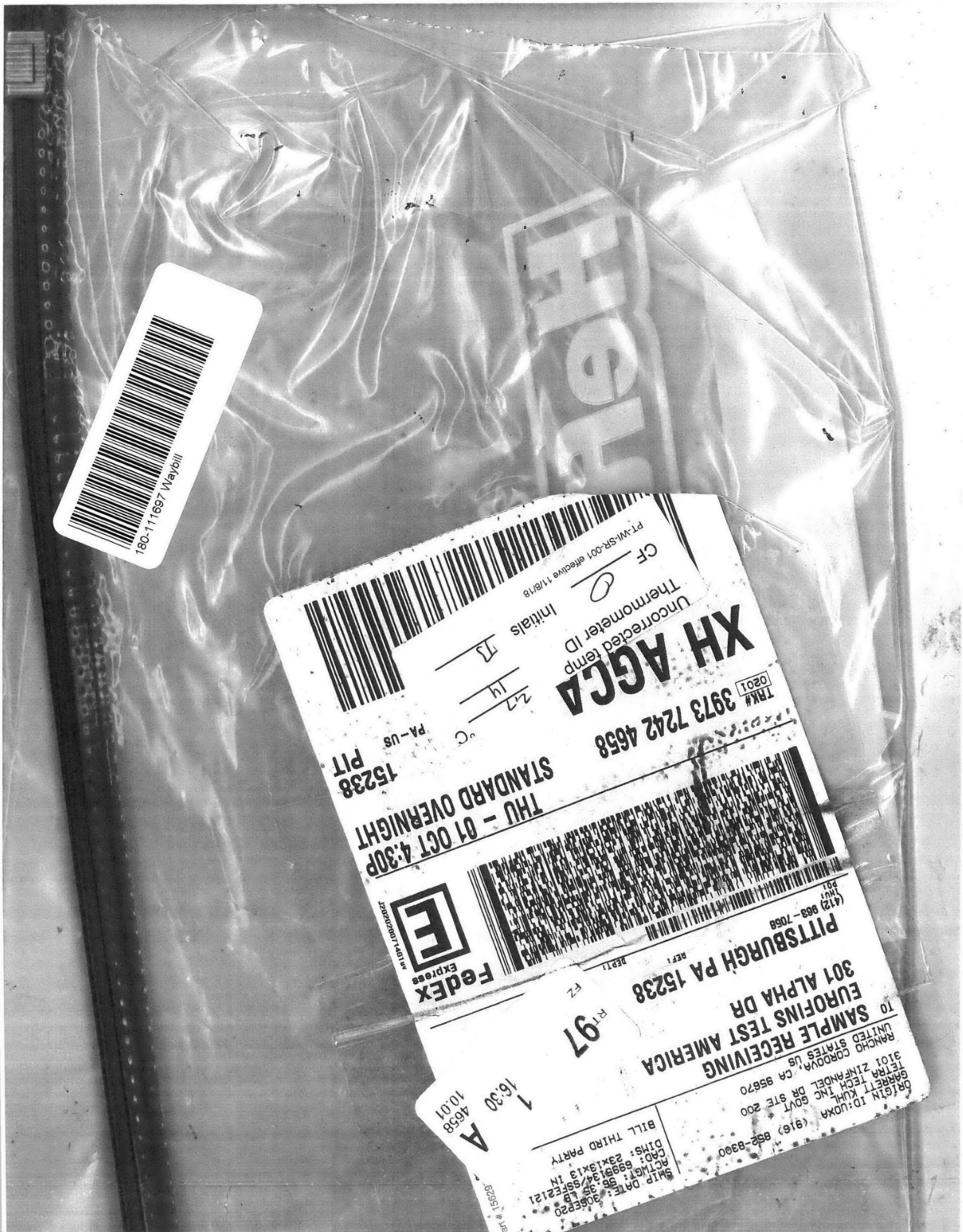
Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Standard EDD

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:	Corr'd:	Therm ID No.:
Relinquished by: Andrew Morgan	Company: Tetra tech	Date/Time: 9/30/20 1510	Received by: Fedex	Company:	Date/Time: 9/30/20 1510
Relinquished by:	Company:	Date/Time:	Received by: Willie Watson	Company: TTAL	Date/Time: 10/1/20 9:02
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.34, dated 8/3/2020


180-111697 Waybill
ORIGIN ID:UOXA (916) 852-8300
GARRETT KUHL
TETRA TECH INC
3101 ZINFANDEL DR STE 200
RANCHO CORDOVA, CA 95670
UNITED STATES US
SHIP DATE: 30SEP20
ACTWGT: 56.35 LB
CAD: 6699134/SSFE2121
DIMS: 23x13x13 IN
BILL THIRD PARTY
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
PITTSBURGH PA 15238
(412) 963-7058
FedEx Express
THU - 01 OCT 4:30P
STANDARD OVERNIGHT
TRK# 3973 7242 4658
0201
XH AGCA
15238
PA-US
PIT
Uncorrected temp
Thermometer ID
CF
Initials
PT-WI-SR-001 effective 11/8/18

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-413902.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111697-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

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	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
KD302SS (180-111697-1)	9/28/20	13:50 Central		Solid			X		1	
KD280SS (180-111697-2)	9/28/20	16:17 Central		Solid			X		1	
KD280SS-EB (180-111697-3)	9/28/20	17:45 Central		Water				X	2	
KD248SS (180-111697-4)	9/29/20	09:15 Central		Solid			X		1	
KD216SS (180-111697-5)	9/29/20	11:01 Central		Solid			X		1	
KD132SS (180-111697-6)	9/29/20	12:53 Central		Solid			X		1	
KDEPA9SS (180-111697-7)	9/29/20	15:09 Central		Solid			X		1	
KD106SS-EB (180-111697-8)	9/29/20	17:55 Central		Water				X	2	
KD106SS (180-111697-9)	9/29/20	17:05 Central		Solid			X		1	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/5/2017 00			10/6/17 1005	FedEx
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 6.5 ca 0.9

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-413902.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111697-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/19/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
KD080SS (180-111697-10)	9/30/20	09:30 Central		Solid			X		1	
KD010SS (180-111697-11)	9/30/20	11:40 Central		Solid			X		1	
KD860SS (180-111697-12)	9/30/20	12:00 Central		Solid			X		1	

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

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

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

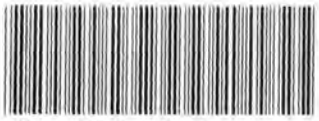
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/5/20 1700			10/6/20 0005	ESHSC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☒ Yes ☐ No	Custody Seal No.: Eq1	Cooler Temperature(s) °C and Other Remarks: 0.5 Ca 0.9

Ver: 01/16/2019

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes


180-111697 Field Sheet

Tracking # : 1689 8103 2240

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Job: _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: AK13 Corr. Factor: (+) / (-) 0.4 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 0.5 °C Corrected: 0.9 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: ST Date: 10/6/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [signature] Date: 10/06/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: [signature] Date: 10/06/20

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111697-1

Login Number: 111697
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111697-1

Login Number: 111697
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/06/20 12:08 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 6.5c corr: 6.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-111805-1
Client Project/Site: Grenada, Mississippi

For:
Tetra Tech GEO
2969 Prospect Park Drive
Suite 100
Rancho Cordova, California 95670

Attn: Ms. Jennifer Abrahams, P.G.

Veronica Bortot

Authorized for release by:
10/27/2020 9:47:47 AM

Veronica Bortot, Senior Project Manager
(412)963-2435
Veronica.Bortot@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-111805-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111805-1

Comments
No additional comments.

Receipt
The samples were received on 10/3/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.8º C and 3.6º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. There is no relinquished by time listed on one out of two COC's.

GC/MS Semi VOA
Method 8270E: The following sample was diluted due to the nature of the sample matrix: KD225WSS. Elevated reporting limits (RLs) are provided.

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 180-333372 and analytical batch 180-333809 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Dioxin
Method 8290A: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-419525 and analytical batch 320-420486 recovered outside control limits for 2,3,4,6,7,8-HxCDF. The recoveries for this analyte were within limits in both the LCS and LCSD.

Method 8290A: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: KD029SS, KD045SS, KD123SS, KD149SS, KD225ESS and KD225WSS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 8290A: The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): KD029SS, KD045SS, KD123SS, KD149SS and KD225WSS . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 8290A: The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): DW201SS . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 8290A: The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: DW201SS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

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

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

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

Job ID: 180-111805-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

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

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
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.

Dioxin

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111805-1
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111805-1
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Sample Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111805-1	KD029SS	Solid	09/30/20 17:23	10/03/20 09:30	
180-111805-2	KD045SS	Solid	10/01/20 09:23	10/03/20 09:30	
180-111805-3	KD123SS	Solid	10/01/20 11:16	10/03/20 09:30	
180-111805-4	KD149SS	Solid	10/01/20 13:42	10/03/20 09:30	
180-111805-5	KD225ESS	Solid	10/01/20 15:09	10/03/20 09:30	
180-111805-6	KD225WSS	Solid	10/01/20 16:50	10/03/20 09:30	
180-111805-7	DW201SS	Solid	10/02/20 08:40	10/03/20 09:30	
180-111805-8	KD251SS	Solid	10/02/20 10:33	10/03/20 09:30	
180-111805-9	KD275SS	Solid	10/02/20 12:01	10/03/20 09:30	
180-111805-10	KD297SS	Solid	10/02/20 14:29	10/03/20 09:30	
180-111805-11	KD010SS-EB	Water	09/30/20 17:50	10/03/20 09:30	
180-111805-12	KD297SS-EB	Water	10/02/20 15:20	10/03/20 09:30	
180-111805-13	KD225WSS-EB	Water	10/01/20 17:35	10/03/20 09:30	

Method Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Method	Method Description	Protocol	Laboratory
EPA 8270E	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
2540G	SM 2540G	SM22	TAL PIT
SM 2540G	Total, Fixed, and Volatile Solids	SM	TAL PIT
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL SAC
8290	Soxhlet Extraction of Dioxins and Furans	SW846	TAL SAC

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD029SS
Date Collected: 09/30/20 17:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD029SS
Date Collected: 09/30/20 17:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-1
Matrix: Solid
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 19:59	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.83 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423668	10/20/20 14:34	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.83 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 01:12	SMA	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: KD045SS
Date Collected: 10/01/20 09:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD045SS
Date Collected: 10/01/20 09:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-2
Matrix: Solid
Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 20:25	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.49 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423668	10/20/20 15:19	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		10.49 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 01:51	SMA	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD123SS
Date Collected: 10/01/20 11:16
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD123SS
Date Collected: 10/01/20 11:16
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-3
Matrix: Solid
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.3 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 20:50	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.21 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423668	10/20/20 16:04	ALM	TAL SAC
	Instrument ID: 10D5									

Client Sample ID: KD149SS
Date Collected: 10/01/20 13:42
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD149SS
Date Collected: 10/01/20 13:42
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-4
Matrix: Solid
Percent Solids: 78.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.5 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 21:16	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.80 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423668	10/20/20 16:49	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.80 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 02:29	SMA	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD225ESS
Date Collected: 10/01/20 15:09
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD225ESS
Date Collected: 10/01/20 15:09
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-5
Matrix: Solid
Percent Solids: 75.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 21:42	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.09 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423668	10/20/20 17:34	ALM	TAL SAC
	Instrument ID: 10D5									

Client Sample ID: KD225WSS
Date Collected: 10/01/20 16:50
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD225WSS
Date Collected: 10/01/20 16:50
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-6
Matrix: Solid
Percent Solids: 75.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.3 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		2	1 mL	1 mL	333708	10/16/20 22:07	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.92 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423668	10/20/20 18:19	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.92 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 03:07	SMA	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: DW201SS
Date Collected: 10/02/20 08:40
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW201SS
Date Collected: 10/02/20 08:40
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-7
Matrix: Solid
Percent Solids: 74.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.5 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 22:33	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.71 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423671	10/21/20 00:59	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.71 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 03:46	SMA	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: KD251SS
Date Collected: 10/02/20 10:33
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD251SS
Date Collected: 10/02/20 10:33
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-8
Matrix: Solid
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 22:59	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.36 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423671	10/21/20 01:44	AS	TAL SAC
	Instrument ID: 10D5									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD275SS
Date Collected: 10/02/20 12:01
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD275SS
Date Collected: 10/02/20 12:01
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-9
Matrix: Solid
Percent Solids: 78.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 23:24	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.82 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423671	10/21/20 02:29	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.82 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 04:24	SMA	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: KD297SS
Date Collected: 10/02/20 14:29
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333628	10/15/20 18:23	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334115	10/15/20 18:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD297SS
Date Collected: 10/02/20 14:29
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-10
Matrix: Solid
Percent Solids: 80.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.3 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333708	10/16/20 16:07	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.97 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A		1			423671	10/21/20 03:14	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.97 g	20 uL	419758	10/08/20 04:37	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			424664	10/23/20 05:02	SMA	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Job ID: 180-111805-1
Project/Site: Grenada, Mississippi

Client Sample ID: KD010SS-EB
Lab Sample ID: 180-111805-11
Date Collected: 09/30/20 17:50
Matrix: Water
Date Received: 10/03/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			270 mL	2.5 mL	332595	10/07/20 10:36	BJT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333722	10/16/20 21:37	VVP	TAL PIT
	Instrument ID: CHMSD7									
Total/NA	Prep	8290			1035 mL	20.0 uL	419525	10/07/20 14:02	NR	TAL SAC
Total/NA	Analysis	8290A		1			420486	10/10/20 13:02	ALM	TAL SAC
	Instrument ID: 3D5									

Client Sample ID: KD297SS-EB
Lab Sample ID: 180-111805-12
Date Collected: 10/02/20 15:20
Matrix: Water
Date Received: 10/03/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			250 mL	2.5 mL	332595	10/07/20 10:36	BJT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333722	10/16/20 22:04	VVP	TAL PIT
	Instrument ID: CHMSD7									
Total/NA	Prep	8290			1008.5 mL	20.0 uL	419525	10/07/20 14:02	NR	TAL SAC
Total/NA	Analysis	8290A		1			420486	10/10/20 13:50	ALM	TAL SAC
	Instrument ID: 3D5									

Client Sample ID: KD225WSS-EB
Lab Sample ID: 180-111805-13
Date Collected: 10/01/20 17:35
Matrix: Water
Date Received: 10/03/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			230 mL	2.5 mL	332595	10/07/20 10:36	BJT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333722	10/16/20 22:30	VVP	TAL PIT
	Instrument ID: CHMSD7									
Total/NA	Prep	8290			1037.1 mL	20.0 uL	419525	10/07/20 14:02	NR	TAL SAC
Total/NA	Analysis	8290A		1			420486	10/10/20 14:37	ALM	TAL SAC
	Instrument ID: 3D5									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Analyst References:

Lab: TAL PIT

- Batch Type: Prep
  - BJT = Bill Trout
  - CSC = Chayce Cockroft
- Batch Type: Analysis
  - PMH = Paloma Hoelzle
  - TAM = Tessa Mastalski
  - VVP = Vincent Piccolino

Lab: TAL SAC

- Batch Type: Prep
  - FC = Fue Chang
  - NR = Noe Ruiz
- Batch Type: Analysis
  - ALM = Adrian Messecar
  - AS = Ajay Sharda
  - SMA = Saleh Arghestani

Client Sample ID: KD029SS
Date Collected: 09/30/20 17:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-1
Matrix: Solid
Percent Solids: 79.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		84	24	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Acenaphthylene	**61**	**J**	84	18	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Anthracene	**81**	**J**	84	22	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Benzo[a]anthracene	**120**		84	38	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Benzo[b]fluoranthene	**210**		84	21	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Benzo[k]fluoranthene	**78**	**J**	84	25	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Benzo[g,h,i]perylene	**87**		84	18	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Benzo[a]pyrene	**98**		84	36	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Chrysene	**180**		84	46	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Dibenz(a,h)anthracene	**92**		84	53	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Fluoranthene	**200**		84	22	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Fluorene	ND		84	16	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Indeno[1,2,3-cd]pyrene	**82**	**J**	84	42	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Naphthalene	**51**	**J**	84	16	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Phenanthrene	**100**		84	22	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1
Pyrene	**260**		84	20	ug/Kg	☼	10/14/20 08:24	10/16/20 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*45 - 105*	*10/14/20 08:24*	*10/16/20 19:59*	*1*
2-Fluorophenol (Surr)	*83*		*42 - 105*	*10/14/20 08:24*	*10/16/20 19:59*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*31 - 105*	*10/14/20 08:24*	*10/16/20 19:59*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 105*	*10/14/20 08:24*	*10/16/20 19:59*	*1*
Phenol-d5 (Surr)	*73*		*47 - 105*	*10/14/20 08:24*	*10/16/20 19:59*	*1*
Terphenyl-d14 (Surr)	*87*		*46 - 105*	*10/14/20 08:24*	*10/16/20 19:59*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.40**	**J q**	1.3	0.16	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total TCDD	**12**	**q**	1.3	0.16	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,7,8-PeCDD	**4.1**	**J**	6.4	0.51	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total PeCDD	**57**		6.4	0.51	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,4,7,8-HxCDD	**13**		6.4	0.47	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,6,7,8-HxCDD	**37**		6.4	0.42	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,7,8,9-HxCDD	**19**		6.4	0.40	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total HxCDD	**370**		6.4	0.43	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,4,6,7,8-HpCDD	**1100**	**G**	11	11	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total HpCDD	**3000**	**G**	11	11	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
OCDD	**11000**	**E B**	13	4.7	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total TCDF	**20**	**q**	1.3	0.20	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,7,8-PeCDF	**3.3**	**J**	6.4	0.32	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
2,3,4,7,8-PeCDF	**3.1**	**J**	6.4	0.33	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total PeCDF	**47**	**q**	6.4	0.33	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,4,7,8-HxCDF	**10**		6.4	1.6	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,6,7,8-HxCDF	**10**		6.4	1.5	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
2,3,4,6,7,8-HxCDF	**7.0**		6.4	1.6	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,7,8,9-HxCDF	ND		6.4	1.7	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total HxCDF	**200**	**q**	6.4	1.6	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,4,6,7,8-HpCDF	**230**	**B**	6.4	3.3	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
1,2,3,4,7,8,9-HpCDF	**21**		6.4	3.8	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1
Total HpCDF	**700**	**B**	6.4	3.6	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1

Client Sample ID: KD029SS

Date Collected: 09/30/20 17:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-1

Matrix: Solid
Percent Solids: 79.9

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	870	B	13	0.37	pg/g	☼	10/08/20 04:37	10/20/20 14:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-OCDD	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-2,3,7,8-TCDF	*85*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-1,2,3,4,7,8-HxCDF	*93*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 14:34*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	1.4		1.3	0.12	pg/g	☼	10/08/20 04:37	10/23/20 01:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*86*		*40 - 135*	*10/08/20 04:37*	*10/23/20 01:12*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.1		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	79.9		0.1	0.1	%			10/15/20 18:23	1
Total Solids	80		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD045SS

Date Collected: 10/01/20 09:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-2

Matrix: Solid
Percent Solids: 79.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		84	24	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Acenaphthylene	110		84	18	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Anthracene	130		84	22	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Benzo[a]anthracene	180		84	38	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Benzo[b]fluoranthene	490		84	20	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Benzo[k]fluoranthene	190		84	25	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Benzo[g,h,i]perylene	430		84	18	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Benzo[a]pyrene	210		84	36	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Chrysene	210		84	46	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Dibenz(a,h)anthracene	160		84	53	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Fluoranthene	210		84	22	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Fluorene	16	J	84	16	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Indeno[1,2,3-cd]pyrene	310		84	41	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Naphthalene	59	J	84	16	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Phenanthrene	100		84	22	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1
Pyrene	240		84	20	ug/Kg	☼	10/14/20 08:24	10/16/20 20:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*45 - 105*	*10/14/20 08:24*	*10/16/20 20:25*	*1*
2-Fluorophenol (Surr)	*77*		*42 - 105*	*10/14/20 08:24*	*10/16/20 20:25*	*1*

Client Sample ID: KD045SS
Date Collected: 10/01/20 09:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-2
Matrix: Solid
Percent Solids: 79.6

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	60		31 - 105	10/14/20 08:24	10/16/20 20:25	1
Nitrobenzene-d5 (Surr)	78		53 - 105	10/14/20 08:24	10/16/20 20:25	1
Phenol-d5 (Surr)	69		47 - 105	10/14/20 08:24	10/16/20 20:25	1
Terphenyl-d14 (Surr)	77		46 - 105	10/14/20 08:24	10/16/20 20:25	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.20	J q	1.2	0.17	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total TCDD	7.1	q	1.2	0.17	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,7,8-PeCDD	2.2	J	6.0	0.35	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total PeCDD	26		6.0	0.35	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,4,7,8-HxCDD	7.2		6.0	0.31	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,6,7,8-HxCDD	23		6.0	0.28	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,7,8,9-HxCDD	12		6.0	0.26	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total HxCDD	210		6.0	0.28	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,4,6,7,8-HpCDD	790	G	8.6	8.6	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total HpCDD	2000	G	8.6	8.6	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
OCDD	7900	E B	12	4.1	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total TCDF	13		1.2	0.17	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,7,8-PeCDF	1.1	J	6.0	0.20	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
2,3,4,7,8-PeCDF	1.4	J	6.0	0.21	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total PeCDF	21	q	6.0	0.21	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,4,7,8-HxCDF	5.1	J	6.0	1.2	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,6,7,8-HxCDF	3.4	J	6.0	1.1	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
2,3,4,6,7,8-HxCDF	3.0	J	6.0	1.2	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,7,8,9-HxCDF	ND		6.0	1.3	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total HxCDF	110		6.0	1.2	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,4,6,7,8-HpCDF	140	B	6.0	1.8	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
1,2,3,4,7,8,9-HpCDF	7.7		6.0	2.0	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
Total HpCDF	480	B	6.0	1.9	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1
OCDF	570	B	12	0.29	pg/g	☼	10/08/20 04:37	10/20/20 15:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	65		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-1,2,3,7,8-PeCDD	60		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-1,2,3,6,7,8-HxCDD	68		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-1,2,3,4,6,7,8-HpCDD	68		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-OCDD	73		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-2,3,7,8-TCDF	78		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-1,2,3,7,8-PeCDF	72		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-1,2,3,4,7,8-HxCDF	90		40 - 135	10/08/20 04:37	10/20/20 15:19	1
13C-1,2,3,4,6,7,8-HpCDF	76		40 - 135	10/08/20 04:37	10/20/20 15:19	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.69	J	1.2	0.12	pg/g	☼	10/08/20 04:37	10/23/20 01:51	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	81		40 - 135	10/08/20 04:37	10/23/20 01:51	1

Client Sample ID: KD045SS

Date Collected: 10/01/20 09:23
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-2

Matrix: Solid
Percent Solids: 79.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.4		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	79.6		0.1	0.1	%			10/15/20 18:23	1
Total Solids	80		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD123SS

Date Collected: 10/01/20 11:16
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-3

Matrix: Solid
Percent Solids: 76.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		86	25	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Acenaphthylene	51	J	86	19	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Anthracene	74	J	86	22	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Benzo[a]anthracene	150		86	39	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Benzo[b]fluoranthene	190		86	21	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Benzo[k]fluoranthene	86		86	26	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Benzo[g,h,i]perylene	100		86	19	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Benzo[a]pyrene	130		86	37	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Chrysene	150		86	48	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Dibenz(a,h)anthracene	96		86	55	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Fluoranthene	170		86	23	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Fluorene	ND		86	17	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Indeno[1,2,3-cd]pyrene	88		86	43	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Naphthalene	49	J	86	17	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Phenanthrene	58	J	86	23	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1
Pyrene	200		86	20	ug/Kg	☼	10/14/20 08:24	10/16/20 20:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*45 - 105*	*10/14/20 08:24*	*10/16/20 20:50*	*1*
2-Fluorophenol (Surr)	*84*		*42 - 105*	*10/14/20 08:24*	*10/16/20 20:50*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*31 - 105*	*10/14/20 08:24*	*10/16/20 20:50*	*1*
Nitrobenzene-d5 (Surr)	*82*		*53 - 105*	*10/14/20 08:24*	*10/16/20 20:50*	*1*
Phenol-d5 (Surr)	*73*		*47 - 105*	*10/14/20 08:24*	*10/16/20 20:50*	*1*
Terphenyl-d14 (Surr)	*82*		*46 - 105*	*10/14/20 08:24*	*10/16/20 20:50*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.25	J q	1.3	0.14	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total TCDD	3.7	q	1.3	0.14	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,7,8-PeCDD	2.4	J	6.4	0.28	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total PeCDD	18	q	6.4	0.28	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,4,7,8-HxCDD	9.1		6.4	0.49	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,6,7,8-HxCDD	27		6.4	0.44	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,7,8,9-HxCDD	12		6.4	0.42	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total HxCDD	170		6.4	0.45	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,4,6,7,8-HpCDD	860	G	7.1	7.1	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total HpCDD	1500	G	7.1	7.1	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
OCDD	6500	E B	13	3.8	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
2,3,7,8-TCDF	0.79	J	1.3	0.096	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total TCDF	5.5	q	1.3	0.096	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1

Client Sample ID: KD123SS

Date Collected: 10/01/20 11:16
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-3

Matrix: Solid
Percent Solids: 76.0

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDF	0.80	J	6.4	0.20	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
2,3,4,7,8-PeCDF	0.71	J q	6.4	0.21	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total PeCDF	14	q	6.4	0.21	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,4,7,8-HxCDF	4.2	J	6.4	1.3	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,6,7,8-HxCDF	4.1	J	6.4	1.2	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
2,3,4,6,7,8-HxCDF	2.9	J	6.4	1.3	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,7,8,9-HxCDF	ND		6.4	1.3	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total HxCDF	120		6.4	1.3	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,4,6,7,8-HpCDF	190	B	6.4	2.5	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
1,2,3,4,7,8,9-HpCDF	9.2		6.4	2.8	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
Total HpCDF	530	B	6.4	2.7	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1
OCDF	620	B	13	0.32	pg/g	☼	10/08/20 04:37	10/20/20 16:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-OCDD	*75*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-2,3,7,8-TCDF	*87*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-1,2,3,4,7,8-HxCDF	*91*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.0		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	76.0		0.1	0.1	%			10/15/20 18:23	1
Total Solids	76		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD149SS

Date Collected: 10/01/20 13:42
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-4

Matrix: Solid
Percent Solids: 78.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		82	24	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Acenaphthylene	65	J	82	18	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Anthracene	77	J	82	21	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Benzo[a]anthracene	120		82	37	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Benzo[b]fluoranthene	200		82	20	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Benzo[k]fluoranthene	84		82	25	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Benzo[g,h,i]perylene	100		82	18	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Benzo[a]pyrene	110		82	36	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Chrysene	160		82	46	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Dibenz(a,h)anthracene	96		82	53	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Fluoranthene	200		82	22	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Fluorene	ND		82	16	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Indeno[1,2,3-cd]pyrene	98		82	41	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Naphthalene	74	J	82	16	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1
Phenanthrene	120		82	22	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1

Client Sample ID: KD149SS
Date Collected: 10/01/20 13:42
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-4
Matrix: Solid
Percent Solids: 78.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	210		82	19	ug/Kg	☼	10/14/20 08:24	10/16/20 21:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*45 - 105*	*10/14/20 08:24*	*10/16/20 21:16*	*1*
2-Fluorophenol (Surr)	*82*		*42 - 105*	*10/14/20 08:24*	*10/16/20 21:16*	*1*
2,4,6-Tribromophenol (Surr)	*70*		*31 - 105*	*10/14/20 08:24*	*10/16/20 21:16*	*1*
Nitrobenzene-d5 (Surr)	*83*		*53 - 105*	*10/14/20 08:24*	*10/16/20 21:16*	*1*
Phenol-d5 (Surr)	*72*		*47 - 105*	*10/14/20 08:24*	*10/16/20 21:16*	*1*
Terphenyl-d14 (Surr)	*92*		*46 - 105*	*10/14/20 08:24*	*10/16/20 21:16*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.36	J q	1.3	0.12	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total TCDD	5.8	q	1.3	0.12	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,7,8-PeCDD	3.0	J	6.5	0.33	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total PeCDD	24	q	6.5	0.33	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,4,7,8-HxCDD	11		6.5	0.37	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,6,7,8-HxCDD	39		6.5	0.33	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,7,8,9-HxCDD	14		6.5	0.31	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total HxCDD	250		6.5	0.33	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,4,6,7,8-HpCDD	1300	G	13	13	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total HpCDD	2700	G	13	13	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
OCDD	11000	E B	13	6.2	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total TCDF	13		1.3	0.21	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,7,8-PeCDF	1.3	J	6.5	0.24	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
2,3,4,7,8-PeCDF	1.7	J	6.5	0.25	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total PeCDF	27	q	6.5	0.24	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,4,7,8-HxCDF	4.6	J	6.5	1.6	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,6,7,8-HxCDF	4.2	J	6.5	1.5	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
2,3,4,6,7,8-HxCDF	4.6	J	6.5	1.6	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,7,8,9-HxCDF	ND		6.5	1.6	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total HxCDF	210		6.5	1.6	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,4,6,7,8-HpCDF	290	B	6.5	2.5	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
1,2,3,4,7,8,9-HpCDF	11		6.5	2.9	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
Total HpCDF	1000	B	6.5	2.7	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1
OCDF	1100	B	13	0.39	pg/g	☼	10/08/20 04:37	10/20/20 16:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-OCDD	*84*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-2,3,7,8-TCDF	*92*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-1,2,3,7,8-PeCDF	*83*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-1,2,3,4,7,8-HxCDF	*101*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*85*		*40 - 135*	*10/08/20 04:37*	*10/20/20 16:49*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.86	J	1.3	0.12	pg/g	☼	10/08/20 04:37	10/23/20 02:29	1

Client Sample ID: KD149SS

Lab Sample ID: 180-111805-4

Date Collected: 10/01/20 13:42
Matrix: Solid
Date Received: 10/03/20 09:30
Percent Solids: 78.7

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*10/08/20 04:37*	*10/23/20 02:29*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21.3**		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	**78.7**		0.1	0.1	%			10/15/20 18:23	1
Total Solids	**79**		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD225ESS

Lab Sample ID: 180-111805-5

Date Collected: 10/01/20 15:09
Matrix: Solid
Date Received: 10/03/20 09:30
Percent Solids: 75.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		88	25	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Acenaphthylene	**270**		88	19	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Anthracene	**420**		88	23	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Benzo[a]anthracene	**670**		88	40	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Benzo[b]fluoranthene	**1300**		88	22	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Benzo[k]fluoranthene	**420**		88	26	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Benzo[g,h,i]perylene	**460**		88	19	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Benzo[a]pyrene	**540**		88	38	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Chrysene	**850**		88	49	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Dibenz(a,h)anthracene	**200**		88	56	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Fluoranthene	**940**		88	23	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Fluorene	**24**	**J**	88	17	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Indeno[1,2,3-cd]pyrene	**450**		88	44	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Naphthalene	**170**		88	17	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Phenanthrene	**410**		88	23	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1
Pyrene	**990**		88	21	ug/Kg	☼	10/14/20 08:24	10/16/20 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*45 - 105*	*10/14/20 08:24*	*10/16/20 21:42*	*1*
2-Fluorophenol (Surr)	*77*		*42 - 105*	*10/14/20 08:24*	*10/16/20 21:42*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*31 - 105*	*10/14/20 08:24*	*10/16/20 21:42*	*1*
Nitrobenzene-d5 (Surr)	*84*		*53 - 105*	*10/14/20 08:24*	*10/16/20 21:42*	*1*
Phenol-d5 (Surr)	*69*		*47 - 105*	*10/14/20 08:24*	*10/16/20 21:42*	*1*
Terphenyl-d14 (Surr)	*84*		*46 - 105*	*10/14/20 08:24*	*10/16/20 21:42*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.34**	**J q**	1.3	0.12	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total TCDD	**3.5**	**q**	1.3	0.12	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,7,8-PeCDD	**2.2**	**J**	6.6	0.23	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total PeCDD	**19**	**q**	6.6	0.23	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,4,7,8-HxCDD	**6.9**		6.6	0.29	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,6,7,8-HxCDD	**18**		6.6	0.26	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,7,8,9-HxCDD	**9.6**		6.6	0.24	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total HxCDD	**150**		6.6	0.26	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,4,6,7,8-HpCDD	**590**		6.6	5.6	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total HpCDD	**1400**		6.6	5.6	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
OCDD	**7700**	**E B**	13	2.9	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1

Client Sample ID: KD225ESS

Date Collected: 10/01/20 15:09
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-5

Matrix: Solid
Percent Solids: 75.2

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	1.0	J	1.3	0.11	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total TCDF	6.9	q	1.3	0.11	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,7,8-PeCDF	0.94	J	6.6	0.21	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
2,3,4,7,8-PeCDF	1.2	J	6.6	0.21	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total PeCDF	15	q	6.6	0.21	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,4,7,8-HxCDF	4.3	J	6.6	0.71	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,6,7,8-HxCDF	2.7	J	6.6	0.65	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
2,3,4,6,7,8-HxCDF	2.3	J	6.6	0.68	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,7,8,9-HxCDF	ND		6.6	0.72	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total HxCDF	85		6.6	0.69	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,4,6,7,8-HpCDF	100	B	6.6	1.1	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
1,2,3,4,7,8,9-HpCDF	5.9	J	6.6	1.3	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
Total HpCDF	340	B	6.6	1.2	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1
OCDF	410	B	13	0.26	pg/g	☼	10/08/20 04:37	10/20/20 17:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-OCDD	*84*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-2,3,7,8-TCDF	*96*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-1,2,3,7,8-PeCDF	*88*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-1,2,3,4,7,8-HxCDF	*106*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*10/08/20 04:37*	*10/20/20 17:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.8		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	75.2		0.1	0.1	%			10/15/20 18:23	1
Total Solids	75		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD225WSS

Date Collected: 10/01/20 16:50
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-6

Matrix: Solid
Percent Solids: 75.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	50	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Acenaphthylene	300		170	38	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Anthracene	290		170	45	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Benzo[a]anthracene	650		170	78	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Benzo[b]fluoranthene	1100		170	43	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Benzo[k]fluoranthene	410		170	52	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Benzo[g,h,i]perylene	460		170	38	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Benzo[a]pyrene	620		170	75	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Chrysene	760		170	96	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Dibenz(a,h)anthracene	270		170	110	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Fluoranthene	770		170	46	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Fluorene	ND		170	34	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Indeno[1,2,3-cd]pyrene	460		170	87	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2

Client Sample ID: KD225WSS
Date Collected: 10/01/20 16:50
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-6
Matrix: Solid
Percent Solids: 75.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	140	J	170	34	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Phenanthrene	380		170	47	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2
Pyrene	920		170	41	ug/Kg	☼	10/14/20 08:24	10/16/20 22:07	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*45 - 105*	*10/14/20 08:24*	*10/16/20 22:07*	*2*
2-Fluorophenol (Surr)	*86*		*42 - 105*	*10/14/20 08:24*	*10/16/20 22:07*	*2*
2,4,6-Tribromophenol (Surr)	*72*		*31 - 105*	*10/14/20 08:24*	*10/16/20 22:07*	*2*
Nitrobenzene-d5 (Surr)	*84*		*53 - 105*	*10/14/20 08:24*	*10/16/20 22:07*	*2*
Phenol-d5 (Surr)	*78*		*47 - 105*	*10/14/20 08:24*	*10/16/20 22:07*	*2*
Terphenyl-d14 (Surr)	*89*		*46 - 105*	*10/14/20 08:24*	*10/16/20 22:07*	*2*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.1	J	1.3	0.12	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total TCDD	5.9	q	1.3	0.12	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,7,8-PeCDD	4.4	J	6.7	0.41	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total PeCDD	33	q	6.7	0.41	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,4,7,8-HxCDD	11		6.7	0.30	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,6,7,8-HxCDD	38		6.7	0.27	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,7,8,9-HxCDD	18		6.7	0.25	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total HxCDD	280		6.7	0.28	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,4,6,7,8-HpCDD	870	G	8.8	8.8	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total HpCDD	2100	G	8.8	8.8	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
OCDD	8400	E B	13	3.0	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total TCDF	6.9		1.3	0.13	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,7,8-PeCDF	1.5	J	6.7	0.29	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
2,3,4,7,8-PeCDF	2.2	J	6.7	0.30	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total PeCDF	34	q	6.7	0.29	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,4,7,8-HxCDF	8.1		6.7	2.0	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,6,7,8-HxCDF	6.1	J	6.7	1.8	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
2,3,4,6,7,8-HxCDF	7.1		6.7	1.9	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,7,8,9-HxCDF	ND		6.7	2.0	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total HxCDF	330		6.7	1.9	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,4,6,7,8-HpCDF	670	B	6.7	2.4	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
1,2,3,4,7,8,9-HpCDF	9.1		6.7	2.8	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
Total HpCDF	1300	B	6.7	2.6	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1
OCDF	650	B	13	0.28	pg/g	☼	10/08/20 04:37	10/20/20 18:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*83*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-OCDD	*84*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-2,3,7,8-TCDF	*100*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-1,2,3,7,8-PeCDF	*91*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*109*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*40 - 135*	*10/08/20 04:37*	*10/20/20 18:19*	*1*

Client Sample ID: KD225WSS

Lab Sample ID: 180-111805-6
Date Collected: 10/01/20 16:50
Matrix: Solid
Date Received: 10/03/20 09:30
Percent Solids: 75.2

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.63	J	1.3	0.12	pg/g	☼	10/08/20 04:37	10/23/20 03:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*104*		*40 - 135*	*10/08/20 04:37*	*10/23/20 03:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.8		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	75.2		0.1	0.1	%			10/15/20 18:23	1
Total Solids	75		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: DW201SS

Lab Sample ID: 180-111805-7
Date Collected: 10/02/20 08:40
Matrix: Solid
Date Received: 10/03/20 09:30
Percent Solids: 74.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	37	J	88	25	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Acenaphthylene	450		88	19	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Anthracene	630		88	23	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Benzo[a]anthracene	1000		88	39	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Benzo[b]fluoranthene	1800		88	21	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Benzo[k]fluoranthene	730		88	26	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Benzo[g,h,i]perylene	690		88	19	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Benzo[a]pyrene	880		88	38	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Chrysene	1400		88	48	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Dibenz(a,h)anthracene	280		88	56	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Fluoranthene	1800		88	23	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Fluorene	44	J	88	17	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Indeno[1,2,3-cd]pyrene	720		88	43	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Naphthalene	510		88	17	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Phenanthrene	860		88	23	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1
Pyrene	1700		88	21	ug/Kg	☼	10/14/20 08:24	10/16/20 22:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*45 - 105*	*10/14/20 08:24*	*10/16/20 22:33*	*1*
2-Fluorophenol (Surr)	*75*		*42 - 105*	*10/14/20 08:24*	*10/16/20 22:33*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*31 - 105*	*10/14/20 08:24*	*10/16/20 22:33*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/14/20 08:24*	*10/16/20 22:33*	*1*
Phenol-d5 (Surr)	*67*		*47 - 105*	*10/14/20 08:24*	*10/16/20 22:33*	*1*
Terphenyl-d14 (Surr)	*71*		*46 - 105*	*10/14/20 08:24*	*10/16/20 22:33*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.4	0.23	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total TCDD	9.7	q	1.4	0.23	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,7,8-PeCDD	5.1	J q	7.0	0.65	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total PeCDD	46	q	7.0	0.65	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,4,7,8-HxCDD	20		7.0	0.78	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,6,7,8-HxCDD	62		7.0	0.70	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,7,8,9-HxCDD	30		7.0	0.66	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1

Client Sample ID: DW201SS

Date Collected: 10/02/20 08:40
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-7

Matrix: Solid
Percent Solids: 74.1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HxCDD	460		7.0	0.72	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,4,6,7,8-HpCDD	2100	G	10	10	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total HpCDD	4600	G	10	10	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
OCDD	22000	E B	14	7.1	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total TCDF	20		1.4	0.37	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,7,8-PeCDF	1.6	J q	7.0	0.54	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
2,3,4,7,8-PeCDF	2.6	J	7.0	0.56	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total PeCDF	64	q	7.0	0.55	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,4,7,8-HxCDF	13		7.0	3.4	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,6,7,8-HxCDF	12		7.0	3.1	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
2,3,4,6,7,8-HxCDF	7.4		7.0	3.3	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,7,8,9-HxCDF	ND		7.0	3.5	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total HxCDF	400		7.0	3.3	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,4,6,7,8-HpCDF	390	B	7.0	4.3	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
1,2,3,4,7,8,9-HpCDF	35		7.0	4.9	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
Total HpCDF	1700	B	7.0	4.6	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1
OCDF	1800	B	14	0.48	pg/g	☼	10/08/20 04:37	10/21/20 00:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*64*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-1,2,3,6,7,8-HxCDD	*64*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-OCDD	*66*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-2,3,7,8-TCDF	*78*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*40 - 135*	*10/08/20 04:37*	*10/21/20 00:59*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.70	J	1.4	0.19	pg/g	☼	10/08/20 04:37	10/23/20 03:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*76*		*40 - 135*	*10/08/20 04:37*	*10/23/20 03:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25.9		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	74.1		0.1	0.1	%			10/15/20 18:23	1
Total Solids	74		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD251SS

Date Collected: 10/02/20 10:33
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-8

Matrix: Solid
Percent Solids: 84.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		78	22	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Acenaphthylene	ND		78	17	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Anthracene	ND		78	20	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Benzo[a]anthracene	ND		78	35	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1

Client Sample ID: KD251SS
Date Collected: 10/02/20 10:33
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-8
Matrix: Solid
Percent Solids: 84.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**48**	**J**	78	19	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Benzo[k]fluoranthene	ND		78	23	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Benzo[g,h,i]perylene	**29**	**J**	78	17	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Benzo[a]pyrene	ND		78	34	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Chrysene	ND		78	43	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Dibenz(a,h)anthracene	ND		78	50	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Fluoranthene	**51**	**J**	78	21	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Fluorene	ND		78	15	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Indeno[1,2,3-cd]pyrene	ND		78	39	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Naphthalene	ND		78	15	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Phenanthrene	ND		78	21	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1
Pyrene	**51**	**J**	78	18	ug/Kg	☼	10/14/20 08:24	10/16/20 22:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*65*		*45 - 105*	*10/14/20 08:24*	*10/16/20 22:59*	*1*
2-Fluorophenol (Surr)	*68*		*42 - 105*	*10/14/20 08:24*	*10/16/20 22:59*	*1*
2,4,6-Tribromophenol (Surr)	*50*		*31 - 105*	*10/14/20 08:24*	*10/16/20 22:59*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/14/20 08:24*	*10/16/20 22:59*	*1*
Phenol-d5 (Surr)	*60*		*47 - 105*	*10/14/20 08:24*	*10/16/20 22:59*	*1*
Terphenyl-d14 (Surr)	*73*		*46 - 105*	*10/14/20 08:24*	*10/16/20 22:59*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.1	0.11	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total TCDD	**1.3**	**q**	1.1	0.11	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,7,8-PeCDD	**0.77**	**J q**	5.7	0.18	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total PeCDD	**4.2**	**J q**	5.7	0.18	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,4,7,8-HxCDD	**3.1**	**J q**	5.7	0.19	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,6,7,8-HxCDD	**7.7**	**q**	5.7	0.17	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,7,8,9-HxCDD	**5.7**		5.7	0.16	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total HxCDD	**66**	**q**	5.7	0.18	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,4,6,7,8-HpCDD	**260**		5.7	2.6	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total HpCDD	**510**		5.7	2.6	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
OCDD	**3700**	**B**	11	1.9	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
2,3,7,8-TCDF	**0.65**	**J q**	1.1	0.094	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total TCDF	**4.1**	**q**	1.1	0.094	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,7,8-PeCDF	**0.47**	**J q**	5.7	0.12	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
2,3,4,7,8-PeCDF	**0.40**	**J q**	5.7	0.12	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total PeCDF	**5.9**	**q**	5.7	0.12	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,4,7,8-HxCDF	**2.0**	**J q**	5.7	0.38	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,6,7,8-HxCDF	ND		5.7	0.35	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
2,3,4,6,7,8-HxCDF	**1.1**	**J**	5.7	0.36	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,7,8,9-HxCDF	ND		5.7	0.38	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total HxCDF	**36**	**q**	5.7	0.37	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,4,6,7,8-HpCDF	**45**	**B**	5.7	0.66	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
1,2,3,4,7,8,9-HpCDF	**3.0**	**J**	5.7	0.76	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
Total HpCDF	**140**	**B**	5.7	0.71	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1
OCDF	**180**	**B**	11	0.19	pg/g	☼	10/08/20 04:37	10/21/20 01:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*

Client Sample ID: KD251SS

Date Collected: 10/02/20 10:33
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-8

Matrix: Solid
Percent Solids: 84.6

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,7,8-PeCDD	*70*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-1,2,3,6,7,8-HxCDD	*61*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*72*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-OCDD	*76*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-1,2,3,4,7,8-HxCDF	*96*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*10/08/20 04:37*	*10/21/20 01:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.4**		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	**84.6**		0.1	0.1	%			10/15/20 18:23	1
Total Solids	**85**		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD275SS

Date Collected: 10/02/20 12:01
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-9

Matrix: Solid
Percent Solids: 78.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		85	24	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Acenaphthylene	**36**	**J**	85	18	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Anthracene	**44**	**J**	85	22	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Benzo[a]anthracene	**110**		85	38	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Benzo[b]fluoranthene	**150**		85	21	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Benzo[k]fluoranthene	**62**	**J**	85	25	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Benzo[g,h,i]perylene	**66**	**J**	85	18	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Benzo[a]pyrene	**83**	**J**	85	36	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Chrysene	**130**		85	47	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Dibenz(a,h)anthracene	**91**		85	54	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Fluoranthene	**150**		85	22	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Fluorene	ND		85	17	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Indeno[1,2,3-cd]pyrene	**60**	**J**	85	42	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Naphthalene	**64**	**J**	85	16	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Phenanthrene	**89**		85	23	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1
Pyrene	**150**		85	20	ug/Kg	☼	10/14/20 08:24	10/16/20 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*45 - 105*	*10/14/20 08:24*	*10/16/20 23:24*	*1*
2-Fluorophenol (Surr)	*72*		*42 - 105*	*10/14/20 08:24*	*10/16/20 23:24*	*1*
2,4,6-Tribromophenol (Surr)	*57*		*31 - 105*	*10/14/20 08:24*	*10/16/20 23:24*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/14/20 08:24*	*10/16/20 23:24*	*1*
Phenol-d5 (Surr)	*63*		*47 - 105*	*10/14/20 08:24*	*10/16/20 23:24*	*1*
Terphenyl-d14 (Surr)	*77*		*46 - 105*	*10/14/20 08:24*	*10/16/20 23:24*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.93	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total TCDD	ND		1.3	0.93	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,7,8-PeCDD	ND		6.5	1.6	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD275SS

Date Collected: 10/02/20 12:01
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-9

Matrix: Solid
Percent Solids: 78.7

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total PeCDD	**11**	**q**	6.5	1.6	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,4,7,8-HxCDD	**4.3**	**J**	6.5	1.3	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,6,7,8-HxCDD	**8.9**		6.5	1.1	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,7,8,9-HxCDD	**6.2**	**J**	6.5	1.1	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total HxCDD	**65**		6.5	1.2	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,4,6,7,8-HpCDD	**260**		6.5	2.9	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total HpCDD	**550**		6.5	2.9	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
OCDD	**3400**	**B**	13	7.6	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total TCDF	**6.1**	**q**	1.3	0.66	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,7,8-PeCDF	ND		6.5	0.88	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
2,3,4,7,8-PeCDF	ND		6.5	0.91	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total PeCDF	**2.7**	**J q**	6.5	0.89	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,4,7,8-HxCDF	ND		6.5	1.7	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,6,7,8-HxCDF	ND		6.5	1.6	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
2,3,4,6,7,8-HxCDF	**2.1**	**J**	6.5	1.6	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,7,8,9-HxCDF	ND		6.5	1.7	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total HxCDF	**36**	**q**	6.5	1.7	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,4,6,7,8-HpCDF	**47**	**B q**	6.5	2.3	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
1,2,3,4,7,8,9-HpCDF	**2.7**	**J**	6.5	2.6	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
Total HpCDF	**130**	**B q**	6.5	2.5	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1
OCDF	**140**	**B**	13	1.0	pg/g	☼	10/08/20 04:37	10/21/20 02:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-1,2,3,7,8-PeCDD	*71*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-OCDD	*74*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-2,3,7,8-TCDF	*93*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*101*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*84*		*40 - 135*	*10/08/20 04:37*	*10/21/20 02:29*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.94**	**J**	1.3	0.12	pg/g	☼	10/08/20 04:37	10/23/20 04:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*84*		*40 - 135*	*10/08/20 04:37*	*10/23/20 04:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**21.3**		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	**78.7**		0.1	0.1	%			10/15/20 18:23	1
Total Solids	**79**		0.50	0.50	%			10/15/20 18:23	1

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD297SS

Date Collected: 10/02/20 14:29
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-10

Matrix: Solid
Percent Solids: 80.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		82	24	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Acenaphthylene	ND		82	18	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Anthracene	ND		82	21	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Benzo[a]anthracene	ND		82	37	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Benzo[b]fluoranthene	**32**	**J**	82	20	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Benzo[k]fluoranthene	ND		82	25	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Benzo[g,h,i]perylene	ND		82	18	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Benzo[a]pyrene	ND		82	35	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Chrysene	ND		82	45	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Dibenz(a,h)anthracene	ND		82	52	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Fluoranthene	**34**	**J**	82	22	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Fluorene	ND		82	16	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Indeno[1,2,3-cd]pyrene	ND		82	41	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Naphthalene	**28**	**J**	82	16	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Phenanthrene	**27**	**J**	82	22	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1
Pyrene	**40**	**J**	82	19	ug/Kg	☼	10/14/20 08:24	10/16/20 16:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*45 - 105*	*10/14/20 08:24*	*10/16/20 16:07*	*1*
2-Fluorophenol (Surr)	*68*		*42 - 105*	*10/14/20 08:24*	*10/16/20 16:07*	*1*
2,4,6-Tribromophenol (Surr)	*44*		*31 - 105*	*10/14/20 08:24*	*10/16/20 16:07*	*1*
Nitrobenzene-d5 (Surr)	*76*		*53 - 105*	*10/14/20 08:24*	*10/16/20 16:07*	*1*
Phenol-d5 (Surr)	*62*		*47 - 105*	*10/14/20 08:24*	*10/16/20 16:07*	*1*
Terphenyl-d14 (Surr)	*79*		*46 - 105*	*10/14/20 08:24*	*10/16/20 16:07*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.41**	**J q**	1.3	0.13	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total TCDD	**5.2**	**q**	1.3	0.13	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,7,8-PeCDD	**1.2**	**J**	6.3	0.22	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total PeCDD	**13**	**q**	6.3	0.22	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,4,7,8-HxCDD	**3.0**	**J**	6.3	0.25	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,6,7,8-HxCDD	**6.2**	**J**	6.3	0.22	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,7,8,9-HxCDD	**5.5**	**J**	6.3	0.21	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total HxCDD	**64**	**q**	6.3	0.23	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,4,6,7,8-HpCDD	**240**		6.3	2.1	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total HpCDD	**510**		6.3	2.1	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
OCDD	**3700**	**B**	13	1.7	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total TCDF	**11**	**q**	1.3	0.12	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,7,8-PeCDF	**0.55**	**J q**	6.3	0.17	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
2,3,4,7,8-PeCDF	**0.79**	**J**	6.3	0.17	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total PeCDF	**9.7**	**q**	6.3	0.17	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,4,7,8-HxCDF	**2.3**	**J**	6.3	0.36	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,6,7,8-HxCDF	**1.5**	**J**	6.3	0.33	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
2,3,4,6,7,8-HxCDF	**1.2**	**J**	6.3	0.34	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,7,8,9-HxCDF	ND		6.3	0.36	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total HxCDF	**33**	**q**	6.3	0.35	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,4,6,7,8-HpCDF	**39**	**B**	6.3	0.52	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
1,2,3,4,7,8,9-HpCDF	**2.3**	**J**	6.3	0.60	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1
Total HpCDF	**100**	**B**	6.3	0.56	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1

Client Sample ID: KD297SS

Date Collected: 10/02/20 14:29
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-10

Matrix: Solid
Percent Solids: 80.0

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	130	B	13	0.14	pg/g	☼	10/08/20 04:37	10/21/20 03:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*77*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-OCDD	*81*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-2,3,7,8-TCDF	*92*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*101*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*85*		*40 - 135*	*10/08/20 04:37*	*10/21/20 03:14*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.75	J	1.3	0.12	pg/g	☼	10/08/20 04:37	10/23/20 05:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*91*		*40 - 135*	*10/08/20 04:37*	*10/23/20 05:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.0		0.1	0.1	%			10/15/20 18:23	1
Percent Solids	80.0		0.1	0.1	%			10/15/20 18:23	1
Total Solids	80		0.50	0.50	%			10/15/20 18:23	1

Client Sample ID: KD010SS-EB

Date Collected: 09/30/20 17:50
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.8	0.60	ug/L		10/07/20 10:36	10/16/20 21:37	1
Acenaphthylene	ND		1.8	0.60	ug/L		10/07/20 10:36	10/16/20 21:37	1
Anthracene	ND		1.8	0.45	ug/L		10/07/20 10:36	10/16/20 21:37	1
Benzo[a]anthracene	ND		1.8	0.69	ug/L		10/07/20 10:36	10/16/20 21:37	1
Benzo[b]fluoranthene	ND		1.8	0.90	ug/L		10/07/20 10:36	10/16/20 21:37	1
Benzo[k]fluoranthene	ND		1.8	0.81	ug/L		10/07/20 10:36	10/16/20 21:37	1
Benzo[g,h,i]perylene	ND		1.8	0.64	ug/L		10/07/20 10:36	10/16/20 21:37	1
Benzo[a]pyrene	ND		1.8	0.49	ug/L		10/07/20 10:36	10/16/20 21:37	1
Chrysene	ND		1.8	0.75	ug/L		10/07/20 10:36	10/16/20 21:37	1
Dibenz(a,h)anthracene	ND		1.8	0.67	ug/L		10/07/20 10:36	10/16/20 21:37	1
Fluoranthene	ND		1.8	0.56	ug/L		10/07/20 10:36	10/16/20 21:37	1
Fluorene	ND		1.8	0.64	ug/L		10/07/20 10:36	10/16/20 21:37	1
Indeno[1,2,3-cd]pyrene	ND		1.8	0.79	ug/L		10/07/20 10:36	10/16/20 21:37	1
Naphthalene	ND		1.8	0.55	ug/L		10/07/20 10:36	10/16/20 21:37	1
Phenanthrene	ND		1.8	0.51	ug/L		10/07/20 10:36	10/16/20 21:37	1
Pyrene	ND		1.8	0.50	ug/L		10/07/20 10:36	10/16/20 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*44 - 105*	*10/07/20 10:36*	*10/16/20 21:37*	*1*
2-Fluorophenol (Surr)	*74*		*38 - 105*	*10/07/20 10:36*	*10/16/20 21:37*	*1*

Client Sample ID: KD010SS-EB

Date Collected: 09/30/20 17:50
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-11

Matrix: Water

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*38 - 111*	*10/07/20 10:36*	*10/16/20 21:37*	*1*
Nitrobenzene-d5 (Surr)	*81*		*45 - 108*	*10/07/20 10:36*	*10/16/20 21:37*	*1*
Phenol-d5 (Surr)	*83*		*40 - 105*	*10/07/20 10:36*	*10/16/20 21:37*	*1*
Terphenyl-d14 (Surr)	*71*		*20 - 128*	*10/07/20 10:36*	*10/16/20 21:37*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.39	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total TCDD	ND		9.7	0.39	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,7,8-PeCDD	ND		48	0.51	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total PeCDD	ND		48	0.51	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,4,7,8-HxCDD	ND		48	0.84	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,6,7,8-HxCDD	ND		48	0.83	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,7,8,9-HxCDD	ND		48	0.76	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total HxCDD	ND		48	0.84	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,4,6,7,8-HpCDD	**0.73**	**J B**	48	0.24	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total HpCDD	**1.6**	**J q B**	48	0.24	pg/L		10/07/20 14:02	10/10/20 13:02	1
OCDD	**2.1**	**J q B**	97	0.27	pg/L		10/07/20 14:02	10/10/20 13:02	1
2,3,7,8-TCDF	**0.67**	**J q B**	9.7	0.35	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total TCDF	**0.67**	**J q B**	9.7	0.35	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,7,8-PeCDF	ND		48	0.40	pg/L		10/07/20 14:02	10/10/20 13:02	1
2,3,4,7,8-PeCDF	ND		48	0.41	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total PeCDF	ND		48	0.41	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,4,7,8-HxCDF	ND		48	0.43	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,6,7,8-HxCDF	ND		48	0.41	pg/L		10/07/20 14:02	10/10/20 13:02	1
2,3,4,6,7,8-HxCDF	ND	*1	48	0.44	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,7,8,9-HxCDF	ND		48	0.44	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total HxCDF	ND		48	0.44	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,4,6,7,8-HpCDF	ND		48	0.18	pg/L		10/07/20 14:02	10/10/20 13:02	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.21	pg/L		10/07/20 14:02	10/10/20 13:02	1
Total HpCDF	ND		48	0.21	pg/L		10/07/20 14:02	10/10/20 13:02	1
OCDF	**0.62**	**J q**	97	0.29	pg/L		10/07/20 14:02	10/10/20 13:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-1,2,3,6,7,8-HxCDD	*92*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*88*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-OCDD	*97*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-2,3,7,8-TCDF	*85*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-1,2,3,7,8-PeCDF	*74*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:02*	*1*

Client Sample ID: KD297SS-EB

Date Collected: 10/02/20 15:20
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-12

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.9	0.65	ug/L		10/07/20 10:36	10/16/20 22:04	1
Acenaphthylene	ND		1.9	0.65	ug/L		10/07/20 10:36	10/16/20 22:04	1
Anthracene	ND		1.9	0.49	ug/L		10/07/20 10:36	10/16/20 22:04	1
Benzo[a]anthracene	ND		1.9	0.75	ug/L		10/07/20 10:36	10/16/20 22:04	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		10/07/20 10:36	10/16/20 22:04	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		10/07/20 10:36	10/16/20 22:04	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		10/07/20 10:36	10/16/20 22:04	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		10/07/20 10:36	10/16/20 22:04	1
Chrysene	ND		1.9	0.81	ug/L		10/07/20 10:36	10/16/20 22:04	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		10/07/20 10:36	10/16/20 22:04	1
Fluoranthene	ND		1.9	0.60	ug/L		10/07/20 10:36	10/16/20 22:04	1
Fluorene	ND		1.9	0.69	ug/L		10/07/20 10:36	10/16/20 22:04	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		10/07/20 10:36	10/16/20 22:04	1
Naphthalene	ND		1.9	0.59	ug/L		10/07/20 10:36	10/16/20 22:04	1
Phenanthrene	ND		1.9	0.55	ug/L		10/07/20 10:36	10/16/20 22:04	1
Pyrene	ND		1.9	0.54	ug/L		10/07/20 10:36	10/16/20 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*44 - 105*	*10/07/20 10:36*	*10/16/20 22:04*	*1*
2-Fluorophenol (Surr)	*82*		*38 - 105*	*10/07/20 10:36*	*10/16/20 22:04*	*1*
2,4,6-Tribromophenol (Surr)	*82*		*38 - 111*	*10/07/20 10:36*	*10/16/20 22:04*	*1*
Nitrobenzene-d5 (Surr)	*88*		*45 - 108*	*10/07/20 10:36*	*10/16/20 22:04*	*1*
Phenol-d5 (Surr)	*91*		*40 - 105*	*10/07/20 10:36*	*10/16/20 22:04*	*1*
Terphenyl-d14 (Surr)	*78*		*20 - 128*	*10/07/20 10:36*	*10/16/20 22:04*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.86**	**J q**	9.9	0.36	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total TCDD	**0.86**	**J q**	9.9	0.36	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,7,8-PeCDD	ND		50	0.48	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total PeCDD	ND		50	0.48	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,4,7,8-HxCDD	**1.8**	**J**	50	0.84	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,6,7,8-HxCDD	ND		50	0.84	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,7,8,9-HxCDD	ND		50	0.77	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total HxCDD	**1.8**	**J**	50	0.82	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,4,6,7,8-HpCDD	**0.62**	**J B**	50	0.30	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total HpCDD	**1.9**	**J B**	50	0.30	pg/L		10/07/20 14:02	10/10/20 13:50	1
OCDD	**3.2**	**J q B**	99	0.30	pg/L		10/07/20 14:02	10/10/20 13:50	1
2,3,7,8-TCDF	**1.0**	**J B**	9.9	0.36	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total TCDF	**1.0**	**J B**	9.9	0.36	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,7,8-PeCDF	ND		50	0.37	pg/L		10/07/20 14:02	10/10/20 13:50	1
2,3,4,7,8-PeCDF	ND		50	0.38	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total PeCDF	ND		50	0.38	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,4,7,8-HxCDF	ND		50	0.46	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,6,7,8-HxCDF	ND		50	0.44	pg/L		10/07/20 14:02	10/10/20 13:50	1
2,3,4,6,7,8-HxCDF	ND	*1	50	0.47	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,7,8,9-HxCDF	ND		50	0.46	pg/L		10/07/20 14:02	10/10/20 13:50	1
Total HxCDF	ND		50	0.47	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.17	pg/L		10/07/20 14:02	10/10/20 13:50	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.20	pg/L		10/07/20 14:02	10/10/20 13:50	1

Client Sample ID: KD297SS-EB

Lab Sample ID: 180-111805-12

Date Collected: 10/02/20 15:20
Matrix: Water
Date Received: 10/03/20 09:30

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	ND		50	0.20	pg/L		10/07/20 14:02	10/10/20 13:50	1
OCDF	**0.68**	**J q**	99	0.39	pg/L		10/07/20 14:02	10/10/20 13:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*87*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-1,2,3,7,8-PeCDD	*78*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*87*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-OCDD	*100*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-2,3,7,8-TCDF	*83*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*88*		*40 - 135*	*10/07/20 14:02*	*10/10/20 13:50*	*1*

Client Sample ID: KD225WSS-EB

Lab Sample ID: 180-111805-13

Date Collected: 10/01/20 17:35
Matrix: Water
Date Received: 10/03/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		2.1	0.71	ug/L		10/07/20 10:36	10/16/20 22:30	1
Acenaphthylene	ND		2.1	0.71	ug/L		10/07/20 10:36	10/16/20 22:30	1
Anthracene	ND		2.1	0.53	ug/L		10/07/20 10:36	10/16/20 22:30	1
Benzo[a]anthracene	ND		2.1	0.82	ug/L		10/07/20 10:36	10/16/20 22:30	1
Benzo[b]fluoranthene	ND		2.1	1.1	ug/L		10/07/20 10:36	10/16/20 22:30	1
Benzo[k]fluoranthene	ND		2.1	0.96	ug/L		10/07/20 10:36	10/16/20 22:30	1
Benzo[g,h,i]perylene	ND		2.1	0.75	ug/L		10/07/20 10:36	10/16/20 22:30	1
Benzo[a]pyrene	ND		2.1	0.58	ug/L		10/07/20 10:36	10/16/20 22:30	1
Chrysene	ND		2.1	0.88	ug/L		10/07/20 10:36	10/16/20 22:30	1
Dibenz(a,h)anthracene	ND		2.1	0.78	ug/L		10/07/20 10:36	10/16/20 22:30	1
Fluoranthene	ND		2.1	0.65	ug/L		10/07/20 10:36	10/16/20 22:30	1
Fluorene	ND		2.1	0.75	ug/L		10/07/20 10:36	10/16/20 22:30	1
Indeno[1,2,3-cd]pyrene	ND		2.1	0.92	ug/L		10/07/20 10:36	10/16/20 22:30	1
Naphthalene	ND		2.1	0.64	ug/L		10/07/20 10:36	10/16/20 22:30	1
Phenanthrene	ND		2.1	0.60	ug/L		10/07/20 10:36	10/16/20 22:30	1
Pyrene	ND		2.1	0.59	ug/L		10/07/20 10:36	10/16/20 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*44 - 105*	*10/07/20 10:36*	*10/16/20 22:30*	*1*
2-Fluorophenol (Surr)	*81*		*38 - 105*	*10/07/20 10:36*	*10/16/20 22:30*	*1*
2,4,6-Tribromophenol (Surr)	*84*		*38 - 111*	*10/07/20 10:36*	*10/16/20 22:30*	*1*
Nitrobenzene-d5 (Surr)	*90*		*45 - 108*	*10/07/20 10:36*	*10/16/20 22:30*	*1*
Phenol-d5 (Surr)	*89*		*40 - 105*	*10/07/20 10:36*	*10/16/20 22:30*	*1*
Terphenyl-d14 (Surr)	*84*		*20 - 128*	*10/07/20 10:36*	*10/16/20 22:30*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.6	0.37	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total TCDD	ND		9.6	0.37	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,7,8-PeCDD	ND		48	0.50	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total PeCDD	ND		48	0.50	pg/L		10/07/20 14:02	10/10/20 14:37	1

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

Client Sample ID: KD225WSS-EB
Date Collected: 10/01/20 17:35
Date Received: 10/03/20 09:30

Lab Sample ID: 180-111805-13
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	**1.0**	**J q**	48	0.95	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,6,7,8-HxCDD	ND		48	0.94	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,7,8,9-HxCDD	ND		48	0.87	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total HxCDD	**1.0**	**J q**	48	0.92	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,4,6,7,8-HpCDD	**1.1**	**J B**	48	0.22	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total HpCDD	**2.8**	**J B**	48	0.22	pg/L		10/07/20 14:02	10/10/20 14:37	1
OCDD	**3.5**	**J B**	96	0.33	pg/L		10/07/20 14:02	10/10/20 14:37	1
2,3,7,8-TCDF	ND		9.6	0.28	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total TCDF	ND		9.6	0.28	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,7,8-PeCDF	ND		48	0.33	pg/L		10/07/20 14:02	10/10/20 14:37	1
2,3,4,7,8-PeCDF	ND		48	0.34	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total PeCDF	ND		48	0.34	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,4,7,8-HxCDF	ND		48	0.42	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,6,7,8-HxCDF	ND		48	0.40	pg/L		10/07/20 14:02	10/10/20 14:37	1
2,3,4,6,7,8-HxCDF	ND	*1	48	0.43	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,7,8,9-HxCDF	ND		48	0.42	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total HxCDF	ND		48	0.43	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,4,6,7,8-HpCDF	ND		48	0.19	pg/L		10/07/20 14:02	10/10/20 14:37	1
1,2,3,4,7,8,9-HpCDF	ND		48	0.22	pg/L		10/07/20 14:02	10/10/20 14:37	1
Total HpCDF	ND		48	0.22	pg/L		10/07/20 14:02	10/10/20 14:37	1
OCDF	ND		96	0.33	pg/L		10/07/20 14:02	10/10/20 14:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*89*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-1,2,3,6,7,8-HxCDD	*93*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*90*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-OCDD	*100*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-2,3,7,8-TCDF	*86*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-1,2,3,4,7,8-HxCDF	*88*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*89*		*40 - 135*	*10/07/20 14:02*	*10/10/20 14:37*	*1*

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

Lab Sample ID: MB 180-332595/1-A
Matrix: Water
Analysis Batch: 333722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.9	0.65	ug/L		10/07/20 10:29	10/16/20 15:23	1
Acenaphthylene	ND		1.9	0.65	ug/L		10/07/20 10:29	10/16/20 15:23	1
Anthracene	ND		1.9	0.49	ug/L		10/07/20 10:29	10/16/20 15:23	1
Benzo[a]anthracene	ND		1.9	0.75	ug/L		10/07/20 10:29	10/16/20 15:23	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		10/07/20 10:29	10/16/20 15:23	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		10/07/20 10:29	10/16/20 15:23	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		10/07/20 10:29	10/16/20 15:23	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		10/07/20 10:29	10/16/20 15:23	1
Chrysene	ND		1.9	0.81	ug/L		10/07/20 10:29	10/16/20 15:23	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		10/07/20 10:29	10/16/20 15:23	1
Fluoranthene	ND		1.9	0.60	ug/L		10/07/20 10:29	10/16/20 15:23	1
Fluorene	ND		1.9	0.69	ug/L		10/07/20 10:29	10/16/20 15:23	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		10/07/20 10:29	10/16/20 15:23	1
Naphthalene	ND		1.9	0.59	ug/L		10/07/20 10:29	10/16/20 15:23	1
Phenanthrene	ND		1.9	0.55	ug/L		10/07/20 10:29	10/16/20 15:23	1
Pyrene	ND		1.9	0.54	ug/L		10/07/20 10:29	10/16/20 15:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*44 - 105*	*10/07/20 10:29*	*10/16/20 15:23*	*1*
2-Fluorophenol (Surr)	*68*		*38 - 105*	*10/07/20 10:29*	*10/16/20 15:23*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*38 - 111*	*10/07/20 10:29*	*10/16/20 15:23*	*1*
Nitrobenzene-d5 (Surr)	*67*		*45 - 108*	*10/07/20 10:29*	*10/16/20 15:23*	*1*
Phenol-d5 (Surr)	*71*		*40 - 105*	*10/07/20 10:29*	*10/16/20 15:23*	*1*
Terphenyl-d14 (Surr)	*64*		*20 - 128*	*10/07/20 10:29*	*10/16/20 15:23*	*1*

Lab Sample ID: LCS 180-332595/2-A
Matrix: Water
Analysis Batch: 333722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	135		ug/L		67	51 - 100
Acenaphthylene	200	143		ug/L		71	47 - 100
Anthracene	200	149		ug/L		74	51 - 100
Benzo[a]anthracene	200	155		ug/L		78	49 - 100
Benzo[b]fluoranthene	200	125		ug/L		63	47 - 100
Benzo[k]fluoranthene	200	137		ug/L		69	47 - 100
Benzo[g,h,i]perylene	200	158		ug/L		79	50 - 100
Benzo[a]pyrene	200	143		ug/L		72	49 - 100
Chrysene	200	155		ug/L		78	49 - 100
Dibenz(a,h)anthracene	200	157		ug/L		78	50 - 100
Fluoranthene	200	164		ug/L		82	52 - 100
Fluorene	200	140		ug/L		70	52 - 100
Indeno[1,2,3-cd]pyrene	200	156		ug/L		78	51 - 100
Naphthalene	200	140		ug/L		70	53 - 100
Phenanthrene	200	140		ug/L		70	49 - 100
Pyrene	200	137		ug/L		68	45 - 100

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

Lab Sample ID: LCS 180-332595/2-A
Matrix: Water
Analysis Batch: 333722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332595

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	65		44 - 105
2-Fluorophenol (Surr)	77		38 - 105
2,4,6-Tribromophenol (Surr)	69		38 - 111
Nitrobenzene-d5 (Surr)	74		45 - 108
Phenol-d5 (Surr)	82		40 - 105
Terphenyl-d14 (Surr)	75		20 - 128

Lab Sample ID: MB 180-333372/1-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		67	19	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Acenaphthylene	ND		67	15	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Anthracene	ND		67	17	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]anthracene	ND		67	30	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[b]fluoranthene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[k]fluoranthene	ND		67	20	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[g,h,i]perylene	ND		67	14	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]pyrene	ND		67	29	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Chrysene	ND		67	37	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Dibenz(a,h)anthracene	ND		67	43	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluoranthene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluorene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Indeno[1,2,3-cd]pyrene	ND		67	33	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Naphthalene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Phenanthrene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Pyrene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		45 - 105	10/14/20 08:24	10/16/20 12:16	1
2-Fluorophenol (Surr)	64		42 - 105	10/14/20 08:24	10/16/20 12:16	1
2,4,6-Tribromophenol (Surr)	39		31 - 105	10/14/20 08:24	10/16/20 12:16	1
Nitrobenzene-d5 (Surr)	70		53 - 105	10/14/20 08:24	10/16/20 12:16	1
Phenol-d5 (Surr)	61		47 - 105	10/14/20 08:24	10/16/20 12:16	1
Terphenyl-d14 (Surr)	70		46 - 105	10/14/20 08:24	10/16/20 12:16	1

Lab Sample ID: LCS 180-333372/2-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	6670	5160		ug/Kg		77	49 - 107
Acenaphthylene	6670	5240		ug/Kg		79	46 - 110
Anthracene	6670	5380		ug/Kg		81	47 - 116
Benzo[a]anthracene	6670	4840		ug/Kg		73	48 - 101
Benzo[b]fluoranthene	6670	4630		ug/Kg		69	46 - 100
Benzo[k]fluoranthene	6670	4660		ug/Kg		70	43 - 114

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

Lab Sample ID: LCS 180-333372/2-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[g,h,i]perylene	6670	4500		ug/Kg		68	49 - 111
Benzo[a]pyrene	6670	4770		ug/Kg		72	46 - 114
Chrysene	6670	4350		ug/Kg		65	49 - 100
Dibenz(a,h)anthracene	6670	4320		ug/Kg		65	49 - 112
Fluoranthene	6670	5050		ug/Kg		76	54 - 105
Fluorene	6670	5240		ug/Kg		79	50 - 106
Indeno[1,2,3-cd]pyrene	6670	5010		ug/Kg		75	49 - 112
Naphthalene	6670	4820		ug/Kg		72	53 - 100
Phenanthrene	6670	5130		ug/Kg		77	46 - 111
Pyrene	6670	4880		ug/Kg		73	49 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*45 - 105*
2-Fluorophenol (Surr)	*90*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*80*		*31 - 105*
Nitrobenzene-d5 (Surr)	*88*		*53 - 105*
Phenol-d5 (Surr)	*78*		*47 - 105*
Terphenyl-d14 (Surr)	*85*		*46 - 105*

Lab Sample ID: 180-111805-10 MS
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		8340	5710		ug/Kg	☼	68	49 - 107
Acenaphthylene	ND		8340	5810		ug/Kg	☼	70	46 - 110
Anthracene	ND		8340	5740		ug/Kg	☼	69	47 - 116
Benzo[a]anthracene	ND		8340	5210		ug/Kg	☼	62	48 - 101
Benzo[b]fluoranthene	32	J	8340	4830		ug/Kg	☼	58	46 - 100
Benzo[k]fluoranthene	ND		8340	4880		ug/Kg	☼	59	43 - 114
Benzo[g,h,i]perylene	ND		8340	5620		ug/Kg	☼	67	49 - 111
Benzo[a]pyrene	ND		8340	5020		ug/Kg	☼	60	46 - 114
Chrysene	ND		8340	4550		ug/Kg	☼	55	49 - 100
Dibenz(a,h)anthracene	ND		8340	5200		ug/Kg	☼	62	49 - 112
Fluoranthene	34	J	8340	5470		ug/Kg	☼	65	54 - 105
Fluorene	ND		8340	5740		ug/Kg	☼	69	50 - 106
Indeno[1,2,3-cd]pyrene	ND		8340	6200		ug/Kg	☼	74	49 - 112
Naphthalene	28	J	8340	5480		ug/Kg	☼	65	53 - 100
Phenanthrene	27	J	8340	5560		ug/Kg	☼	66	46 - 111
Pyrene	40	J	8340	6210		ug/Kg	☼	74	49 - 100

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*71*		*45 - 105*
2-Fluorophenol (Surr)	*79*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*63*		*31 - 105*
Nitrobenzene-d5 (Surr)	*80*		*53 - 105*
Phenol-d5 (Surr)	*69*		*47 - 105*
Terphenyl-d14 (Surr)	*70*		*46 - 105*

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

Lab Sample ID: 180-111805-10 MSD
Matrix: Solid
Analysis Batch: 333809

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		8390	5710		ug/Kg	☼	68	49 - 107	0	20
Acenaphthylene	ND		8390	5750		ug/Kg	☼	69	46 - 110	1	20
Anthracene	ND		8390	5520		ug/Kg	☼	66	47 - 116	4	20
Benzo[a]anthracene	ND		8390	5200		ug/Kg	☼	62	48 - 101	0	21
Benzo[b]fluoranthene	32	J	8390	4780		ug/Kg	☼	57	46 - 100	1	20
Benzo[k]fluoranthene	ND		8390	4780		ug/Kg	☼	57	43 - 114	2	20
Benzo[g,h,i]perylene	ND		8390	4580	F2	ug/Kg	☼	55	49 - 111	20	19
Benzo[a]pyrene	ND		8390	4780		ug/Kg	☼	57	46 - 114	5	20
Chrysene	ND		8390	4540		ug/Kg	☼	54	49 - 100	0	20
Dibenz(a,h)anthracene	ND		8390	4400		ug/Kg	☼	52	49 - 112	17	21
Fluoranthene	34	J	8390	5130		ug/Kg	☼	61	54 - 105	6	20
Fluorene	ND		8390	5590		ug/Kg	☼	67	50 - 106	3	19
Indeno[1,2,3-cd]pyrene	ND		8390	5190		ug/Kg	☼	62	49 - 112	18	19
Naphthalene	28	J	8390	5530		ug/Kg	☼	66	53 - 100	1	20
Phenanthrene	27	J	8390	5380		ug/Kg	☼	64	46 - 111	3	20
Pyrene	40	J	8390	5170		ug/Kg	☼	61	49 - 100	18	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*68*		*45 - 105*
2-Fluorophenol (Surr)	*76*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*63*		*31 - 105*
Nitrobenzene-d5 (Surr)	*75*		*53 - 105*
Phenol-d5 (Surr)	*67*		*47 - 105*
Terphenyl-d14 (Surr)	*68*		*46 - 105*

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

Lab Sample ID: MB 320-419525/1-A
Matrix: Water
Analysis Batch: 420486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419525

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.61	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total TCDD	ND		10	0.61	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8-PeCDD	ND		50	0.62	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total PeCDD	ND		50	0.62	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,7,8-HxCDD	ND		50	0.99	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,6,7,8-HxCDD	ND		50	0.98	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8,9-HxCDD	ND		50	0.90	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HxCDD	ND		50	0.99	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,6,7,8-HpCDD	0.630	J q	50	0.35	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HpCDD	0.630	J q	50	0.35	pg/L		10/07/20 11:35	10/10/20 09:04	1
OCDD	2.16	J	100	0.41	pg/L		10/07/20 11:35	10/10/20 09:04	1
2,3,7,8-TCDF	1.00	J q	10	0.54	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total TCDF	1.00	J q	10	0.54	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8-PeCDF	ND		50	0.48	pg/L		10/07/20 11:35	10/10/20 09:04	1
2,3,4,7,8-PeCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total PeCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1

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

Lab Sample ID: MB 320-419525/1-A
Matrix: Water
Analysis Batch: 420486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419525

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDF	ND		50	0.49	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,6,7,8-HxCDF	ND		50	0.47	pg/L		10/07/20 11:35	10/10/20 09:04	1
2,3,4,6,7,8-HxCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,7,8,9-HxCDF	ND		50	0.49	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HxCDF	ND		50	0.50	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,6,7,8-HpCDF	0.569	J	50	0.31	pg/L		10/07/20 11:35	10/10/20 09:04	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.35	pg/L		10/07/20 11:35	10/10/20 09:04	1
Total HpCDF	0.569	J	50	0.33	pg/L		10/07/20 11:35	10/10/20 09:04	1
OCDF	ND		100	0.41	pg/L		10/07/20 11:35	10/10/20 09:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*98*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-1,2,3,7,8-PeCDD	*95*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*85*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-OCDD	*98*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-2,3,7,8-TCDF	*100*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-1,2,3,7,8-PeCDF	*90*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-1,2,3,4,7,8-HxCDF	*100*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*	*10/07/20 11:35*	*10/10/20 09:04*	*1*

Lab Sample ID: LCS 320-419525/2-A
Matrix: Water
Analysis Batch: 420486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419525

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			200	212		pg/L		106	64 - 142		
1,2,3,7,8-PeCDD			1000	940		pg/L		94	71 - 140		
1,2,3,4,7,8-HxCDD			1000	886		pg/L		89	56 - 146		
1,2,3,6,7,8-HxCDD			1000	897		pg/L		90	73 - 144		
1,2,3,7,8,9-HxCDD			1000	868		pg/L		87	71 - 151		
1,2,3,4,6,7,8-HpCDD			1000	890		pg/L		89	78 - 139		
OCDD			2000	1730		pg/L		87	80 - 132		
2,3,7,8-TCDF			200	212		pg/L		106	71 - 142		
1,2,3,7,8-PeCDF			1000	973		pg/L		97	76 - 135		
2,3,4,7,8-PeCDF			1000	988		pg/L		99	74 - 137		
1,2,3,4,7,8-HxCDF			1000	972		pg/L		97	75 - 131		
1,2,3,6,7,8-HxCDF			1000	1030		pg/L		103	76 - 133		
2,3,4,6,7,8-HxCDF			1000	917		pg/L		92	80 - 137		
1,2,3,7,8,9-HxCDF			1000	946		pg/L		95	77 - 142		
1,2,3,4,6,7,8-HpCDF			1000	936		pg/L		94	79 - 133		
1,2,3,4,7,8,9-HpCDF			1000	913		pg/L		91	83 - 130		
OCDF			2000	2040		pg/L		102	72 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*87*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*84*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*102*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*

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

Lab Sample ID: LCS 320-419525/2-A
Matrix: Water
Analysis Batch: 420486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419525

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-OCDD	*92*		*40 - 135*
13C-2,3,7,8-TCDF	*99*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*77*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*89*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*94*		*40 - 135*

Lab Sample ID: LCSD 320-419525/3-A
Matrix: Water
Analysis Batch: 421505

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 419525

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	205		pg/L		102	64 - 142	4	20
1,2,3,7,8-PeCDD			1000	988		pg/L		99	71 - 140	5	20
1,2,3,4,7,8-HxCDD			1000	982		pg/L		98	56 - 146	10	20
1,2,3,6,7,8-HxCDD			1000	1000		pg/L		100	73 - 144	11	20
1,2,3,7,8,9-HxCDD			1000	1010		pg/L		101	71 - 151	15	20
1,2,3,4,6,7,8-HpCDD			1000	946		pg/L		95	78 - 139	6	20
OCDD			2000	1880		pg/L		94	80 - 132	8	20
2,3,7,8-TCDF			200	212		pg/L		106	71 - 142	0	20
1,2,3,7,8-PeCDF			1000	1010		pg/L		101	76 - 135	4	20
2,3,4,7,8-PeCDF			1000	961		pg/L		96	74 - 137	3	20
1,2,3,4,7,8-HxCDF			1000	1040		pg/L		104	75 - 131	6	20
1,2,3,6,7,8-HxCDF			1000	1100		pg/L		110	76 - 133	7	20
2,3,4,6,7,8-HxCDF			1000	1140	*1	pg/L		114	80 - 137	22	20
1,2,3,7,8,9-HxCDF			1000	1090		pg/L		109	77 - 142	14	20
1,2,3,4,6,7,8-HpCDF			1000	970		pg/L		97	79 - 133	4	20
1,2,3,4,7,8,9-HpCDF			1000	988		pg/L		99	83 - 130	8	20
OCDF			2000	2050		pg/L		103	72 - 140	1	20

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C-2,3,7,8-TCDD	*88*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*92*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*92*		*40 - 135*
13C-OCDD	*103*		*40 - 135*
13C-2,3,7,8-TCDF	*96*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*94*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*96*		*40 - 135*

Lab Sample ID: MB 320-419758/1-A
Matrix: Solid
Analysis Batch: 423668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419758

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total TCDD	ND		1.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,7,8-PeCDD	ND		5.0	0.16	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total PeCDD	ND		5.0	0.16	pg/g		10/08/20 04:37	10/20/20 12:19	1

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

Lab Sample ID: MB 320-419758/1-A
Matrix: Solid
Analysis Batch: 423668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419758

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	ND		5.0	0.15	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.12	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total HxCDD	ND		5.0	0.15	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,4,6,7,8-HpCDD	ND		5.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total HpCDD	ND		5.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
OCDD	2.17	J	10	0.14	pg/g		10/08/20 04:37	10/20/20 12:19	1
2,3,7,8-TCDF	ND		1.0	0.070	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total TCDF	ND		1.0	0.070	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,7,8-PeCDF	ND		5.0	0.094	pg/g		10/08/20 04:37	10/20/20 12:19	1
2,3,4,7,8-PeCDF	ND		5.0	0.097	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total PeCDF	ND		5.0	0.097	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.12	pg/g		10/08/20 04:37	10/20/20 12:19	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.13	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.14	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total HxCDF	ND		5.0	0.14	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,4,6,7,8-HpCDF	0.0984	J q	5.0	0.049	pg/g		10/08/20 04:37	10/20/20 12:19	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.057	pg/g		10/08/20 04:37	10/20/20 12:19	1
Total HpCDF	0.0984	J q	5.0	0.053	pg/g		10/08/20 04:37	10/20/20 12:19	1
OCDF	1.19	J	10	0.16	pg/g		10/08/20 04:37	10/20/20 12:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*70*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-1,2,3,7,8-PeCDD	*66*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*68*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-OCDD	*65*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-2,3,7,8-TCDF	*85*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-1,2,3,7,8-PeCDF	*78*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*91*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*	*10/08/20 04:37*	*10/20/20 12:19*	*1*

Lab Sample ID: LCS 320-419758/2-A
Matrix: Solid
Analysis Batch: 423668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	22.2		pg/g		111	77 - 130
1,2,3,7,8-PeCDD	100	105		pg/g		105	79 - 134
1,2,3,4,7,8-HxCDD	100	111		pg/g		111	65 - 144
1,2,3,6,7,8-HxCDD	100	110		pg/g		110	73 - 147
1,2,3,7,8,9-HxCDD	100	109		pg/g		109	80 - 143
1,2,3,4,6,7,8-HpCDD	100	107		pg/g		107	86 - 134
OCDD	200	201		pg/g		101	80 - 137
2,3,7,8-TCDF	20.0	22.1		pg/g		111	79 - 137
1,2,3,7,8-PeCDF	100	113		pg/g		113	81 - 134
2,3,4,7,8-PeCDF	100	113		pg/g		113	76 - 132
1,2,3,4,7,8-HxCDF	100	111		pg/g		111	72 - 140

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

Lab Sample ID: LCS 320-419758/2-A
Matrix: Solid
Analysis Batch: 423668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,6,7,8-HxCDF	100	105		pg/g		105	63 - 152
2,3,4,6,7,8-HxCDF	100	113		pg/g		113	72 - 151
1,2,3,7,8,9-HxCDF	100	108		pg/g		108	72 - 152
1,2,3,4,6,7,8-HpCDF	100	109		pg/g		109	81 - 137
1,2,3,4,7,8,9-HpCDF	100	103		pg/g		103	79 - 139
OCDF	200	211		pg/g		106	75 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*67*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*72*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*64*		*40 - 135*
13C-OCDD	*62*		*40 - 135*
13C-2,3,7,8-TCDF	*83*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*91*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*

Lab Sample ID: 180-111805-10 MS
Matrix: Solid
Analysis Batch: 423671

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 419758

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	0.41	J q	25.5	29.4		pg/g	☼	114	77 - 130
1,2,3,7,8-PeCDD	1.2	J	127	135		pg/g	☼	105	79 - 134
1,2,3,4,7,8-HxCDD	3.0	J	127	151		pg/g	☼	116	65 - 144
1,2,3,6,7,8-HxCDD	6.2	J	127	153		pg/g	☼	115	73 - 147
1,2,3,7,8,9-HxCDD	5.5	J	127	146		pg/g	☼	110	80 - 143
1,2,3,4,6,7,8-HpCDD	240		127	370		pg/g	☼	101	86 - 134
OCDD	3700	B	255	3940	4	pg/g	☼	102	80 - 137
1,2,3,7,8-PeCDF	0.55	J q	127	148		pg/g	☼	116	81 - 134
2,3,4,7,8-PeCDF	0.79	J	127	146		pg/g	☼	114	76 - 132
1,2,3,4,7,8-HxCDF	2.3	J	127	146		pg/g	☼	113	72 - 140
1,2,3,6,7,8-HxCDF	1.5	J	127	134		pg/g	☼	104	63 - 152
2,3,4,6,7,8-HxCDF	1.2	J	127	146		pg/g	☼	113	72 - 151
1,2,3,7,8,9-HxCDF	ND		127	142		pg/g	☼	111	72 - 152
1,2,3,4,6,7,8-HpCDF	39	B	127	183		pg/g	☼	113	81 - 137
1,2,3,4,7,8,9-HpCDF	2.3	J	127	140		pg/g	☼	108	79 - 139
OCDF	130	B	255	391		pg/g	☼	103	75 - 141

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*78*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*73*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*79*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*
13C-OCDD	*83*		*40 - 135*
13C-2,3,7,8-TCDF	*94*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*102*		*40 - 135*

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

Lab Sample ID: 180-111805-10 MS
Matrix: Solid
Analysis Batch: 423671

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 419758

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDF	*87*		*40 - 135*

Lab Sample ID: 180-111805-10 MSD
Matrix: Solid
Analysis Batch: 423671

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 419758

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	0.41	J q	23.9	27.3		pg/g	☼	112	77 - 130	7	20
1,2,3,7,8-PeCDD	1.2	J	120	129		pg/g	☼	107	79 - 134	4	20
1,2,3,4,7,8-HxCDD	3.0	J	120	144		pg/g	☼	118	65 - 144	5	20
1,2,3,6,7,8-HxCDD	6.2	J	120	144		pg/g	☼	115	73 - 147	6	20
1,2,3,7,8,9-HxCDD	5.5	J	120	140		pg/g	☼	112	80 - 143	4	20
1,2,3,4,6,7,8-HpCDD	240		120	389		pg/g	☼	123	86 - 134	5	20
OCDD	3700	B	239	4080	4	pg/g	☼	168	80 - 137	4	20
1,2,3,7,8-PeCDF	0.55	J q	120	138		pg/g	☼	115	81 - 134	7	20
2,3,4,7,8-PeCDF	0.79	J	120	139		pg/g	☼	115	76 - 132	5	20
1,2,3,4,7,8-HxCDF	2.3	J	120	137		pg/g	☼	113	72 - 140	7	20
1,2,3,6,7,8-HxCDF	1.5	J	120	130		pg/g	☼	108	63 - 152	3	20
2,3,4,6,7,8-HxCDF	1.2	J	120	136		pg/g	☼	113	72 - 151	7	20
1,2,3,7,8,9-HxCDF	ND		120	129		pg/g	☼	108	72 - 152	9	20
1,2,3,4,6,7,8-HpCDF	39	B	120	177		pg/g	☼	115	81 - 137	3	20
1,2,3,4,7,8,9-HpCDF	2.3	J	120	134		pg/g	☼	110	79 - 139	4	20
OCDF	130	B	239	385		pg/g	☼	108	75 - 141	1	20

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C-2,3,7,8-TCDD	*77*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*71*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*
13C-OCDD	*79*		*40 - 135*
13C-2,3,7,8-TCDF	*92*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*99*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*

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

Lab Sample ID: 180-111805-10 MS
Matrix: Solid
Analysis Batch: 424664

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 419758

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDF - RA	0.75	J	25.5	27.5		pg/g	☼	105	79 - 137		

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C-2,3,7,8-TCDF - RA	*90*		*40 - 135*

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

Lab Sample ID: 180-111805-10 MSD
Matrix: Solid
Analysis Batch: 424664

Client Sample ID: KD297SS
Prep Type: Total/NA
Prep Batch: 419758

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDF - RA	0.75	J	23.9	26.6		pg/g	☼	108	79 - 137	3	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*85*		*40 - 135*

Method: 2540G - SM 2540G

Lab Sample ID: 180-111805-9 DU
Matrix: Solid
Analysis Batch: 333628

Client Sample ID: KD275SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	21.3			21.6		%				1	10
Percent Solids	78.7			78.4		%				0.4	10

Method: SM 2540G - Total, Fixed, and Volatile Solids

Lab Sample ID: 180-111805-9 DU
Matrix: Solid
Analysis Batch: 334115

Client Sample ID: KD275SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	79			78.4		%				0.4	10

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111805-1

GC/MS Semi VOA

Prep Batch: 332595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-11	KD010SS-EB	Total/NA	Water	3520C	
180-111805-12	KD297SS-EB	Total/NA	Water	3520C	
180-111805-13	KD225WSS-EB	Total/NA	Water	3520C	
MB 180-332595/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-332595/2-A	Lab Control Sample	Total/NA	Water	3520C	

Prep Batch: 333372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1	KD029SS	Total/NA	Solid	3541	
180-111805-2	KD045SS	Total/NA	Solid	3541	
180-111805-3	KD123SS	Total/NA	Solid	3541	
180-111805-4	KD149SS	Total/NA	Solid	3541	
180-111805-5	KD225ESS	Total/NA	Solid	3541	
180-111805-6	KD225WSS	Total/NA	Solid	3541	
180-111805-7	DW201SS	Total/NA	Solid	3541	
180-111805-8	KD251SS	Total/NA	Solid	3541	
180-111805-9	KD275SS	Total/NA	Solid	3541	
180-111805-10	KD297SS	Total/NA	Solid	3541	
MB 180-333372/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	3541	
180-111805-10 MS	KD297SS	Total/NA	Solid	3541	
180-111805-10 MSD	KD297SS	Total/NA	Solid	3541	

Analysis Batch: 333708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1	KD029SS	Total/NA	Solid	EPA 8270E	333372
180-111805-2	KD045SS	Total/NA	Solid	EPA 8270E	333372
180-111805-3	KD123SS	Total/NA	Solid	EPA 8270E	333372
180-111805-4	KD149SS	Total/NA	Solid	EPA 8270E	333372
180-111805-5	KD225ESS	Total/NA	Solid	EPA 8270E	333372
180-111805-6	KD225WSS	Total/NA	Solid	EPA 8270E	333372
180-111805-7	DW201SS	Total/NA	Solid	EPA 8270E	333372
180-111805-8	KD251SS	Total/NA	Solid	EPA 8270E	333372
180-111805-9	KD275SS	Total/NA	Solid	EPA 8270E	333372
180-111805-10	KD297SS	Total/NA	Solid	EPA 8270E	333372
MB 180-333372/1-A	Method Blank	Total/NA	Solid	EPA 8270E	333372
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	333372
180-111805-10 MS	KD297SS	Total/NA	Solid	EPA 8270E	333372

Analysis Batch: 333722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-11	KD010SS-EB	Total/NA	Water	EPA 8270E	332595
180-111805-12	KD297SS-EB	Total/NA	Water	EPA 8270E	332595
180-111805-13	KD225WSS-EB	Total/NA	Water	EPA 8270E	332595
MB 180-332595/1-A	Method Blank	Total/NA	Water	EPA 8270E	332595
LCS 180-332595/2-A	Lab Control Sample	Total/NA	Water	EPA 8270E	332595

Analysis Batch: 333809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-10 MSD	KD297SS	Total/NA	Solid	EPA 8270E	333372

Specialty Organics

Prep Batch: 419525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-11	KD010SS-EB	Total/NA	Water	8290	
180-111805-12	KD297SS-EB	Total/NA	Water	8290	
180-111805-13	KD225WSS-EB	Total/NA	Water	8290	
MB 320-419525/1-A	Method Blank	Total/NA	Water	8290	
LCS 320-419525/2-A	Lab Control Sample	Total/NA	Water	8290	
LCSD 320-419525/3-A	Lab Control Sample Dup	Total/NA	Water	8290	

Prep Batch: 419758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1	KD029SS	Total/NA	Solid	8290	
180-111805-1 - RA	KD029SS	Total/NA	Solid	8290	
180-111805-2	KD045SS	Total/NA	Solid	8290	
180-111805-2 - RA	KD045SS	Total/NA	Solid	8290	
180-111805-3	KD123SS	Total/NA	Solid	8290	
180-111805-4	KD149SS	Total/NA	Solid	8290	
180-111805-4 - RA	KD149SS	Total/NA	Solid	8290	
180-111805-5	KD225ESS	Total/NA	Solid	8290	
180-111805-6	KD225WSS	Total/NA	Solid	8290	
180-111805-6 - RA	KD225WSS	Total/NA	Solid	8290	
180-111805-7	DW201SS	Total/NA	Solid	8290	
180-111805-7 - RA	DW201SS	Total/NA	Solid	8290	
180-111805-8	KD251SS	Total/NA	Solid	8290	
180-111805-9	KD275SS	Total/NA	Solid	8290	
180-111805-9 - RA	KD275SS	Total/NA	Solid	8290	
180-111805-10	KD297SS	Total/NA	Solid	8290	
180-111805-10 - RA	KD297SS	Total/NA	Solid	8290	
MB 320-419758/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-419758/2-A	Lab Control Sample	Total/NA	Solid	8290	
180-111805-10 MS	KD297SS	Total/NA	Solid	8290	
180-111805-10 MS - RA	KD297SS	Total/NA	Solid	8290	
180-111805-10 MSD	KD297SS	Total/NA	Solid	8290	
180-111805-10 MSD - RA	KD297SS	Total/NA	Solid	8290	

Analysis Batch: 420486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-11	KD010SS-EB	Total/NA	Water	8290A	419525
180-111805-12	KD297SS-EB	Total/NA	Water	8290A	419525
180-111805-13	KD225WSS-EB	Total/NA	Water	8290A	419525
MB 320-419525/1-A	Method Blank	Total/NA	Water	8290A	419525
LCS 320-419525/2-A	Lab Control Sample	Total/NA	Water	8290A	419525

Analysis Batch: 421505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-419525/3-A	Lab Control Sample Dup	Total/NA	Water	8290A	419525

Analysis Batch: 423668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1	KD029SS	Total/NA	Solid	8290A	419758
180-111805-2	KD045SS	Total/NA	Solid	8290A	419758
180-111805-3	KD123SS	Total/NA	Solid	8290A	419758
180-111805-4	KD149SS	Total/NA	Solid	8290A	419758

Specialty Organics (Continued)

Analysis Batch: 423668 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-5	KD225ESS	Total/NA	Solid	8290A	419758
180-111805-6	KD225WSS	Total/NA	Solid	8290A	419758
MB 320-419758/1-A	Method Blank	Total/NA	Solid	8290A	419758
LCS 320-419758/2-A	Lab Control Sample	Total/NA	Solid	8290A	419758

Analysis Batch: 423671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-7	DW201SS	Total/NA	Solid	8290A	419758
180-111805-8	KD251SS	Total/NA	Solid	8290A	419758
180-111805-9	KD275SS	Total/NA	Solid	8290A	419758
180-111805-10	KD297SS	Total/NA	Solid	8290A	419758
180-111805-10 MS	KD297SS	Total/NA	Solid	8290A	419758
180-111805-10 MSD	KD297SS	Total/NA	Solid	8290A	419758

Analysis Batch: 424664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1 - RA	KD029SS	Total/NA	Solid	8290A	419758
180-111805-2 - RA	KD045SS	Total/NA	Solid	8290A	419758
180-111805-4 - RA	KD149SS	Total/NA	Solid	8290A	419758
180-111805-6 - RA	KD225WSS	Total/NA	Solid	8290A	419758
180-111805-7 - RA	DW201SS	Total/NA	Solid	8290A	419758
180-111805-9 - RA	KD275SS	Total/NA	Solid	8290A	419758
180-111805-10 - RA	KD297SS	Total/NA	Solid	8290A	419758
180-111805-10 MS - RA	KD297SS	Total/NA	Solid	8290A	419758
180-111805-10 MSD - RA	KD297SS	Total/NA	Solid	8290A	419758

General Chemistry

Analysis Batch: 333628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1	KD029SS	Total/NA	Solid	2540G	
180-111805-2	KD045SS	Total/NA	Solid	2540G	
180-111805-3	KD123SS	Total/NA	Solid	2540G	
180-111805-4	KD149SS	Total/NA	Solid	2540G	
180-111805-5	KD225ESS	Total/NA	Solid	2540G	
180-111805-6	KD225WSS	Total/NA	Solid	2540G	
180-111805-7	DW201SS	Total/NA	Solid	2540G	
180-111805-8	KD251SS	Total/NA	Solid	2540G	
180-111805-9	KD275SS	Total/NA	Solid	2540G	
180-111805-10	KD297SS	Total/NA	Solid	2540G	
180-111805-9 DU	KD275SS	Total/NA	Solid	2540G	

Analysis Batch: 334115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-1	KD029SS	Total/NA	Solid	SM 2540G	
180-111805-2	KD045SS	Total/NA	Solid	SM 2540G	
180-111805-3	KD123SS	Total/NA	Solid	SM 2540G	
180-111805-4	KD149SS	Total/NA	Solid	SM 2540G	
180-111805-5	KD225ESS	Total/NA	Solid	SM 2540G	
180-111805-6	KD225WSS	Total/NA	Solid	SM 2540G	
180-111805-7	DW201SS	Total/NA	Solid	SM 2540G	

General Chemistry (Continued)

Analysis Batch: 334115 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111805-8	KD251SS	Total/NA	Solid	SM 2540G	
180-111805-9	KD275SS	Total/NA	Solid	SM 2540G	
180-111805-10	KD297SS	Total/NA	Solid	SM 2540G	
180-111805-9 DU	KD275SS	Total/NA	Solid	SM 2540G	

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Andrew Morgan/Garrett Kuhl	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-64125-12892.1
Client Contact: Ms. Jennifer Abrahams, P.G.	Phone: 916-853-4526	E-Mail: Veronica.Bortot@Eurofinset.com		Page: Page ~~1 of 6~~ 1 of 2
Company: Tetra Tech GEO				Job #:
Address: 2969 Prospect Park Drive Suite 100	Due Date Requested:			
City: Rancho Cordova	TAT Requested (days): Standard			
State, Zip: CA, 95670				
Phone: 916-853-1800(Tel) 916-853-1860(Fax)	PO #: Purchase Order Requested			
Email: jennifer.abrahams@tetratech.com	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096 / 117-220145GA			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH by GC/MS	8290A - 17 Isomers & Totals	8270D - PAH by GC/MS	8290 - 17 Isomers & Totals	Total Number of containers	Special
Preservation Code:							NI	NI	N	N		
KD029SS	9/30/20	1723	G	Solid	N	N	X	X			2	
KD045SS	10/1/20	0923	G	Solid	N	N	X	X			2	
KD123SS	10/1/20	1116	C	Solid	N	N	X	X			2	
KD149SS	10/1/20	1342	C	Solid	N	N	X	X			2	
~~KD225WSS~~ (MS) KD225ESS	10/1/20	1509	C	Solid	N	N	X	X			2	
KD225WSS	10/1/20	1650	C	Solid	N	N	X	X			2	
DUP201SS	10/2/20	0840	C	Solid	N	N	X	X			2	
KD251SS	10/2/20	1033	C	Solid	N	N	X	X			2	
KD275SS	10/2/20	1201	C	Solid	N	N	X	X			2	
KD297SS	10/2/20	1429	C	Solid	N	N	X	X			2	
KD297SS - MS/MSD	10/2/20	1429	C	Solid	N	Y	X	X			4	

180-111805 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) Standard EDD

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	HS Morgan	10/2/20	TT	Fed ex	10/2/20	
2				Delilah Watson	10-3 20	ETAPH
3					9:30	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone (412) 963-7058 Fax (412) 963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Andrew Morgan / Garrett Kuhl	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-64125-12892.6
Client Contact: Ms. Jennifer Abrahams, P.G.	Phone: 916-853-4526	E-Mail: Veronica.Bortot@Eurofinset.com		Page: ~~Page 6 of 6~~ (Rev) 2 of 2
Company: Tetra Tech GEO				Job #:
Address: 2969 Prospect Park Drive Suite 100	Due Date Requested:			
City: Rancho Cordova	TAT Requested (days): Standard			
State, Zip: CA, 95670				
Phone: 916-853-1800(Tel) 916-853-1860(Fax)	PO #: Purchase Order Requested			
Email: jennifer.abrahams@tetratech.com	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096 / 117-220456A			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH by GC/MS	8290A - 17 Isomers & Totals	8270D - PAH by GC/MS	8290 - 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	~~NI~~	~~NI~~		
KD01055-EB	9/30/20	1750	G	Water	N	N			X	X	4	
KD29755-EB	10/2/20	1520	G	Water	N	N			X	X	4	
KD225NSS-EB	10/1/20	1735	G	Water	N	N			X	X	4	
				Water								
				Water								
				Water								

AS Morgan 10/2/20 1645

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) Standard EDD

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	AS Morgan	10/2/20 1645	TT	Fed ex	10/2/20 1645	
2				Delecia Watson	10-3-20 9:30	EARTH
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019


180-11805 Waybill
FedEx Express
ORIGIN ID:UOKA
GARRETT KUHL
(916) 852-8300
2969 PROSPECT PARK DR STE 100
RANCHO CORDOVA CA 95670
UNITED STATES US
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
PITTSBURGH PA 15238
REF:
DEPT:
(412) 963-7058
INV:
PO:
SATURDAY 10:00A
FIRST OVERNIGHT
AHS
15238
PIT
PA-US
TRK# 8162 8744 6446
0215
XO AGCA
Uncorrected temp
Thermometer ID
CF 0
Initials
PT-WI-SR-001 effective 11/8/18
TRK# 8162 8744 6457
0215
XO AGCA
Uncorrected temp
Thermometer ID
CF 0
Initials
PT-WI-SR-001 effective 11/8/18
°C
2.6
14
13

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414047.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111805-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/21/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
KD029SS (180-111805-1)	9/30/20	17:23 Central		Solid			X		1	
KD045SS (180-111805-2)	10/1/20	09:23 Central		Solid			X		1	
KD123SS (180-111805-3)	10/1/20	11:16 Central		Solid			X		1	
KD149SS (180-111805-4)	10/1/20	13:42 Central		Solid			X		1	
KD225ESS (180-111805-5)	10/1/20	15:09 Central		Solid			X		1	
KD225WSS (180-111805-6)	10/1/20	16:50 Central		Solid			X		1	
DW201SS (180-111805-7)	10/2/20	08:40 Central		Solid			X		1	
KD251SS (180-111805-8)	10/2/20	10:33 Central		Solid			X		1	
KD275SS (180-111805-9)	10/2/20	12:01 Central		Solid			X		1	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/6/20 1500	Courier		10/07/20 940	Eta Sae
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 3.0

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414047.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111805-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/21/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
KD297SS (180-111805-10)	10/2/20	14:29 Central		Solid			X		1	
KD297SS (180-111805-10MS)	10/2/20	14:29 Central	MS	Solid			X		1	
KD297SS (180-111805-10MSD)	10/2/20	14:29 Central	MSD	Solid			X		1	
KD010SS-EB (180-111805-11)	9/30/20	17:50 Central		Water				X	2	
KD297SS-EB (180-111805-12)	10/2/20	15:20 Central		Water				X	2	
KD225WSS-EB (180-111805-13)	10/1/20	17:35 Central		Water				X	2	

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

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

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

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	10/6/20 1510	Comfort		10/07/20 940	eta Sac
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 3.0

Ver: 01/16/2019

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

180-111805 Field Sheet

Tracking #: 1689 5103 2283

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Job: _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: L-01 Corr. Factor: (+ / -) 0 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: seal

Cooler ID: _____

Temp Observed: 3.0 °C Corrected: 3.0 °C

From: Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐

Initials: MAN Date: 10/07/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☐	☒
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 10/07/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
NCM Filed?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials: _____ Date: 10/07/20

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111805-1

Login Number: 111805
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111805-1

Login Number: 111805
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/07/20 11:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 3.0c corr: 3.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-111869-1
Client Project/Site: Grenada, Mississippi

For:
Tetra Tech GEO
2969 Prospect Park Drive
Suite 100
Rancho Cordova, California 95670

Attn: Ms. Jennifer Abrahams, P.G.

Veronica Bortot

Authorized for release by:
10/23/2020 11:17:17 AM

Veronica Bortot, Senior Project Manager
(412)963-2435
Veronica.Bortot@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-111869-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111869-1

Comments
No additional comments.

Receipt
The samples were received on 10/6/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. There is no relinquished by time listed on the COC.

GC/MS Semi VOA
Method 8270E: The following samples were diluted due to the nature of the sample matrix: DW204SS, DW205SS, DW207SS and DW208SS. Elevated reporting limits (RLs) are provided.

Method 8270E: The following sample was diluted due to the nature of the sample matrix: DW206SS. As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method 8270E: The following sample was diluted due to the nature of the sample matrix: DW202SS. Elevated reporting limits (RLs) are provided.

Method 8270E: Surrogate recovery for the following sample was outside control limits: DW202SS. Evidence of matrix interference is present and client only requesting PAH's in which all of the BN surrogates were within criteria; therefore, re-extraction and/or re-analysis was not performed.

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

Dioxin
Method 8290A: The bracketing continuing calibration verification (CCV) associated with batch 320-421141 has 1,2,3,6,7,8-HxCDF with percent difference value that is between the method criteria of 20% to 25% deviation from the initial calibration curve. Per method guidelines, an average relative response factor (RRF) is calculated from the bracketing CCV and is used to quantitate any positive results in the associated samples for the affected analytes.

Method 8290A: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: DW202SS, DW203SS, DW204SS, DW205SS, DW206SS and DW207SS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 8290A: The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): DW202SS, DW203SS, DW204SS, DW205SS, DW206SS and DW207SS . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 8290A: The matrix spike (MS) recovery for 1,2,3,7,8,9-HxCDD in preparation batch 320-420127 and analytical batch 320-423056 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8290A: The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: DW208SS. These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Job ID: 180-111869-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method 8290A: The following sample exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): DW208SS . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

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

General Chemistry
Method Moisture: The sample duplicate precision for the following sample associated with analytical batch 180-333139 was outside control limits: DW206SS and 180-111869-A-5 DU. While the relative percent difference (RPD) between the sample and its duplicate was above 10% for percent moisture, it was still within 20%.

Method SM 2540G: The sample duplicate (DUP) precision for analytical batch 180-333912 was outside control limits. While the relative percent difference (RPD) for the sample and its duplicate was above 10%, it was still within 20% for percent moisture.

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

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

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

Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

Dioxin

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Sample Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111869-1	DW202SS	Solid	10/03/20 08:42	10/06/20 09:00	
180-111869-2	DW203SS	Solid	10/03/20 09:10	10/06/20 09:00	
180-111869-3	DW204SS	Solid	10/03/20 09:45	10/06/20 09:00	
180-111869-4	DW205SS	Solid	10/03/20 10:10	10/06/20 09:00	
180-111869-5	DW206SS	Solid	10/03/20 11:05	10/06/20 09:00	
180-111869-6	DW207SS	Solid	10/03/20 11:35	10/06/20 09:00	
180-111869-7	KD321SS	Solid	10/03/20 14:49	10/06/20 09:00	
180-111869-8	DW208SS	Solid	10/03/20 12:30	10/06/20 09:00	
180-111869-9	DW209SS	Solid	10/03/20 15:34	10/06/20 09:00	
180-111869-10	DW210SS	Solid	10/03/20 16:10	10/06/20 09:00	
180-111869-11	DW210SS-EB	Water	10/03/20 17:50	10/06/20 09:00	

Method Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Method	Method Description	Protocol	Laboratory
EPA 8270E	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
2540G	SM 2540G	SM22	TAL PIT
SM 2540G	Total, Fixed, and Volatile Solids	SM	TAL PIT
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL SAC
8290	Soxhlet Extraction of Dioxins and Furans	SW846	TAL SAC

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Client Sample ID: DW202SS
Date Collected: 10/03/20 08:42
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW202SS
Date Collected: 10/03/20 08:42
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-1
Matrix: Solid
Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		5	1 mL	1 mL	333708	10/16/20 17:25	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.44 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423056	10/19/20 05:34	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		10.44 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 10:21	KSS	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: DW203SS
Date Collected: 10/03/20 09:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW203SS
Date Collected: 10/03/20 09:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-2
Matrix: Solid
Percent Solids: 75.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333407	10/14/20 23:43	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.49 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423056	10/19/20 07:49	AS	TAL SAC
	Instrument ID: 10D5									

Client Sample ID: DW204SS
Lab Sample ID: 180-111869-3
Date Collected: 10/03/20 09:45
Matrix: Solid
Date Received: 10/06/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW204SS
Lab Sample ID: 180-111869-3
Date Collected: 10/03/20 09:45
Matrix: Solid
Date Received: 10/06/20 09:00
Percent Solids: 75.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			14.8 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		3	1 mL	1 mL	333544	10/15/20 12:15	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.53 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423056	10/19/20 08:34	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		10.53 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 12:55	KSS	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: DW205SS
Lab Sample ID: 180-111869-4
Date Collected: 10/03/20 10:10
Matrix: Solid
Date Received: 10/06/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW205SS
Lab Sample ID: 180-111869-4
Date Collected: 10/03/20 10:10
Matrix: Solid
Date Received: 10/06/20 09:00
Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.3 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		5	1 mL	1 mL	333544	10/15/20 12:41	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.82 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423056	10/19/20 09:19	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.82 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 13:33	KSS	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Client Sample ID: DW206SS
Date Collected: 10/03/20 11:05
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW206SS
Date Collected: 10/03/20 11:05
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-5
Matrix: Solid
Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.5 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		40	1 mL	1 mL	333544	10/15/20 13:07	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.85 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423056	10/19/20 10:08	AS	TAL SAC
	Instrument ID: 10D5									

Client Sample ID: DW207SS
Date Collected: 10/03/20 11:35
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW207SS
Date Collected: 10/03/20 11:35
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-6
Matrix: Solid
Percent Solids: 80.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.4 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		5	1 mL	1 mL	333544	10/15/20 13:33	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.97 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423056	10/19/20 10:53	AS	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.97 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 14:50	KSS	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Client Sample ID: KD321SS
Date Collected: 10/03/20 14:49
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: KD321SS
Date Collected: 10/03/20 14:49
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-7
Matrix: Solid
Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333544	10/15/20 13:59	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.28 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423058	10/19/20 19:44	ALM	TAL SAC
	Instrument ID: 10D5									

Client Sample ID: DW208SS
Date Collected: 10/03/20 12:30
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW208SS
Date Collected: 10/03/20 12:30
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-8
Matrix: Solid
Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			14.8 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		4	1 mL	1 mL	333544	10/15/20 14:25	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.31 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423058	10/19/20 20:29	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		10.31 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 16:07	KSS	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Client Sample ID: DW209SS
Date Collected: 10/03/20 15:34
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW209SS
Date Collected: 10/03/20 15:34
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-9
Matrix: Solid
Percent Solids: 73.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333544	10/15/20 14:51	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			10.47 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423058	10/19/20 21:14	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		10.47 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 16:45	KSS	TAL SAC
	Instrument ID: 11D2									

Client Sample ID: DW210SS
Date Collected: 10/03/20 16:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			333139	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333912	10/12/20 21:23	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: DW210SS
Date Collected: 10/03/20 16:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-10
Matrix: Solid
Percent Solids: 69.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333544	10/15/20 15:17	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.77 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			423058	10/19/20 21:59	ALM	TAL SAC
	Instrument ID: 10D5									
Total/NA	Prep	8290	RA		9.77 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			422248	10/15/20 17:24	KSS	TAL SAC
	Instrument ID: 11D2									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Client Sample ID: DW210SS-EB

Date Collected: 10/03/20 17:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			240 mL	2.5 mL	332720	10/08/20 10:44	BJT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333370	10/14/20 18:17	VVP	TAL PIT
	Instrument ID: CH732									
Total/NA	Prep	8290			1025.9 mL	20 uL	420196	10/09/20 09:46	RDR	TAL SAC
Total/NA	Analysis	8290A		1			423518	10/20/20 06:01	AS	TAL SAC
	Instrument ID: 10D5									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL PIT

Batch Type: Prep

BJT = Bill Trout
CSC = Chayce Cockroft
SAT = Stephen Tallam

Batch Type: Analysis

PMH = Paloma Hoelzle
VVP = Vincent Piccolino

Lab: TAL SAC

Batch Type: Prep

FC = Fue Chang
RDR = Robert Royce

Batch Type: Analysis

ALM = Adrian Messecar
AS = Ajay Sharda
KSS = Kyle Stephens

Client Sample ID: DW202SS

Date Collected: 10/03/20 08:42
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-1

Matrix: Solid
Percent Solids: 78.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		420	120	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Acenaphthylene	**1100**		420	92	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Anthracene	**1300**		420	110	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Benzo[a]anthracene	**2200**		420	190	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Benzo[b]fluoranthene	**4200**		420	100	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Benzo[k]fluoranthene	**1500**		420	130	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Benzo[g,h,i]perylene	**1700**		420	91	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Benzo[a]pyrene	**2100**		420	180	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Chrysene	**2900**		420	230	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Dibenz(a,h)anthracene	**870**		420	270	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Fluoranthene	**3500**		420	110	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Fluorene	**100**	**J**	420	83	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Indeno[1,2,3-cd]pyrene	**1700**		420	210	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Naphthalene	**770**		420	82	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Phenanthrene	**1700**		420	110	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5
Pyrene	**3600**		420	100	ug/Kg	☼	10/14/20 08:24	10/16/20 17:25	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*45 - 105*	*10/14/20 08:24*	*10/16/20 17:25*	*5*
2-Fluorophenol (Surr)	*77*		*42 - 105*	*10/14/20 08:24*	*10/16/20 17:25*	*5*
2,4,6-Tribromophenol (Surr)	*28*	*X*	*31 - 105*	*10/14/20 08:24*	*10/16/20 17:25*	*5*
Nitrobenzene-d5 (Surr)	*77*		*53 - 105*	*10/14/20 08:24*	*10/16/20 17:25*	*5*
Phenol-d5 (Surr)	*70*		*47 - 105*	*10/14/20 08:24*	*10/16/20 17:25*	*5*
Terphenyl-d14 (Surr)	*76*		*46 - 105*	*10/14/20 08:24*	*10/16/20 17:25*	*5*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**1.8**		1.2	0.16	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total TCDD	**11**	**q**	1.2	0.16	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,7,8-PeCDD	**19**		6.1	2.2	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total PeCDD	**68**		6.1	2.2	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,4,7,8-HxCDD	**74**	**B**	6.1	2.0	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,6,7,8-HxCDD	**150**		6.1	1.8	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,7,8,9-HxCDD	**140**	**F1**	6.1	1.7	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total HxCDD	**1100**	**B**	6.1	1.8	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,4,6,7,8-HpCDD	**5100**	**E B G**	27	27	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total HpCDD	**9200**	**B G**	27	27	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
OCDD	**54000**	**E B G**	13	13	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total TCDF	**21**	**q**	1.2	0.32	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,7,8-PeCDF	**2.1**	**J**	6.1	0.87	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
2,3,4,7,8-PeCDF	ND		6.1	0.90	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total PeCDF	**110**	**q**	6.1	0.89	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,4,7,8-HxCDF	**21**	**q G**	8.3	8.3	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,6,7,8-HxCDF	**23**	**G**	7.6	7.6	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
2,3,4,6,7,8-HxCDF	**23**	**G**	8.0	8.0	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,7,8,9-HxCDF	ND	G	8.5	8.5	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total HxCDF	**900**	**q G**	8.1	8.1	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,4,6,7,8-HpCDF	**990**	**G**	11	11	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
1,2,3,4,7,8,9-HpCDF	**81**	**G**	12	12	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1
Total HpCDF	**3300**	**G**	12	12	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1

Client Sample ID: DW202SS

Date Collected: 10/03/20 08:42
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-1

Matrix: Solid
Percent Solids: 78.5

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	4300	B	12	0.68	pg/g	☼	10/09/20 05:11	10/19/20 05:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-1,2,3,6,7,8-HxCDD	*62*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-OCDD	*87*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-2,3,7,8-TCDF	*94*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-1,2,3,7,8-PeCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*10/09/20 05:11*	*10/19/20 05:34*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.58	J	1.2	0.22	pg/g	☼	10/09/20 05:11	10/15/20 10:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*78*		*40 - 135*	*10/09/20 05:11*	*10/15/20 10:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.5		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	78.5		0.1	0.1	%			10/12/20 21:23	1
Total Solids	78		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW203SS

Date Collected: 10/03/20 09:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-2

Matrix: Solid
Percent Solids: 75.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		88	25	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Acenaphthylene	140		88	19	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Anthracene	180		88	23	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Benzo[a]anthracene	330		88	40	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Benzo[b]fluoranthene	630		88	22	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Benzo[k]fluoranthene	210		88	26	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Benzo[g,h,i]perylene	230		88	19	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Benzo[a]pyrene	290		88	38	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Chrysene	440		88	49	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Dibenz(a,h)anthracene	140		88	56	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Fluoranthene	460		88	23	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Fluorene	ND		88	17	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Indeno[1,2,3-cd]pyrene	230		88	44	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Naphthalene	81	J	88	17	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Phenanthrene	200		88	24	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1
Pyrene	490		88	21	ug/Kg	☼	10/13/20 08:11	10/14/20 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*45 - 105*	*10/13/20 08:11*	*10/14/20 23:43*	*1*
2-Fluorophenol (Surr)	*76*		*42 - 105*	*10/13/20 08:11*	*10/14/20 23:43*	*1*

Client Sample ID: DW203SS

Date Collected: 10/03/20 09:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-2

Matrix: Solid
Percent Solids: 75.1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*55*		*31 - 105*	*10/13/20 08:11*	*10/14/20 23:43*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/13/20 08:11*	*10/14/20 23:43*	*1*
Phenol-d5 (Surr)	*66*		*47 - 105*	*10/13/20 08:11*	*10/14/20 23:43*	*1*
Terphenyl-d14 (Surr)	*81*		*46 - 105*	*10/13/20 08:11*	*10/14/20 23:43*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.29**	**J q**	1.3	0.13	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total TCDD	**4.7**	**q**	1.3	0.13	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,7,8-PeCDD	**3.6**	**J**	6.3	0.38	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total PeCDD	**29**	**q**	6.3	0.38	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,4,7,8-HxCDD	**13**	**B**	6.3	0.37	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,6,7,8-HxCDD	**35**		6.3	0.33	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,7,8,9-HxCDD	**22**		6.3	0.31	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total HxCDD	**300**	**B**	6.3	0.33	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,4,6,7,8-HpCDD	**1300**	**B G**	14	14	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total HpCDD	**3000**	**B G**	14	14	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
OCDD	**17000**	**E B**	13	13	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
2,3,7,8-TCDF	**0.65**	**J**	1.3	0.095	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total TCDF	**4.1**	**q**	1.3	0.095	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,7,8-PeCDF	**0.72**	**J q**	6.3	0.40	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
2,3,4,7,8-PeCDF	**1.1**	**J**	6.3	0.41	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total PeCDF	**29**	**q**	6.3	0.41	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,4,7,8-HxCDF	**9.5**		6.3	1.2	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,6,7,8-HxCDF	ND		6.3	1.1	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
2,3,4,6,7,8-HxCDF	**4.5**	**J**	6.3	1.2	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,7,8,9-HxCDF	ND		6.3	1.3	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total HxCDF	**210**		6.3	1.2	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,4,6,7,8-HpCDF	**260**	**G**	6.6	6.6	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
1,2,3,4,7,8,9-HpCDF	**21**	**G**	7.6	7.6	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
Total HpCDF	**1000**	**G**	7.1	7.1	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1
OCDF	**1100**	**B**	13	0.34	pg/g	☼	10/09/20 05:11	10/19/20 07:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*78*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-OCDD	*95*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-1,2,3,7,8-PeCDF	*84*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-1,2,3,4,7,8-HxCDF	*96*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*10/09/20 05:11*	*10/19/20 07:49*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**24.9**		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	**75.1**		0.1	0.1	%			10/12/20 21:23	1
Total Solids	**75**		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW204SS
Date Collected: 10/03/20 09:45
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-3
Matrix: Solid
Percent Solids: 75.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		270	78	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Acenaphthylene	**550**		270	59	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Anthracene	**830**		270	70	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Benzo[a]anthracene	**1600**		270	120	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Benzo[b]fluoranthene	**2700**		270	67	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Benzo[k]fluoranthene	**1300**		270	81	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Benzo[g,h,i]perylene	**940**		270	58	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Benzo[a]pyrene	**1400**		270	120	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Chrysene	**2100**		270	150	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Dibenz(a,h)anthracene	**500**		270	170	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Fluoranthene	**2400**		270	71	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Fluorene	ND		270	53	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Indeno[1,2,3-cd]pyrene	**960**		270	130	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Naphthalene	**520**		270	53	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Phenanthrene	**1100**		270	73	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3
Pyrene	**2400**		270	64	ug/Kg	☼	10/13/20 08:11	10/15/20 12:15	3

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*45 - 105*	*10/13/20 08:11*	*10/15/20 12:15*	*3*
2-Fluorophenol (Surr)	*81*		*42 - 105*	*10/13/20 08:11*	*10/15/20 12:15*	*3*
2,4,6-Tribromophenol (Surr)	*56*		*31 - 105*	*10/13/20 08:11*	*10/15/20 12:15*	*3*
Nitrobenzene-d5 (Surr)	*80*		*53 - 105*	*10/13/20 08:11*	*10/15/20 12:15*	*3*
Phenol-d5 (Surr)	*70*		*47 - 105*	*10/13/20 08:11*	*10/15/20 12:15*	*3*
Terphenyl-d14 (Surr)	*82*		*46 - 105*	*10/13/20 08:11*	*10/15/20 12:15*	*3*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.70**	**J q**	1.3	0.17	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total TCDD	**9.1**	**q**	1.3	0.17	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,7,8-PeCDD	**13**		6.3	2.2	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total PeCDD	**66**		6.3	2.2	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,4,7,8-HxCDD	**45**	**B**	6.3	1.8	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,6,7,8-HxCDD	**150**		6.3	1.6	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,7,8,9-HxCDD	**77**		6.3	1.5	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total HxCDD	**900**	**B**	6.3	1.7	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,4,6,7,8-HpCDD	**4700**	**E B G**	21	21	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total HpCDD	**9900**	**B G**	21	21	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
OCDD	**51000**	**E B**	13	13	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total TCDF	**15**	**q**	1.3	0.32	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,7,8-PeCDF	**2.7**	**J**	6.3	0.81	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
2,3,4,7,8-PeCDF	**3.5**	**J**	6.3	0.84	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total PeCDF	**82**		6.3	0.82	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,4,7,8-HxCDF	**26**		6.3	4.5	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,6,7,8-HxCDF	**18**		6.3	4.1	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
2,3,4,6,7,8-HxCDF	**13**		6.3	4.3	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,7,8,9-HxCDF	ND		6.3	4.6	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total HxCDF	**700**		6.3	4.4	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,4,6,7,8-HpCDF	**780**	**G**	6.6	6.6	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
1,2,3,4,7,8,9-HpCDF	**57**	**G**	7.6	7.6	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1
Total HpCDF	**2900**	**G**	7.1	7.1	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1

Client Sample ID: DW204SS

Date Collected: 10/03/20 09:45
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-3

Matrix: Solid
Percent Solids: 75.0

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	3100	B	13	1.2	pg/g	☼	10/09/20 05:11	10/19/20 08:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*86*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-1,2,3,7,8-PeCDD	*83*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-1,2,3,6,7,8-HxCDD	*80*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-OCDD	*105*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-2,3,7,8-TCDF	*102*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-1,2,3,7,8-PeCDF	*97*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-1,2,3,4,7,8-HxCDF	*103*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 08:34*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.72	J	1.3	0.25	pg/g	☼	10/09/20 05:11	10/15/20 12:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*10/09/20 05:11*	*10/15/20 12:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25.0		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	75.0		0.1	0.1	%			10/12/20 21:23	1
Total Solids	75		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW205SS

Date Collected: 10/03/20 10:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-4

Matrix: Solid
Percent Solids: 83.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		390	110	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Acenaphthylene	1000		390	86	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Anthracene	1400		390	100	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Benzo[a]anthracene	2700		390	180	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Benzo[b]fluoranthene	4700		390	96	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Benzo[k]fluoranthene	2100		390	120	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Benzo[g,h,i]perylene	1700		390	84	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Benzo[a]pyrene	2200		390	170	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Chrysene	3400		390	220	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Dibenz(a,h)anthracene	780		390	250	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Fluoranthene	4100		390	100	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Fluorene	95	J	390	77	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Indeno[1,2,3-cd]pyrene	1700		390	190	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Naphthalene	840		390	76	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Phenanthrene	1800		390	100	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5
Pyrene	4100		390	93	ug/Kg	☼	10/13/20 08:11	10/15/20 12:41	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*45 - 105*	*10/13/20 08:11*	*10/15/20 12:41*	*5*
2-Fluorophenol (Surr)	*77*		*42 - 105*	*10/13/20 08:11*	*10/15/20 12:41*	*5*

Client Sample ID: DW205SS
Date Collected: 10/03/20 10:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-4
Matrix: Solid
Percent Solids: 83.6

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	*51*		*31 - 105*	*10/13/20 08:11*	*10/15/20 12:41*	*5*
Nitrobenzene-d5 (Surr)	*78*		*53 - 105*	*10/13/20 08:11*	*10/15/20 12:41*	*5*
Phenol-d5 (Surr)	*68*		*47 - 105*	*10/13/20 08:11*	*10/15/20 12:41*	*5*
Terphenyl-d14 (Surr)	*80*		*46 - 105*	*10/13/20 08:11*	*10/15/20 12:41*	*5*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.95**	**J q**	1.2	0.21	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total TCDD	**15**	**q**	1.2	0.21	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,7,8-PeCDD	**15**	**G**	9.5	9.5	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total PeCDD	**54**	**G**	9.5	9.5	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,4,7,8-HxCDD	**68**	**B**	6.1	0.73	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,6,7,8-HxCDD	**210**		6.1	0.66	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,7,8,9-HxCDD	**120**		6.1	0.61	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total HxCDD	**1600**	**B**	6.1	0.67	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,4,6,7,8-HpCDD	**6700**	**E B G**	24	24	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total HpCDD	**15000**	**B G**	24	24	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
OCDD	**76000**	**E B G**	26	26	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total TCDF	**16**		1.2	0.39	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,7,8-PeCDF	**3.8**	**J**	6.1	0.87	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
2,3,4,7,8-PeCDF	**4.8**	**J**	6.1	0.90	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total PeCDF	**100**	**q**	6.1	0.88	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,4,7,8-HxCDF	**28**	**G**	7.0	7.0	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,6,7,8-HxCDF	**22**	**q G**	6.5	6.5	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
2,3,4,6,7,8-HxCDF	**17**	**q G**	6.8	6.8	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,7,8,9-HxCDF	ND	G	7.2	7.2	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total HxCDF	**1100**	**q G**	6.9	6.9	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,4,6,7,8-HpCDF	**1300**	**G**	9.9	9.9	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
1,2,3,4,7,8,9-HpCDF	**97**	**G**	11	11	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
Total HpCDF	**4800**	**G**	11	11	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1
OCDF	**5800**	**E B**	12	1.8	pg/g	☼	10/09/20 05:11	10/19/20 09:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-OCDD	*88*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-1,2,3,7,8-PeCDF	*85*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-1,2,3,4,7,8-HxCDF	*84*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*10/09/20 05:11*	*10/19/20 09:19*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.3**		1.2	0.30	pg/g	☼	10/09/20 05:11	10/15/20 13:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	*76*		*40 - 135*	*10/09/20 05:11*	*10/15/20 13:33*	*1*

Client Sample ID: DW205SS

Date Collected: 10/03/20 10:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-4

Matrix: Solid
Percent Solids: 83.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.4		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	83.6		0.1	0.1	%			10/12/20 21:23	1
Total Solids	84		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW206SS

Date Collected: 10/03/20 11:05
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-5

Matrix: Solid
Percent Solids: 84.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	1300	J	3100	880	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Acenaphthylene	8400		3100	670	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Anthracene	13000		3100	800	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Benzo[a]anthracene	18000		3100	1400	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Benzo[b]fluoranthene	39000		3100	750	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Benzo[k]fluoranthene	16000		3100	920	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Benzo[g,h,i]perylene	14000		3100	660	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Benzo[a]pyrene	20000		3100	1300	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Chrysene	21000		3100	1700	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Dibenz(a,h)anthracene	7000		3100	2000	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Fluoranthene	32000		3100	810	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Fluorene	1100	J	3100	600	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Indeno[1,2,3-cd]pyrene	15000		3100	1500	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Naphthalene	5900		3100	600	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Phenanthrene	13000		3100	820	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40
Pyrene	30000		3100	730	ug/Kg	☼	10/13/20 08:11	10/15/20 13:07	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X D*	*45 - 105*	*10/13/20 08:11*	*10/15/20 13:07*	*40*
2-Fluorophenol (Surr)	*0*	*X D*	*42 - 105*	*10/13/20 08:11*	*10/15/20 13:07*	*40*
2,4,6-Tribromophenol (Surr)	*0*	*X D*	*31 - 105*	*10/13/20 08:11*	*10/15/20 13:07*	*40*
Nitrobenzene-d5 (Surr)	*0*	*X D*	*53 - 105*	*10/13/20 08:11*	*10/15/20 13:07*	*40*
Phenol-d5 (Surr)	*0*	*X D*	*47 - 105*	*10/13/20 08:11*	*10/15/20 13:07*	*40*
Terphenyl-d14 (Surr)	*0*	*X D*	*46 - 105*	*10/13/20 08:11*	*10/15/20 13:07*	*40*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	1.0	J	1.2	0.38	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total TCDD	3.5	q	1.2	0.38	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,7,8-PeCDD	6.0		6.0	0.53	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total PeCDD	31	q	6.0	0.53	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,4,7,8-HxCDD	18	B	6.0	0.32	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,6,7,8-HxCDD	48		6.0	0.28	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,7,8,9-HxCDD	27		6.0	0.26	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total HxCDD	380	B	6.0	0.29	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,4,6,7,8-HpCDD	1900	B G	9.5	9.5	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total HpCDD	4100	B G	9.5	9.5	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
OCDD	21000	E B	12	3.2	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
2,3,7,8-TCDF	0.97	J	1.2	0.49	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total TCDF	7.3		1.2	0.49	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1

Client Sample ID: DW206SS

Date Collected: 10/03/20 11:05
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-5

Matrix: Solid
Percent Solids: 84.1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,7,8-PeCDF	1.2	J q	6.0	0.36	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
2,3,4,7,8-PeCDF	1.8	J	6.0	0.37	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total PeCDF	37	q	6.0	0.37	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,4,7,8-HxCDF	11		6.0	1.9	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,6,7,8-HxCDF	7.6		6.0	1.7	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
2,3,4,6,7,8-HxCDF	5.4	J	6.0	1.8	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,7,8,9-HxCDF	ND		6.0	1.9	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total HxCDF	290		6.0	1.8	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,4,6,7,8-HpCDF	350		6.0	3.9	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
1,2,3,4,7,8,9-HpCDF	20		6.0	4.4	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
Total HpCDF	1300		6.0	4.1	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1
OCDF	1700	B	12	1.1	pg/g	☼	10/09/20 05:11	10/19/20 10:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-1,2,3,6,7,8-HxCDD	*66*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*62*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-OCDD	*63*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-1,2,3,4,7,8-HxCDF	*91*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.9		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	84.1		0.1	0.1	%			10/12/20 21:23	1
Total Solids	84		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW207SS

Date Collected: 10/03/20 11:35
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-6

Matrix: Solid
Percent Solids: 80.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		410	120	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Acenaphthylene	910		410	89	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Anthracene	1300		410	100	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Benzo[a]anthracene	2200		410	180	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Benzo[b]fluoranthene	4300		410	99	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Benzo[k]fluoranthene	1700		410	120	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Benzo[g,h,i]perylene	1400		410	87	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Benzo[a]pyrene	2100		410	180	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Chrysene	3000		410	220	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Dibenz(a,h)anthracene	760		410	260	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Fluoranthene	4000		410	110	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Fluorene	100	J	410	79	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Indeno[1,2,3-cd]pyrene	1500		410	200	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Naphthalene	1100		410	79	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5
Phenanthrene	1700		410	110	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5

Client Sample ID: DW207SS
Date Collected: 10/03/20 11:35
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-6
Matrix: Solid
Percent Solids: 80.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	3800		410	96	ug/Kg	☼	10/13/20 08:11	10/15/20 13:33	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*45 - 105*	*10/13/20 08:11*	*10/15/20 13:33*	*5*
2-Fluorophenol (Surr)	*85*		*42 - 105*	*10/13/20 08:11*	*10/15/20 13:33*	*5*
2,4,6-Tribromophenol (Surr)	*52*		*31 - 105*	*10/13/20 08:11*	*10/15/20 13:33*	*5*
Nitrobenzene-d5 (Surr)	*83*		*53 - 105*	*10/13/20 08:11*	*10/15/20 13:33*	*5*
Phenol-d5 (Surr)	*76*		*47 - 105*	*10/13/20 08:11*	*10/15/20 13:33*	*5*
Terphenyl-d14 (Surr)	*83*		*46 - 105*	*10/13/20 08:11*	*10/15/20 13:33*	*5*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.83	J q	1.2	0.35	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total TCDD	22	q	1.2	0.35	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,7,8-PeCDD	13	G	6.5	6.5	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total PeCDD	82	q G	6.5	6.5	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,4,7,8-HxCDD	61	B	6.2	2.8	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,6,7,8-HxCDD	160		6.2	2.5	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,7,8,9-HxCDD	97		6.2	2.3	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total HxCDD	1500	B	6.2	2.6	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,4,6,7,8-HpCDD	6500	E B G	50	50	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total HpCDD	16000	B G	50	50	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
OCDD	72000	E B G	18	18	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total TCDF	20	q	1.2	0.62	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,7,8-PeCDF	4.1	J	6.2	0.60	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
2,3,4,7,8-PeCDF	5.0	J	6.2	0.62	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total PeCDF	90		6.2	0.61	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,4,7,8-HxCDF	34		6.2	5.2	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,6,7,8-HxCDF	19		6.2	4.8	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
2,3,4,6,7,8-HxCDF	17		6.2	5.1	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,7,8,9-HxCDF	ND		6.2	5.4	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total HxCDF	940		6.2	5.1	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,4,6,7,8-HpCDF	1100	G	10	10	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
1,2,3,4,7,8,9-HpCDF	88	G	12	12	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
Total HpCDF	4400	G	11	11	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1
OCDF	6200	E B	12	1.1	pg/g	☼	10/09/20 05:11	10/19/20 10:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*66*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-1,2,3,7,8-PeCDD	*72*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-1,2,3,6,7,8-HxCDD	*59*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*61*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-OCDD	*69*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-2,3,7,8-TCDF	*71*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-1,2,3,4,7,8-HxCDF	*86*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*67*		*40 - 135*	*10/09/20 05:11*	*10/19/20 10:53*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	1.3		1.2	0.40	pg/g	☼	10/09/20 05:11	10/15/20 14:50	1

Client Sample ID: DW207SS

Lab Sample ID: 180-111869-6

Date Collected: 10/03/20 11:35
Matrix: Solid
Date Received: 10/06/20 09:00
Percent Solids: 80.3

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*76*		*40 - 135*	*10/09/20 05:11*	*10/15/20 14:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**19.7**		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	**80.3**		0.1	0.1	%			10/12/20 21:23	1
Total Solids	**80**		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: KD321SS

Lab Sample ID: 180-111869-7

Date Collected: 10/03/20 14:49
Matrix: Solid
Date Received: 10/06/20 09:00
Percent Solids: 79.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		84	24	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Acenaphthylene	**36**	**J**	84	18	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Anthracene	**40**	**J**	84	22	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Benzo[a]anthracene	**120**		84	38	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Benzo[b]fluoranthene	**190**		84	21	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Benzo[k]fluoranthene	**76**	**J**	84	25	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Benzo[g,h,i]perylene	**72**	**J**	84	18	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Benzo[a]pyrene	**93**		84	36	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Chrysene	**150**		84	46	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Dibenz(a,h)anthracene	ND		84	54	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Fluoranthene	**170**		84	22	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Fluorene	ND		84	16	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Indeno[1,2,3-cd]pyrene	**68**	**J**	84	42	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Naphthalene	**46**	**J**	84	16	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Phenanthrene	**79**	**J**	84	22	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1
Pyrene	**180**		84	20	ug/Kg	☼	10/13/20 08:11	10/15/20 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*45 - 105*	*10/13/20 08:11*	*10/15/20 13:59*	*1*
2-Fluorophenol (Surr)	*75*		*42 - 105*	*10/13/20 08:11*	*10/15/20 13:59*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*31 - 105*	*10/13/20 08:11*	*10/15/20 13:59*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/13/20 08:11*	*10/15/20 13:59*	*1*
Phenol-d5 (Surr)	*65*		*47 - 105*	*10/13/20 08:11*	*10/15/20 13:59*	*1*
Terphenyl-d14 (Surr)	*83*		*46 - 105*	*10/13/20 08:11*	*10/15/20 13:59*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	**0.29**	**J q**	1.2	0.095	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total TCDD	**2.5**	**q**	1.2	0.095	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,7,8-PeCDD	**1.1**	**J**	6.1	0.19	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total PeCDD	**11**	**q**	6.1	0.19	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,4,7,8-HxCDD	**3.4**	**J B**	6.1	0.23	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,6,7,8-HxCDD	**6.6**		6.1	0.20	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,7,8,9-HxCDD	**5.8**	**J**	6.1	0.19	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total HxCDD	**71**	**B**	6.1	0.21	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,4,6,7,8-HpCDD	**240**	**B**	6.1	1.7	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total HpCDD	**520**	**B**	6.1	1.7	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
OCDD	**4000**	**B**	12	1.5	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1

Client Sample ID: KD321SS

Date Collected: 10/03/20 14:49
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-7

Matrix: Solid
Percent Solids: 79.2

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.80	J	1.2	0.076	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total TCDF	4.1	q	1.2	0.076	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,7,8-PeCDF	0.63	J	6.1	0.11	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
2,3,4,7,8-PeCDF	0.56	J	6.1	0.11	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total PeCDF	7.8	q	6.1	0.11	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,4,7,8-HxCDF	1.5	J q	6.1	0.35	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,6,7,8-HxCDF	1.5	J	6.1	0.32	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
2,3,4,6,7,8-HxCDF	1.4	J	6.1	0.34	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,7,8,9-HxCDF	ND		6.1	0.36	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total HxCDF	35	q	6.1	0.34	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,4,6,7,8-HpCDF	40		6.1	0.37	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
1,2,3,4,7,8,9-HpCDF	2.1	J	6.1	0.43	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
Total HpCDF	110		6.1	0.40	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1
OCDF	120	B	12	0.12	pg/g	☼	10/09/20 05:11	10/19/20 19:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-1,2,3,7,8-PeCDD	*68*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*66*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-OCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-2,3,7,8-TCDF	*83*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-1,2,3,4,7,8-HxCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*72*		*40 - 135*	*10/09/20 05:11*	*10/19/20 19:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.8		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	79.2		0.1	0.1	%			10/12/20 21:23	1
Total Solids	79		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW208SS

Date Collected: 10/03/20 12:30
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-8

Matrix: Solid
Percent Solids: 81.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		330	95	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Acenaphthylene	610		330	72	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Anthracene	760		330	86	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Benzo[a]anthracene	1100		330	150	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Benzo[b]fluoranthene	2200		330	81	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Benzo[k]fluoranthene	890		330	99	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Benzo[g,h,i]perylene	850		330	71	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Benzo[a]pyrene	1000		330	140	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Chrysene	1500		330	180	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Dibenz(a,h)anthracene	510		330	210	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Fluoranthene	1900		330	87	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Fluorene	ND		330	65	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Indeno[1,2,3-cd]pyrene	870		330	160	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4

Client Sample ID: DW208SS
Date Collected: 10/03/20 12:30
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-8
Matrix: Solid
Percent Solids: 81.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	680		330	64	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Phenanthrene	1000		330	89	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4
Pyrene	2100		330	78	ug/Kg	☼	10/13/20 08:11	10/15/20 14:25	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*45 - 105*	*10/13/20 08:11*	*10/15/20 14:25*	*4*
2-Fluorophenol (Surr)	*79*		*42 - 105*	*10/13/20 08:11*	*10/15/20 14:25*	*4*
2,4,6-Tribromophenol (Surr)	*47*		*31 - 105*	*10/13/20 08:11*	*10/15/20 14:25*	*4*
Nitrobenzene-d5 (Surr)	*77*		*53 - 105*	*10/13/20 08:11*	*10/15/20 14:25*	*4*
Phenol-d5 (Surr)	*70*		*47 - 105*	*10/13/20 08:11*	*10/15/20 14:25*	*4*
Terphenyl-d14 (Surr)	*81*		*46 - 105*	*10/13/20 08:11*	*10/15/20 14:25*	*4*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.89	J q	1.2	0.25	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total TCDD	31	q	1.2	0.25	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,7,8-PeCDD	15		5.9	1.2	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total PeCDD	120	q	5.9	1.2	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,4,7,8-HxCDD	59	B	5.9	0.71	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,6,7,8-HxCDD	170		5.9	0.64	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,7,8,9-HxCDD	95		5.9	0.60	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total HxCDD	1500	B	5.9	0.65	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,4,6,7,8-HpCDD	6400	G E B	50	50	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total HpCDD	16000	G B	50	50	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
OCDD	72000	G E B	28	28	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total TCDF	33		1.2	0.30	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,7,8-PeCDF	4.5	J	5.9	0.80	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
2,3,4,7,8-PeCDF	5.3	J	5.9	0.82	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total PeCDF	110		5.9	0.81	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,4,7,8-HxCDF	21	G	6.0	6.0	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,6,7,8-HxCDF	23		5.9	5.5	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
2,3,4,6,7,8-HxCDF	18		5.9	5.8	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,7,8,9-HxCDF	ND	G	6.1	6.1	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total HxCDF	1000	q	5.9	5.8	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,4,6,7,8-HpCDF	1100	G	9.5	9.5	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
1,2,3,4,7,8,9-HpCDF	74	G	11	11	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
Total HpCDF	4100	G	10	10	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1
OCDF	6000	E B	12	1.2	pg/g	☼	10/09/20 05:11	10/19/20 20:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-OCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-2,3,7,8-TCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-1,2,3,7,8-PeCDF	*89*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*94*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*40 - 135*	*10/09/20 05:11*	*10/19/20 20:29*	*1*

Client Sample ID: DW208SS

Lab Sample ID: 180-111869-8

Date Collected: 10/03/20 12:30
Matrix: Solid
Date Received: 10/06/20 09:00
Percent Solids: 81.8

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	2.6		1.2	0.24	pg/g	☼	10/09/20 05:11	10/15/20 16:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*81*		*40 - 135*	*10/09/20 05:11*	*10/15/20 16:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.2		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	81.8		0.1	0.1	%			10/12/20 21:23	1
Total Solids	82		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW209SS

Lab Sample ID: 180-111869-9

Date Collected: 10/03/20 15:34
Matrix: Solid
Date Received: 10/06/20 09:00
Percent Solids: 73.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		91	26	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Acenaphthylene	ND		91	20	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Anthracene	ND		91	23	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Benzo[a]anthracene	ND		91	41	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Benzo[b]fluoranthene	41	J	91	22	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Benzo[k]fluoranthene	ND		91	27	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Benzo[g,h,i]perylene	ND		91	19	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Benzo[a]pyrene	ND		91	39	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Chrysene	ND		91	50	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Dibenz(a,h)anthracene	ND		91	58	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Fluoranthene	37	J	91	24	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Fluorene	ND		91	18	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Indeno[1,2,3-cd]pyrene	ND		91	45	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Naphthalene	ND		91	18	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Phenanthrene	ND		91	24	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1
Pyrene	38	J	91	21	ug/Kg	☼	10/13/20 08:11	10/15/20 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*45 - 105*	*10/13/20 08:11*	*10/15/20 14:51*	*1*
2-Fluorophenol (Surr)	*75*		*42 - 105*	*10/13/20 08:11*	*10/15/20 14:51*	*1*
2,4,6-Tribromophenol (Surr)	*62*		*31 - 105*	*10/13/20 08:11*	*10/15/20 14:51*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/13/20 08:11*	*10/15/20 14:51*	*1*
Phenol-d5 (Surr)	*66*		*47 - 105*	*10/13/20 08:11*	*10/15/20 14:51*	*1*
Terphenyl-d14 (Surr)	*84*		*46 - 105*	*10/13/20 08:11*	*10/15/20 14:51*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	0.29	J q	1.3	0.11	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total TCDD	6.6	q	1.3	0.11	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,7,8-PeCDD	1.8	J	6.5	0.29	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total PeCDD	22	q	6.5	0.29	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,4,7,8-HxCDD	5.2	J B	6.5	0.33	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,6,7,8-HxCDD	12		6.5	0.30	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,7,8,9-HxCDD	6.0	J	6.5	0.28	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1

Client Sample ID: DW209SS

Date Collected: 10/03/20 15:34
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-9

Matrix: Solid
Percent Solids: 73.9

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HxCDD	140	B	6.5	0.30	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,4,6,7,8-HpCDD	360	B	6.5	3.3	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total HpCDD	910	B	6.5	3.3	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
OCDD	4600	B	13	2.0	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total TCDF	9.5	q	1.3	0.11	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,7,8-PeCDF	1.0	J	6.5	0.16	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
2,3,4,7,8-PeCDF	0.99	J	6.5	0.16	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total PeCDF	15	q	6.5	0.16	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,4,7,8-HxCDF	3.0	J	6.5	0.64	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,6,7,8-HxCDF	2.5	J	6.5	0.59	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
2,3,4,6,7,8-HxCDF	2.1	J	6.5	0.62	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,7,8,9-HxCDF	ND		6.5	0.65	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total HxCDF	58		6.5	0.63	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,4,6,7,8-HpCDF	65		6.5	0.65	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
1,2,3,4,7,8,9-HpCDF	3.4	J	6.5	0.75	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
Total HpCDF	200		6.5	0.70	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1
OCDF	210	B	13	0.16	pg/g	☼	10/09/20 05:11	10/19/20 21:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*76*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-OCDD	*80*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-2,3,7,8-TCDF	*90*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-1,2,3,7,8-PeCDF	*82*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-1,2,3,4,7,8-HxCDF	*92*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*75*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:14*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	0.80	J	1.3	0.21	pg/g	☼	10/09/20 05:11	10/15/20 16:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*82*		*40 - 135*	*10/09/20 05:11*	*10/15/20 16:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	26.1		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	73.9		0.1	0.1	%			10/12/20 21:23	1
Total Solids	74		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW210SS

Date Collected: 10/03/20 16:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-10

Matrix: Solid
Percent Solids: 69.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		96	28	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Acenaphthylene	ND		96	21	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Anthracene	ND		96	25	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Benzo[a]anthracene	ND		96	43	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1

Client Sample ID: DW210SS

Date Collected: 10/03/20 16:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-10

Matrix: Solid
Percent Solids: 69.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		96	24	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Benzo[k]fluoranthene	ND		96	29	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Benzo[g,h,i]perylene	ND		96	21	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Benzo[a]pyrene	ND		96	42	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Chrysene	ND		96	53	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Dibenz(a,h)anthracene	ND		96	61	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Fluoranthene	ND		96	25	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Fluorene	ND		96	19	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Indeno[1,2,3-cd]pyrene	ND		96	48	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Naphthalene	ND		96	19	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Phenanthrene	ND		96	26	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1
Pyrene	ND		96	23	ug/Kg	☼	10/13/20 08:11	10/15/20 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*45 - 105*	*10/13/20 08:11*	*10/15/20 15:17*	*1*
2-Fluorophenol (Surr)	*75*		*42 - 105*	*10/13/20 08:11*	*10/15/20 15:17*	*1*
2,4,6-Tribromophenol (Surr)	*59*		*31 - 105*	*10/13/20 08:11*	*10/15/20 15:17*	*1*
Nitrobenzene-d5 (Surr)	*71*		*53 - 105*	*10/13/20 08:11*	*10/15/20 15:17*	*1*
Phenol-d5 (Surr)	*65*		*47 - 105*	*10/13/20 08:11*	*10/15/20 15:17*	*1*
Terphenyl-d14 (Surr)	*82*		*46 - 105*	*10/13/20 08:11*	*10/15/20 15:17*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.5	0.10	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total TCDD	**1.5**	**q**	1.5	0.10	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,7,8-PeCDD	**0.57**	**J q**	7.4	0.21	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total PeCDD	**5.9**	**J q**	7.4	0.21	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,4,7,8-HxCDD	**1.8**	**J B**	7.4	0.18	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,6,7,8-HxCDD	**3.1**	**J**	7.4	0.16	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,7,8,9-HxCDD	**3.0**	**J**	7.4	0.15	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total HxCDD	**40**	**q B**	7.4	0.16	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,4,6,7,8-HpCDD	**91**	**B**	7.4	0.80	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total HpCDD	**230**	**B**	7.4	0.80	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
OCDD	**1900**	**B**	15	0.88	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total TCDF	**7.4**	**q**	1.5	0.10	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,7,8-PeCDF	**0.72**	**J**	7.4	0.14	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
2,3,4,7,8-PeCDF	**0.81**	**J q**	7.4	0.15	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total PeCDF	**9.3**	**q**	7.4	0.14	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,4,7,8-HxCDF	**3.3**	**J**	7.4	0.35	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,6,7,8-HxCDF	**1.3**	**J**	7.4	0.32	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
2,3,4,6,7,8-HxCDF	**1.5**	**J**	7.4	0.34	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,7,8,9-HxCDF	ND		7.4	0.36	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total HxCDF	**24**	**q**	7.4	0.34	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,4,6,7,8-HpCDF	**21**		7.4	0.37	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
1,2,3,4,7,8,9-HpCDF	**1.3**	**J**	7.4	0.43	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
Total HpCDF	**60**		7.4	0.40	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1
OCDF	**65**	**B**	15	0.13	pg/g	☼	10/09/20 05:11	10/19/20 21:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-1,2,3,7,8-PeCDD	*74*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*

Client Sample ID: DW210SS

Date Collected: 10/03/20 16:10
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-10

Matrix: Solid
Percent Solids: 69.6

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-1,2,3,6,7,8-HxCDD	*73*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-OCDD	*81*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-2,3,7,8-TCDF	*85*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-1,2,3,7,8-PeCDF	*81*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-1,2,3,4,7,8-HxCDF	*95*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*10/09/20 05:11*	*10/19/20 21:59*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.45**	**J**	1.5	0.18	pg/g	☼	10/09/20 05:11	10/15/20 17:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*80*		*40 - 135*	*10/09/20 05:11*	*10/15/20 17:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**30.4**		0.1	0.1	%			10/12/20 21:23	1
Percent Solids	**69.6**		0.1	0.1	%			10/12/20 21:23	1
Total Solids	**70**		0.50	0.50	%			10/12/20 21:23	1

Client Sample ID: DW210SS-EB

Date Collected: 10/03/20 17:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		2.0	0.68	ug/L		10/08/20 10:44	10/14/20 18:17	1
Acenaphthylene	ND		2.0	0.68	ug/L		10/08/20 10:44	10/14/20 18:17	1
Anthracene	ND		2.0	0.51	ug/L		10/08/20 10:44	10/14/20 18:17	1
Benzo[a]anthracene	ND		2.0	0.78	ug/L		10/08/20 10:44	10/14/20 18:17	1
Benzo[b]fluoranthene	ND		2.0	1.0	ug/L		10/08/20 10:44	10/14/20 18:17	1
Benzo[k]fluoranthene	ND		2.0	0.92	ug/L		10/08/20 10:44	10/14/20 18:17	1
Benzo[g,h,i]perylene	ND		2.0	0.72	ug/L		10/08/20 10:44	10/14/20 18:17	1
Benzo[a]pyrene	ND		2.0	0.55	ug/L		10/08/20 10:44	10/14/20 18:17	1
Chrysene	ND		2.0	0.84	ug/L		10/08/20 10:44	10/14/20 18:17	1
Dibenz(a,h)anthracene	ND		2.0	0.75	ug/L		10/08/20 10:44	10/14/20 18:17	1
Fluoranthene	ND		2.0	0.63	ug/L		10/08/20 10:44	10/14/20 18:17	1
Fluorene	ND		2.0	0.72	ug/L		10/08/20 10:44	10/14/20 18:17	1
Indeno[1,2,3-cd]pyrene	ND		2.0	0.89	ug/L		10/08/20 10:44	10/14/20 18:17	1
Naphthalene	ND		2.0	0.61	ug/L		10/08/20 10:44	10/14/20 18:17	1
Phenanthrene	ND		2.0	0.57	ug/L		10/08/20 10:44	10/14/20 18:17	1
Pyrene	ND		2.0	0.56	ug/L		10/08/20 10:44	10/14/20 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*92*		*44 - 105*	*10/08/20 10:44*	*10/14/20 18:17*	*1*
2-Fluorophenol (Surr)	*84*		*38 - 105*	*10/08/20 10:44*	*10/14/20 18:17*	*1*
2,4,6-Tribromophenol (Surr)	*110*		*38 - 111*	*10/08/20 10:44*	*10/14/20 18:17*	*1*
Nitrobenzene-d5 (Surr)	*91*		*45 - 108*	*10/08/20 10:44*	*10/14/20 18:17*	*1*
Phenol-d5 (Surr)	*91*		*40 - 105*	*10/08/20 10:44*	*10/14/20 18:17*	*1*
Terphenyl-d14 (Surr)	*98*		*20 - 128*	*10/08/20 10:44*	*10/14/20 18:17*	*1*

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111869-1

Client Sample ID: DW210SS-EB

Date Collected: 10/03/20 17:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111869-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	0.66	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total TCDD	ND		9.7	0.66	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,7,8-PeCDD	ND		49	0.83	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total PeCDD	ND		49	0.83	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,4,7,8-HxCDD	ND		49	0.91	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,6,7,8-HxCDD	ND		49	0.82	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,7,8,9-HxCDD	ND		49	0.77	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total HxCDD	ND		49	0.91	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,4,6,7,8-HpCDD	ND		49	1.2	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total HpCDD	ND		49	1.2	pg/L		10/09/20 09:46	10/20/20 06:01	1
OCDD	**15**	**J B**	97	1.1	pg/L		10/09/20 09:46	10/20/20 06:01	1
2,3,7,8-TCDF	ND		9.7	0.38	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total TCDF	ND		9.7	0.38	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,7,8-PeCDF	ND		49	0.40	pg/L		10/09/20 09:46	10/20/20 06:01	1
2,3,4,7,8-PeCDF	ND		49	0.42	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total PeCDF	ND		49	0.46	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,4,7,8-HxCDF	ND		49	0.74	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,6,7,8-HxCDF	ND		49	0.68	pg/L		10/09/20 09:46	10/20/20 06:01	1
2,3,4,6,7,8-HxCDF	ND		49	0.72	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,7,8,9-HxCDF	ND		49	0.76	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total HxCDF	ND		49	0.76	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,4,6,7,8-HpCDF	ND		49	0.30	pg/L		10/09/20 09:46	10/20/20 06:01	1
1,2,3,4,7,8,9-HpCDF	ND		49	0.34	pg/L		10/09/20 09:46	10/20/20 06:01	1
Total HpCDF	ND		49	0.34	pg/L		10/09/20 09:46	10/20/20 06:01	1
OCDF	ND		97	0.63	pg/L		10/09/20 09:46	10/20/20 06:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*90*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-1,2,3,7,8-PeCDD	*87*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*85*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*77*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-OCDD	*76*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-2,3,7,8-TCDF	*102*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-1,2,3,7,8-PeCDF	*96*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*107*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*85*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:01*	*1*

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

Lab Sample ID: MB 180-332720/1-A
Matrix: Water
Analysis Batch: 333370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.9	0.65	ug/L		10/08/20 10:30	10/14/20 11:37	1
Acenaphthylene	ND		1.9	0.65	ug/L		10/08/20 10:30	10/14/20 11:37	1
Anthracene	ND		1.9	0.49	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[a]anthracene	ND		1.9	0.75	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		10/08/20 10:30	10/14/20 11:37	1
Chrysene	ND		1.9	0.81	ug/L		10/08/20 10:30	10/14/20 11:37	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		10/08/20 10:30	10/14/20 11:37	1
Fluoranthene	ND		1.9	0.60	ug/L		10/08/20 10:30	10/14/20 11:37	1
Fluorene	ND		1.9	0.69	ug/L		10/08/20 10:30	10/14/20 11:37	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		10/08/20 10:30	10/14/20 11:37	1
Naphthalene	ND		1.9	0.59	ug/L		10/08/20 10:30	10/14/20 11:37	1
Phenanthrene	ND		1.9	0.55	ug/L		10/08/20 10:30	10/14/20 11:37	1
Pyrene	ND		1.9	0.54	ug/L		10/08/20 10:30	10/14/20 11:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*44 - 105*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
2-Fluorophenol (Surr)	*69*		*38 - 105*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*38 - 111*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
Nitrobenzene-d5 (Surr)	*68*		*45 - 108*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
Phenol-d5 (Surr)	*73*		*40 - 105*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
Terphenyl-d14 (Surr)	*72*		*20 - 128*	*10/08/20 10:30*	*10/14/20 11:37*	*1*

Lab Sample ID: LCS 180-332720/2-A
Matrix: Water
Analysis Batch: 333370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	144		ug/L		72	51 - 100
Acenaphthylene	200	148		ug/L		74	47 - 100
Anthracene	200	159		ug/L		80	51 - 100
Benzo[a]anthracene	200	153		ug/L		76	49 - 100
Benzo[b]fluoranthene	200	153		ug/L		77	47 - 100
Benzo[k]fluoranthene	200	144		ug/L		72	47 - 100
Benzo[g,h,i]perylene	200	158		ug/L		79	50 - 100
Benzo[a]pyrene	200	153		ug/L		76	49 - 100
Chrysene	200	156		ug/L		78	49 - 100
Dibenz(a,h)anthracene	200	160		ug/L		80	50 - 100
Fluoranthene	200	164		ug/L		82	52 - 100
Fluorene	200	143		ug/L		72	52 - 100
Indeno[1,2,3-cd]pyrene	200	159		ug/L		80	51 - 100
Naphthalene	200	140		ug/L		70	53 - 100
Phenanthrene	200	152		ug/L		76	49 - 100
Pyrene	200	157		ug/L		79	45 - 100

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

Lab Sample ID: LCS 180-332720/2-A
Matrix: Water
Analysis Batch: 333370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332720

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*44 - 105*
2-Fluorophenol (Surr)	*76*		*38 - 105*
2,4,6-Tribromophenol (Surr)	*87*		*38 - 111*
Nitrobenzene-d5 (Surr)	*70*		*45 - 108*
Phenol-d5 (Surr)	*79*		*40 - 105*
Terphenyl-d14 (Surr)	*78*		*20 - 128*

Lab Sample ID: MB 180-333189/1-A
Matrix: Solid
Analysis Batch: 333407

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		34	9.6	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Acenaphthylene	ND		34	7.3	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Anthracene	ND		34	8.7	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[a]anthracene	ND		34	15	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[b]fluoranthene	ND		34	8.2	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[k]fluoranthene	ND		34	10	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[g,h,i]perylene	ND		34	7.2	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[a]pyrene	ND		34	14	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Chrysene	ND		34	19	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Dibenz(a,h)anthracene	ND		34	21	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Fluoranthene	ND		34	8.8	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Fluorene	ND		34	6.6	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Indeno[1,2,3-cd]pyrene	ND		34	17	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Naphthalene	ND		34	6.5	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Phenanthrene	ND		34	9.0	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Pyrene	ND		34	7.9	ug/Kg		10/13/20 08:11	10/14/20 12:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*45 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
2-Fluorophenol (Surr)	*78*		*42 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
2,4,6-Tribromophenol (Surr)	*69*		*31 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
Phenol-d5 (Surr)	*70*		*47 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
Terphenyl-d14 (Surr)	*95*		*46 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*

Lab Sample ID: LCS 180-333189/2-A
Matrix: Solid
Analysis Batch: 333407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	3330	2820		ug/Kg		85	49 - 107
Acenaphthylene	3330	2790		ug/Kg		84	46 - 110
Anthracene	3330	2880		ug/Kg		87	47 - 116
Benzo[a]anthracene	3330	2680		ug/Kg		80	48 - 101
Benzo[b]fluoranthene	3330	2510		ug/Kg		75	46 - 100
Benzo[k]fluoranthene	3330	2630		ug/Kg		79	43 - 114

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

Lab Sample ID: LCS 180-333189/2-A
Matrix: Solid
Analysis Batch: 333407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[g,h,i]perylene	3330	2500		ug/Kg		75	49 - 111
Benzo[a]pyrene	3330	2640		ug/Kg		79	46 - 114
Chrysene	3330	2340		ug/Kg		70	49 - 100
Dibenz(a,h)anthracene	3330	2380		ug/Kg		71	49 - 112
Fluoranthene	3330	2650		ug/Kg		80	54 - 105
Fluorene	3330	2900		ug/Kg		87	50 - 106
Indeno[1,2,3-cd]pyrene	3330	2770		ug/Kg		83	49 - 112
Naphthalene	3330	2500		ug/Kg		75	53 - 100
Phenanthrene	3330	2740		ug/Kg		82	46 - 111
Pyrene	3330	2600		ug/Kg		78	49 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*45 - 105*
2-Fluorophenol (Surr)	*90*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*81*		*31 - 105*
Nitrobenzene-d5 (Surr)	*88*		*53 - 105*
Phenol-d5 (Surr)	*79*		*47 - 105*
Terphenyl-d14 (Surr)	*87*		*46 - 105*

Lab Sample ID: MB 180-333372/1-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		67	19	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Acenaphthylene	ND		67	15	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Anthracene	ND		67	17	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]anthracene	ND		67	30	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[b]fluoranthene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[k]fluoranthene	ND		67	20	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[g,h,i]perylene	ND		67	14	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]pyrene	ND		67	29	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Chrysene	ND		67	37	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Dibenz(a,h)anthracene	ND		67	43	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluoranthene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluorene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Indeno[1,2,3-cd]pyrene	ND		67	33	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Naphthalene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Phenanthrene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Pyrene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*45 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
2-Fluorophenol (Surr)	*64*		*42 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*31 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Nitrobenzene-d5 (Surr)	*70*		*53 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Phenol-d5 (Surr)	*61*		*47 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*

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

Lab Sample ID: LCS 180-333372/2-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	6670	5160		ug/Kg		77	49 - 107
Acenaphthylene	6670	5240		ug/Kg		79	46 - 110
Anthracene	6670	5380		ug/Kg		81	47 - 116
Benzo[a]anthracene	6670	4840		ug/Kg		73	48 - 101
Benzo[b]fluoranthene	6670	4630		ug/Kg		69	46 - 100
Benzo[k]fluoranthene	6670	4660		ug/Kg		70	43 - 114
Benzo[g,h,i]perylene	6670	4500		ug/Kg		68	49 - 111
Benzo[a]pyrene	6670	4770		ug/Kg		72	46 - 114
Chrysene	6670	4350		ug/Kg		65	49 - 100
Dibenz(a,h)anthracene	6670	4320		ug/Kg		65	49 - 112
Fluoranthene	6670	5050		ug/Kg		76	54 - 105
Fluorene	6670	5240		ug/Kg		79	50 - 106
Indeno[1,2,3-cd]pyrene	6670	5010		ug/Kg		75	49 - 112
Naphthalene	6670	4820		ug/Kg		72	53 - 100
Phenanthrene	6670	5130		ug/Kg		77	46 - 111
Pyrene	6670	4880		ug/Kg		73	49 - 100

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*45 - 105*
2-Fluorophenol (Surr)	*90*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*80*		*31 - 105*
Nitrobenzene-d5 (Surr)	*88*		*53 - 105*
Phenol-d5 (Surr)	*78*		*47 - 105*
Terphenyl-d14 (Surr)	*85*		*46 - 105*

Lab Sample ID: 180-111869-1 MS
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		8490	6260		ug/Kg	☼	74	49 - 107
Acenaphthylene	1100		8490	7510		ug/Kg	☼	76	46 - 110
Anthracene	1300		8490	7800		ug/Kg	☼	76	47 - 116
Benzo[a]anthracene	2200		8490	8980		ug/Kg	☼	80	48 - 101
Benzo[b]fluoranthene	4200		8490	10200		ug/Kg	☼	70	46 - 100
Benzo[k]fluoranthene	1500		8490	7750		ug/Kg	☼	74	43 - 114
Benzo[g,h,i]perylene	1700		8490	8240		ug/Kg	☼	76	49 - 111
Benzo[a]pyrene	2100		8490	8290		ug/Kg	☼	74	46 - 114
Chrysene	2900		8490	9090		ug/Kg	☼	73	49 - 100
Dibenz(a,h)anthracene	870		8490	6210		ug/Kg	☼	63	49 - 112
Fluoranthene	3500		8490	10000		ug/Kg	☼	77	54 - 105
Fluorene	100	J	8490	6020		ug/Kg	☼	70	50 - 106
Indeno[1,2,3-cd]pyrene	1700		8490	8690		ug/Kg	☼	82	49 - 112
Naphthalene	770		8490	6930		ug/Kg	☼	73	53 - 100
Phenanthrene	1700		8490	7630		ug/Kg	☼	70	46 - 111
Pyrene	3600		8490	11300		ug/Kg	☼	91	49 - 100

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

Lab Sample ID: 180-111869-1 MS
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 333372

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	*74*		*45 - 105*
2-Fluorophenol (Surr)	*88*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*62*		*31 - 105*
Nitrobenzene-d5 (Surr)	*87*		*53 - 105*
Phenol-d5 (Surr)	*77*		*47 - 105*
Terphenyl-d14 (Surr)	*80*		*46 - 105*

Lab Sample ID: 180-111869-1 MSD
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		8330	6180		ug/Kg	☼	74	49 - 107	1	20
Acenaphthylene	1100		8330	7690		ug/Kg	☼	79	46 - 110	2	20
Anthracene	1300		8330	7900		ug/Kg	☼	79	47 - 116	1	20
Benzo[a]anthracene	2200		8330	8770		ug/Kg	☼	79	48 - 101	2	21
Benzo[b]fluoranthene	4200		8330	10600		ug/Kg	☼	77	46 - 100	5	20
Benzo[k]fluoranthene	1500		8330	7750		ug/Kg	☼	75	43 - 114	0	20
Benzo[g,h,i]perylene	1700		8330	8320		ug/Kg	☼	79	49 - 111	1	19
Benzo[a]pyrene	2100		8330	8270		ug/Kg	☼	75	46 - 114	0	20
Chrysene	2900		8330	9070		ug/Kg	☼	75	49 - 100	0	20
Dibenz(a,h)anthracene	870		8330	6310		ug/Kg	☼	65	49 - 112	1	21
Fluoranthene	3500		8330	9930		ug/Kg	☼	78	54 - 105	1	20
Fluorene	100	J	8330	5960		ug/Kg	☼	70	50 - 106	1	19
Indeno[1,2,3-cd]pyrene	1700		8330	8810		ug/Kg	☼	85	49 - 112	1	19
Naphthalene	770		8330	6900		ug/Kg	☼	74	53 - 100	0	20
Phenanthrene	1700		8330	7670		ug/Kg	☼	72	46 - 111	1	20
Pyrene	3600		8330	11200		ug/Kg	☼	91	49 - 100	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	*77*		*45 - 105*
2-Fluorophenol (Surr)	*88*		*42 - 105*
2,4,6-Tribromophenol (Surr)	*63*		*31 - 105*
Nitrobenzene-d5 (Surr)	*90*		*53 - 105*
Phenol-d5 (Surr)	*80*		*47 - 105*
Terphenyl-d14 (Surr)	*82*		*46 - 105*

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

Lab Sample ID: MB 320-420127/1-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420127

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.21	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total TCDD	ND		1.0	0.21	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8-PeCDD	ND		5.0	0.14	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total PeCDD	ND		5.0	0.14	pg/g		10/09/20 05:11	10/13/20 02:53	1

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

Lab Sample ID: MB 320-420127/1-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420127

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3,4,7,8-HxCDD	0.262	J	5.0	0.036	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.034	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.032	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HxCDD	0.262	J	5.0	0.034	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,6,7,8-HpCDD	0.175	J q	5.0	0.051	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HpCDD	0.385	J q	5.0	0.051	pg/g		10/09/20 05:11	10/13/20 02:53	1
OCDD	0.873	J q	10	0.012	pg/g		10/09/20 05:11	10/13/20 02:53	1
2,3,7,8-TCDF	ND		1.0	0.13	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total TCDF	ND		1.0	0.13	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8-PeCDF	ND		5.0	0.082	pg/g		10/09/20 05:11	10/13/20 02:53	1
2,3,4,7,8-PeCDF	ND		5.0	0.083	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total PeCDF	ND		5.0	0.083	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.054	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.048	pg/g		10/09/20 05:11	10/13/20 02:53	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.050	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.052	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HxCDF	ND		5.0	0.054	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.034	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.038	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HpCDF	ND		5.0	0.038	pg/g		10/09/20 05:11	10/13/20 02:53	1
OCDF	0.807	J	10	0.12	pg/g		10/09/20 05:11	10/13/20 02:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*71*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-1,2,3,7,8-PeCDD	*61*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-1,2,3,6,7,8-HxCDD	*82*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-OCDD	*68*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-2,3,7,8-TCDF	*76*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-1,2,3,7,8-PeCDF	*63*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*78*		*40 - 135*	*10/09/20 05:11*	*10/13/20 02:53*	*1*

Lab Sample ID: LCS 320-420127/2-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	20.0	21.7		pg/g		108	77 - 130
1,2,3,7,8-PeCDD	100	104		pg/g		104	79 - 134
1,2,3,4,7,8-HxCDD	100	112		pg/g		112	65 - 144
1,2,3,6,7,8-HxCDD	100	108		pg/g		108	73 - 147
1,2,3,7,8,9-HxCDD	100	107		pg/g		107	80 - 143
1,2,3,4,6,7,8-HpCDD	100	108		pg/g		108	86 - 134
OCDD	200	217		pg/g		108	80 - 137
2,3,7,8-TCDF	20.0	23.3		pg/g		117	79 - 137
1,2,3,7,8-PeCDF	100	109		pg/g		109	81 - 134
2,3,4,7,8-PeCDF	100	107		pg/g		107	76 - 132
1,2,3,4,7,8-HxCDF	100	115		pg/g		115	72 - 140

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

Lab Sample ID: LCS 320-420127/2-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3,6,7,8-HxCDF	100	103		pg/g		103	63 - 152
2,3,4,6,7,8-HxCDF	100	120		pg/g		120	72 - 151
1,2,3,7,8,9-HxCDF	100	127		pg/g		127	72 - 152
1,2,3,4,6,7,8-HpCDF	100	106		pg/g		106	81 - 137
1,2,3,4,7,8,9-HpCDF	100	109		pg/g		109	79 - 139
OCDF	200	248		pg/g		124	75 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*72*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*75*		*40 - 135*
13C-OCDD	*92*		*40 - 135*
13C-2,3,7,8-TCDF	*81*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*70*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*81*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*82*		*40 - 135*

Lab Sample ID: 180-111869-1 MS
Matrix: Solid
Analysis Batch: 423056

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 420127

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	1.8		25.3	30.7		pg/g	☼	114	77 - 130
1,2,3,7,8-PeCDD	19		126	158		pg/g	☼	110	79 - 134
1,2,3,4,7,8-HxCDD	74	B	126	252		pg/g	☼	141	65 - 144
1,2,3,6,7,8-HxCDD	150		126	304		pg/g	☼	124	73 - 147
1,2,3,7,8,9-HxCDD	140	F1	126	332	F1	pg/g	☼	154	80 - 143
1,2,3,4,6,7,8-HpCDD	5100	E B G	126	5740	E 4 G	pg/g	☼	501	86 - 134
OCDD	54000	E B G	253	58900	E 4	pg/g	☼	2047	80 - 137
1,2,3,7,8-PeCDF	2.1	J	126	151		pg/g	☼	118	81 - 134
2,3,4,7,8-PeCDF	ND		126	155		pg/g	☼	123	76 - 132
1,2,3,4,7,8-HxCDF	21	q G	126	183		pg/g	☼	128	72 - 140
1,2,3,6,7,8-HxCDF	23	G	126	167		pg/g	☼	114	63 - 152
2,3,4,6,7,8-HxCDF	23	G	126	175		pg/g	☼	120	72 - 151
1,2,3,7,8,9-HxCDF	ND	G	126	140		pg/g	☼	111	72 - 152
1,2,3,4,6,7,8-HpCDF	990	G	126	1280	4 G	pg/g	☼	235	81 - 137
1,2,3,4,7,8,9-HpCDF	81	G	126	252	G	pg/g	☼	135	79 - 139
OCDF	4300	B	253	5150	E 4	pg/g	☼	328	75 - 141

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*88*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*89*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*78*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*92*		*40 - 135*
13C-OCDD	*106*		*40 - 135*
13C-2,3,7,8-TCDF	*106*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*97*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*101*		*40 - 135*

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

Lab Sample ID: 180-111869-1 MS
Matrix: Solid
Analysis Batch: 423056

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 420127

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C-1,2,3,4,6,7,8-HpCDF	*92*		*40 - 135*

Lab Sample ID: 180-111869-1 MSD
Matrix: Solid
Analysis Batch: 423056

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 420127

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	1.8		25.3	30.7		pg/g	☼	114	77 - 130	0	20
1,2,3,7,8-PeCDD	19		127	155		pg/g	☼	108	79 - 134	2	20
1,2,3,4,7,8-HxCDD	74	B	127	240		pg/g	☼	131	65 - 144	5	20
1,2,3,6,7,8-HxCDD	150		127	275		pg/g	☼	101	73 - 147	10	20
1,2,3,7,8,9-HxCDD	140	F1	127	308		pg/g	☼	135	80 - 143	8	20
1,2,3,4,6,7,8-HpCDD	5100	E B G	127	5250	E 4 G	pg/g	☼	116	86 - 134	9	20
OCDD	54000	E B G	253	54500	E 4	pg/g	☼	302	80 - 137	8	20
1,2,3,7,8-PeCDF	2.1	J	127	149		pg/g	☼	116	81 - 134	1	20
2,3,4,7,8-PeCDF	ND		127	150		pg/g	☼	119	76 - 132	3	20
1,2,3,4,7,8-HxCDF	21	q G	127	180		pg/g	☼	125	72 - 140	1	20
1,2,3,6,7,8-HxCDF	23	G	127	166		pg/g	☼	113	63 - 152	1	20
2,3,4,6,7,8-HxCDF	23	G	127	175		pg/g	☼	120	72 - 151	0	20
1,2,3,7,8,9-HxCDF	ND	G	127	142		pg/g	☼	113	72 - 152	2	20
1,2,3,4,6,7,8-HpCDF	990	G	127	1180	4 G	pg/g	☼	153	81 - 137	8	20
1,2,3,4,7,8,9-HpCDF	81	G	127	242	G	pg/g	☼	127	79 - 139	4	20
OCDF	4300	B	253	4520	4	pg/g	☼	83	75 - 141	13	20

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C-2,3,7,8-TCDD	*77*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*79*		*40 - 135*
13C-OCDD	*92*		*40 - 135*
13C-2,3,7,8-TCDF	*96*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*87*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*88*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*

Lab Sample ID: MB 320-420196/1-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420196

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.90	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total TCDD	ND		10	0.90	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8-PeCDD	ND		50	1.1	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total PeCDD	ND		50	1.1	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,7,8-HxCDD	1.84	J	50	0.98	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,6,7,8-HxCDD	ND		50	0.88	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8,9-HxCDD	ND		50	0.82	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HxCDD	1.84	J	50	0.89	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,6,7,8-HpCDD	ND		50	1.4	pg/L		10/09/20 09:46	10/20/20 03:01	1

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

Lab Sample ID: MB 320-420196/1-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420196

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDD	ND		50	1.4	pg/L		10/09/20 09:46	10/20/20 03:01	1
OCDD	18.4	J	100	1.5	pg/L		10/09/20 09:46	10/20/20 03:01	1
2,3,7,8-TCDF	ND		10	0.64	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total TCDF	ND		10	0.64	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8-PeCDF	ND		50	0.65	pg/L		10/09/20 09:46	10/20/20 03:01	1
2,3,4,7,8-PeCDF	ND		50	0.67	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total PeCDF	ND		50	0.73	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,7,8-HxCDF	ND		50	0.86	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,6,7,8-HxCDF	ND		50	0.80	pg/L		10/09/20 09:46	10/20/20 03:01	1
2,3,4,6,7,8-HxCDF	ND		50	0.83	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8,9-HxCDF	ND		50	0.88	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HxCDF	ND		50	0.88	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.44	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.51	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HpCDF	ND		50	0.51	pg/L		10/09/20 09:46	10/20/20 03:01	1
OCDF	ND		100	1.0	pg/L		10/09/20 09:46	10/20/20 03:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*93*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-1,2,3,7,8-PeCDD	*94*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-1,2,3,6,7,8-HxCDD	*91*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*86*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-OCDD	*91*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-2,3,7,8-TCDF	*110*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-1,2,3,7,8-PeCDF	*102*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-1,2,3,4,7,8-HxCDF	*115*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*95*		*40 - 135*	*10/09/20 09:46*	*10/20/20 03:01*	*1*

Lab Sample ID: LCS 320-420196/2-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	216		pg/L		108	64 - 142
1,2,3,7,8-PeCDD	1000	1050		pg/L		105	71 - 140
1,2,3,4,7,8-HxCDD	1000	1180		pg/L		118	56 - 146
1,2,3,6,7,8-HxCDD	1000	1170		pg/L		117	73 - 144
1,2,3,7,8,9-HxCDD	1000	1160		pg/L		116	71 - 151
1,2,3,4,6,7,8-HpCDD	1000	1110		pg/L		111	78 - 139
OCDD	2000	2080		pg/L		104	80 - 132
2,3,7,8-TCDF	200	215		pg/L		107	71 - 142
1,2,3,7,8-PeCDF	1000	1120		pg/L		112	76 - 135
2,3,4,7,8-PeCDF	1000	1130		pg/L		113	74 - 137
1,2,3,4,7,8-HxCDF	1000	1130		pg/L		113	75 - 131
1,2,3,6,7,8-HxCDF	1000	1070		pg/L		107	76 - 133
2,3,4,6,7,8-HxCDF	1000	1140		pg/L		114	80 - 137
1,2,3,7,8,9-HxCDF	1000	1100		pg/L		110	77 - 142
1,2,3,4,6,7,8-HpCDF	1000	1100		pg/L		110	79 - 133
1,2,3,4,7,8,9-HpCDF	1000	1070		pg/L		107	83 - 130

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

Lab Sample ID: LCS 320-420196/2-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420196

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
OCDF			2000	2120		pg/L		106	72 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*89*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*89*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*83*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*76*		*40 - 135*
13C-OCDD	*81*		*40 - 135*
13C-2,3,7,8-TCDF	*103*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*98*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*106*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*87*		*40 - 135*

Lab Sample ID: LCSD 320-420196/3-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420196

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			200	221		pg/L		111	64 - 142	2	20
1,2,3,7,8-PeCDD			1000	1050		pg/L		105	71 - 140	1	20
1,2,3,4,7,8-HxCDD			1000	1200		pg/L		120	56 - 146	2	20
1,2,3,6,7,8-HxCDD			1000	1150		pg/L		115	73 - 144	2	20
1,2,3,7,8,9-HxCDD			1000	1120		pg/L		112	71 - 151	4	20
1,2,3,4,6,7,8-HpCDD			1000	1070		pg/L		107	78 - 139	3	20
OCDD			2000	2040		pg/L		102	80 - 132	2	20
2,3,7,8-TCDF			200	218		pg/L		109	71 - 142	1	20
1,2,3,7,8-PeCDF			1000	1130		pg/L		113	76 - 135	1	20
2,3,4,7,8-PeCDF			1000	1140		pg/L		114	74 - 137	1	20
1,2,3,4,7,8-HxCDF			1000	1130		pg/L		113	75 - 131	0	20
1,2,3,6,7,8-HxCDF			1000	1070		pg/L		107	76 - 133	0	20
2,3,4,6,7,8-HxCDF			1000	1120		pg/L		112	80 - 137	2	20
1,2,3,7,8,9-HxCDF			1000	1070		pg/L		107	77 - 142	3	20
1,2,3,4,6,7,8-HpCDF			1000	1080		pg/L		108	79 - 133	1	20
1,2,3,4,7,8,9-HpCDF			1000	1050		pg/L		105	83 - 130	2	20
OCDF			2000	2140		pg/L		107	72 - 140	1	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*89*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*40 - 135*
13C-OCDD	*81*		*40 - 135*
13C-2,3,7,8-TCDF	*103*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*97*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*111*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*40 - 135*

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

Lab Sample ID: 180-111869-1 MS
Matrix: Solid
Analysis Batch: 422248

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 420127

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDF - RA	0.58	J	25.3	26.8		pg/g	☼	104	79 - 137

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*89*		*40 - 135*

Lab Sample ID: 180-111869-1 MSD
Matrix: Solid
Analysis Batch: 422248

Client Sample ID: DW202SS
Prep Type: Total/NA
Prep Batch: 420127

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDF - RA	0.58	J	25.3	27.3		pg/g	☼	106	79 - 137	2	20

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C-2,3,7,8-TCDF - RA	*79*		*40 - 135*

Method: 2540G - SM 2540G

Lab Sample ID: 180-111869-5 DU
Matrix: Solid
Analysis Batch: 333139

Client Sample ID: DW206SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	15.9		14.1	F3	%		12	10
Percent Solids	84.1		85.9		%		2	10

Method: SM 2540G - Total, Fixed, and Volatile Solids

Lab Sample ID: 180-111869-5 DU
Matrix: Solid
Analysis Batch: 333912

Client Sample ID: DW206SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Solids	84		85.9		%		2	10

GC/MS Semi VOA

Prep Batch: 332720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-11	DW210SS-EB	Total/NA	Water	3520C	
MB 180-332720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-332720/2-A	Lab Control Sample	Total/NA	Water	3520C	

Prep Batch: 333189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-2	DW203SS	Total/NA	Solid	3541	
180-111869-3	DW204SS	Total/NA	Solid	3541	
180-111869-4	DW205SS	Total/NA	Solid	3541	
180-111869-5	DW206SS	Total/NA	Solid	3541	
180-111869-6	DW207SS	Total/NA	Solid	3541	
180-111869-7	KD321SS	Total/NA	Solid	3541	
180-111869-8	DW208SS	Total/NA	Solid	3541	
180-111869-9	DW209SS	Total/NA	Solid	3541	
180-111869-10	DW210SS	Total/NA	Solid	3541	
MB 180-333189/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-333189/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 333370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-11	DW210SS-EB	Total/NA	Water	EPA 8270E	332720
MB 180-332720/1-A	Method Blank	Total/NA	Water	EPA 8270E	332720
LCS 180-332720/2-A	Lab Control Sample	Total/NA	Water	EPA 8270E	332720

Prep Batch: 333372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1	DW202SS	Total/NA	Solid	3541	
MB 180-333372/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	3541	
180-111869-1 MS	DW202SS	Total/NA	Solid	3541	
180-111869-1 MSD	DW202SS	Total/NA	Solid	3541	

Analysis Batch: 333407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-2	DW203SS	Total/NA	Solid	EPA 8270E	333189
MB 180-333189/1-A	Method Blank	Total/NA	Solid	EPA 8270E	333189
LCS 180-333189/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	333189

Analysis Batch: 333544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-3	DW204SS	Total/NA	Solid	EPA 8270E	333189
180-111869-4	DW205SS	Total/NA	Solid	EPA 8270E	333189
180-111869-5	DW206SS	Total/NA	Solid	EPA 8270E	333189
180-111869-6	DW207SS	Total/NA	Solid	EPA 8270E	333189
180-111869-7	KD321SS	Total/NA	Solid	EPA 8270E	333189
180-111869-8	DW208SS	Total/NA	Solid	EPA 8270E	333189
180-111869-9	DW209SS	Total/NA	Solid	EPA 8270E	333189
180-111869-10	DW210SS	Total/NA	Solid	EPA 8270E	333189

GC/MS Semi VOA

Analysis Batch: 333708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1	DW202SS	Total/NA	Solid	EPA 8270E	333372
MB 180-333372/1-A	Method Blank	Total/NA	Solid	EPA 8270E	333372
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	333372
180-111869-1 MS	DW202SS	Total/NA	Solid	EPA 8270E	333372
180-111869-1 MSD	DW202SS	Total/NA	Solid	EPA 8270E	333372

Specialty Organics

Prep Batch: 420127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1	DW202SS	Total/NA	Solid	8290	
180-111869-1 - RA	DW202SS	Total/NA	Solid	8290	
180-111869-2	DW203SS	Total/NA	Solid	8290	
180-111869-3	DW204SS	Total/NA	Solid	8290	
180-111869-3 - RA	DW204SS	Total/NA	Solid	8290	
180-111869-4	DW205SS	Total/NA	Solid	8290	
180-111869-4 - RA	DW205SS	Total/NA	Solid	8290	
180-111869-5	DW206SS	Total/NA	Solid	8290	
180-111869-6	DW207SS	Total/NA	Solid	8290	
180-111869-6 - RA	DW207SS	Total/NA	Solid	8290	
180-111869-7	KD321SS	Total/NA	Solid	8290	
180-111869-8	DW208SS	Total/NA	Solid	8290	
180-111869-8 - RA	DW208SS	Total/NA	Solid	8290	
180-111869-9	DW209SS	Total/NA	Solid	8290	
180-111869-9 - RA	DW209SS	Total/NA	Solid	8290	
180-111869-10	DW210SS	Total/NA	Solid	8290	
180-111869-10 - RA	DW210SS	Total/NA	Solid	8290	
MB 320-420127/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-420127/2-A	Lab Control Sample	Total/NA	Solid	8290	
180-111869-1 MS	DW202SS	Total/NA	Solid	8290	
180-111869-1 MS - RA	DW202SS	Total/NA	Solid	8290	
180-111869-1 MSD	DW202SS	Total/NA	Solid	8290	
180-111869-1 MSD - RA	DW202SS	Total/NA	Solid	8290	

Prep Batch: 420196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-11	DW210SS-EB	Total/NA	Water	8290	
MB 320-420196/1-A	Method Blank	Total/NA	Water	8290	
LCS 320-420196/2-A	Lab Control Sample	Total/NA	Water	8290	
LCSD 320-420196/3-A	Lab Control Sample Dup	Total/NA	Water	8290	

Analysis Batch: 421141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-420127/1-A	Method Blank	Total/NA	Solid	8290A	420127
LCS 320-420127/2-A	Lab Control Sample	Total/NA	Solid	8290A	420127

Analysis Batch: 422248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1 - RA	DW202SS	Total/NA	Solid	8290A	420127
180-111869-3 - RA	DW204SS	Total/NA	Solid	8290A	420127
180-111869-4 - RA	DW205SS	Total/NA	Solid	8290A	420127

Specialty Organics (Continued)

Analysis Batch: 422248 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-6 - RA	DW207SS	Total/NA	Solid	8290A	420127
180-111869-8 - RA	DW208SS	Total/NA	Solid	8290A	420127
180-111869-9 - RA	DW209SS	Total/NA	Solid	8290A	420127
180-111869-10 - RA	DW210SS	Total/NA	Solid	8290A	420127
180-111869-1 MS - RA	DW202SS	Total/NA	Solid	8290A	420127
180-111869-1 MSD - RA	DW202SS	Total/NA	Solid	8290A	420127

Analysis Batch: 423056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1	DW202SS	Total/NA	Solid	8290A	420127
180-111869-2	DW203SS	Total/NA	Solid	8290A	420127
180-111869-3	DW204SS	Total/NA	Solid	8290A	420127
180-111869-4	DW205SS	Total/NA	Solid	8290A	420127
180-111869-5	DW206SS	Total/NA	Solid	8290A	420127
180-111869-6	DW207SS	Total/NA	Solid	8290A	420127
180-111869-1 MS	DW202SS	Total/NA	Solid	8290A	420127
180-111869-1 MSD	DW202SS	Total/NA	Solid	8290A	420127

Analysis Batch: 423058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-7	KD321SS	Total/NA	Solid	8290A	420127
180-111869-8	DW208SS	Total/NA	Solid	8290A	420127
180-111869-9	DW209SS	Total/NA	Solid	8290A	420127
180-111869-10	DW210SS	Total/NA	Solid	8290A	420127

Analysis Batch: 423518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-11	DW210SS-EB	Total/NA	Water	8290A	420196
MB 320-420196/1-A	Method Blank	Total/NA	Water	8290A	420196
LCS 320-420196/2-A	Lab Control Sample	Total/NA	Water	8290A	420196
LCSD 320-420196/3-A	Lab Control Sample Dup	Total/NA	Water	8290A	420196

General Chemistry

Analysis Batch: 333139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1	DW202SS	Total/NA	Solid	2540G	
180-111869-2	DW203SS	Total/NA	Solid	2540G	
180-111869-3	DW204SS	Total/NA	Solid	2540G	
180-111869-4	DW205SS	Total/NA	Solid	2540G	
180-111869-5	DW206SS	Total/NA	Solid	2540G	
180-111869-6	DW207SS	Total/NA	Solid	2540G	
180-111869-7	KD321SS	Total/NA	Solid	2540G	
180-111869-8	DW208SS	Total/NA	Solid	2540G	
180-111869-9	DW209SS	Total/NA	Solid	2540G	
180-111869-10	DW210SS	Total/NA	Solid	2540G	
180-111869-5 DU	DW206SS	Total/NA	Solid	2540G	

Analysis Batch: 333912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-1	DW202SS	Total/NA	Solid	SM 2540G	

General Chemistry (Continued)

Analysis Batch: 333912 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111869-2	DW203SS	Total/NA	Solid	SM 2540G	
180-111869-3	DW204SS	Total/NA	Solid	SM 2540G	
180-111869-4	DW205SS	Total/NA	Solid	SM 2540G	
180-111869-5	DW206SS	Total/NA	Solid	SM 2540G	
180-111869-6	DW207SS	Total/NA	Solid	SM 2540G	
180-111869-7	KD321SS	Total/NA	Solid	SM 2540G	
180-111869-8	DW208SS	Total/NA	Solid	SM 2540G	
180-111869-9	DW209SS	Total/NA	Solid	SM 2540G	
180-111869-10	DW210SS	Total/NA	Solid	SM 2540G	
180-111869-5 DU	DW206SS	Total/NA	Solid	SM 2540G	

>> Select a Laboratory or Service Center <<

#N/A 301 Alpha Drive RIDC Park
#N/A
#N/A Pittsburgh, PA 15238
##

Chain of Custody Record

eurofins | Environment Testing America

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

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Jennifer Abrahams	Site Contact: Garrett Kuhl	Date:	COC No:
Your Company Name here: Tetra tech	Email: Jennifer.Abrahams@Tetratech.com	Lab Contact: Veronica Bartot	Carrier:	1 of 2 COCs
Address: 3101 Zinfandel Drive	Tel/Fax: 916-853-4526			TALS Project #:
City/State/Zip: Rancho Cordova, CA 95670	Analysis Turnaround Time: ☒ CALENDAR DAYS ☐ WORKING DAYS			Sampler: A. Morgan / G. Kuhl
(xxx) xxx-xxxx Phone: 916-853-4526	TAT if different from Below ____			For Lab Use Only:
(xxx) xxx-xxxx FAX	☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			Walk-in Client:
Project Name: Additional off-site Sampling				Lab Sampling:
Site: Grenada, MS				Job / SDG No.:
PO# 117-220145GA				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PAHs (EPA 8270)	(17) 2,3,7,8 TCDD/PCDF congeners (EPA 8290)	Sample Specific Notes:
DW20255	10/3/20	0842	C	soil	2	N	N	X	X	
DW20255 - MS/MSD	10/3/20	0842	C	soil	4	N	Y	X	X	
DW20355	10/3/20	0910	C	soil	2	N	N	X	X	
DW20455	10/3/20	0945	C	soil	2	N	N	X	X	
DW20555	10/3/20	1010	C	soil	2	N	N	X	X	
DW20655	10/3/20	1105	C	soil	2	N	N	X	X	
DW20755	10/3/20	1135	C	soil	2	N	N	X	X	
KD32155	10/3/20	1449	C	soil	2	N	N	X	X	
DW20855	10/3/20	1230	C	soil	2	N	N	X	X	
DW20955	10/3/20	1534	C	soil	2	N	N	X	X	
DW21055	10/3/20	1610	C	soil	2	N	N	X	X	
DW21055-EB	10/3/20	1750	G	water	4	N	N	X	X	

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

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

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

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

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

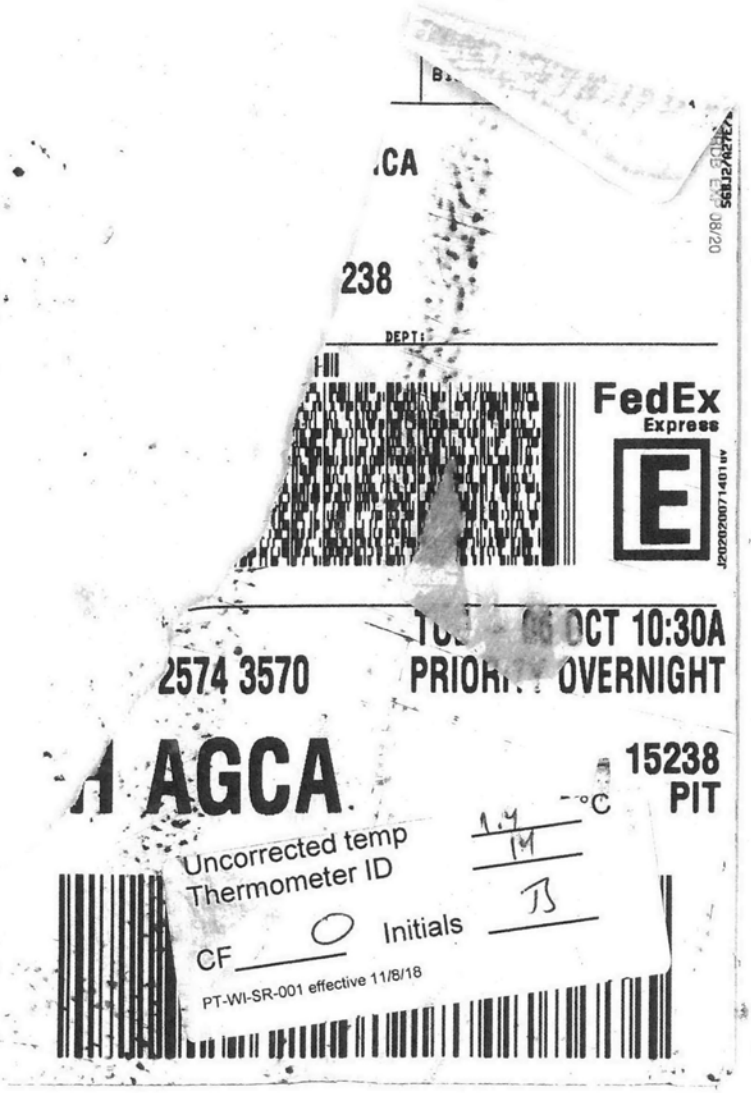
Special Instructions/QC Requirements & Comments:
Standard EDD

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
AS Morgan	Tetra tech	10/5/20	Fedex	Fedex	10/5/20 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
				STAT	10-6-20 9:00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.34, dated 8/3/2020

180-111869 Waybill



Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111869-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/16/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
DW202SS (180-111869-1)	10/3/20	08:42 Central		Solid			X		1	
DW202SS (180-111869-1MS)	10/3/20	08:42 Central	MS	Solid			X		1	
DW202SS (180-111869-1MSD)	10/3/20	08:42 Central	MSD	Solid			X		1	
DW203SS (180-111869-2)	10/3/20	09:10 Central		Solid			X		1	
DW204SS (180-111869-3)	10/3/20	09:45 Central		Solid			X		1	
DW205SS (180-111869-4)	10/3/20	10:10 Central		Solid			X		1	
DW206SS (180-111869-5)	10/3/20	11:05 Central		Solid			X		1	
DW207SS (180-111869-6)	10/3/20	11:35 Central		Solid			X		1	
KD321SS (180-111869-7)	10/3/20	14:49 Central		Solid			X		1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/20 1500			10/8/20 945	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7 / 2.2

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111869-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/16/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
DW208SS (180-111869-8)	10/3/20	12:30 Central		Solid			X		1	
DW209SS (180-111869-9)	10/3/20	15:34 Central		Solid			X		1	
DW210SS (180-111869-10)	10/3/20	16:10 Central		Solid			X		1	
DW210SS-EB (180-111869-11)	10/3/20	17:50 Central		Water				X	2	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/20 1500			10/8/20 0945	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
☐ Yes ☐ No		1.7122

Ver: 01/16/2019

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Sacramento Sample Receiving Notes

Tracking #: 1689 5103 2015

Job: _____

SO / PC / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: 4kG Corr. Factor: (+/-) 0.5 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 1.7 °C Corrected: 2.2 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: SD Date: 10/8/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: SD Date: 10/08/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: SD Date: 10/08/20

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111869-1

Login Number: 111869
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111869-1

Login Number: 111869
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/08/20 01:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 1.7c corr: 2.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-111870-1
Client Project/Site: Grenada, Mississippi

For:
Tetra Tech GEO
2969 Prospect Park Drive
Suite 100
Rancho Cordova, California 95670

Attn: Ms. Jennifer Abrahams, P.G.

Veronica Bortot

Authorized for release by:
10/15/2020 10:33:13 PM

Veronica Bortot, Senior Project Manager
(412)963-2435
Veronica.Bortot@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-111870-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111870-1

Comments
No additional comments.

Receipt
The samples were received on 10/6/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

Receipt Exceptions

One out of two container labels for the following sample not match the information listed on the Chain-of-Custody (COC): BR351SS. The container labels list a sample id of BR3513SS, while the COC lists BR351SS. The id on the COC was used.

GC/MS Semi VOA
Method 8270E: The following samples were diluted due to the nature of the sample matrix: BR500SS and BR861SS. Elevated reporting limits (RLs) are provided.

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

Dioxin
Method 8290A: The bracketing continuing calibration verification (CCV) associated with batch 320-421141 has 1,2,3,6,7,8-HxCDF with percent difference value that is between the method criteria of 20% to 25% deviation from the initial calibration curve. Per method guidelines, an average relative response factor (RRF) is calculated from the bracketing CCV and is used to quantitate any positive results in the associated samples for the affected analytes.

Method 8290A: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: BR500SS and BR861SS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

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

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

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

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

Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Qualifiers

GC/MS Semi VOA

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.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111870-7	BR500SS	Solid	10/04/20 16:15	10/06/20 09:00	
180-111870-8	BR861SS	Solid	10/04/20 17:00	10/06/20 09:00	

Method Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Method	Method Description	Protocol	Laboratory
EPA 8270E	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
2540G	SM 2540G	SM22	TAL PIT
SM 2540G	Total, Fixed, and Volatile Solids	SM	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
8290	Soxhlet Extraction of Dioxins and Furans	SW846	TAL SAC

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Client Sample ID: BR500SS
Date Collected: 10/04/20 16:15
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			332787	10/08/20 20:46	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333108	10/08/20 20:46	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR500SS
Date Collected: 10/04/20 16:15
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-7
Matrix: Solid
Percent Solids: 81.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			14.8 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		4	1 mL	1 mL	333407	10/14/20 13:17	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		9.81 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			421503	10/13/20 16:34	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			9.81 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			421141	10/13/20 04:29	AS	TAL SAC
	Instrument ID: DFS 1									

Client Sample ID: BR861SS
Date Collected: 10/04/20 17:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			332787	10/08/20 20:46	PMH	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			333108	10/08/20 20:46	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR861SS
Date Collected: 10/04/20 17:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-8
Matrix: Solid
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.3 g	5.0 mL	333189	10/13/20 08:11	SAT	TAL PIT
Total/NA	Analysis	EPA 8270E		5	1 mL	1 mL	333407	10/14/20 13:43	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		9.95 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			421503	10/13/20 17:12	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			9.95 g	20 uL	420127	10/09/20 05:11	FC	TAL SAC
Total/NA	Analysis	8290A		1			421141	10/13/20 05:16	AS	TAL SAC
	Instrument ID: DFS 1									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL PIT
- Batch Type: Prep
  - SAT = Stephen Tallam
- Batch Type: Analysis
  - PMH = Paloma Hoelzle
  - VVP = Vincent Piccolino

Lab: TAL SAC
- Batch Type: Prep
  - FC = Fue Chang
- Batch Type: Analysis
  - AS = Ajay Sharda

Client Sample ID: BR500SS

Date Collected: 10/04/20 16:15
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-7

Matrix: Solid
Percent Solids: 81.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		330	96	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Acenaphthylene	ND		330	73	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Anthracene	ND		330	86	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Benzo[a]anthracene	ND		330	150	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Benzo[b]fluoranthene	**180**	**J**	330	82	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Benzo[k]fluoranthene	ND		330	100	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Benzo[g,h,i]perylene	**77**	**J**	330	72	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Benzo[a]pyrene	ND		330	140	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Chrysene	ND		330	180	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Dibenz(a,h)anthracene	ND		330	210	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Fluoranthene	**98**	**J**	330	88	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Fluorene	ND		330	65	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Indeno[1,2,3-cd]pyrene	ND		330	170	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Naphthalene	ND		330	65	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Phenanthrene	ND		330	89	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4
Pyrene	**130**	**J**	330	79	ug/Kg	☼	10/13/20 08:11	10/14/20 13:17	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*61*		*45 - 105*	*10/13/20 08:11*	*10/14/20 13:17*	*4*
2-Fluorophenol (Surr)	*69*		*42 - 105*	*10/13/20 08:11*	*10/14/20 13:17*	*4*
2,4,6-Tribromophenol (Surr)	*45*		*31 - 105*	*10/13/20 08:11*	*10/14/20 13:17*	*4*
Nitrobenzene-d5 (Surr)	*69*		*53 - 105*	*10/13/20 08:11*	*10/14/20 13:17*	*4*
Phenol-d5 (Surr)	*61*		*47 - 105*	*10/13/20 08:11*	*10/14/20 13:17*	*4*
Terphenyl-d14 (Surr)	*70*		*46 - 105*	*10/13/20 08:11*	*10/14/20 13:17*	*4*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.37	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total TCDD	**3.1**	**q**	1.3	0.37	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,7,8-PeCDD	ND		6.3	0.55	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total PeCDD	**20**	**q**	6.3	0.55	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,4,7,8-HxCDD	**5.4**	**J B**	6.3	0.31	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,6,7,8-HxCDD	**15**		6.3	0.29	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,7,8,9-HxCDD	**8.3**		6.3	0.27	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total HxCDD	**130**	**B**	6.3	0.29	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,4,6,7,8-HpCDD	**390**	**B**	6.3	1.4	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total HpCDD	**980**	**B**	6.3	1.4	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
OCDD	**5200**	**E B**	13	3.9	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total TCDF	**25**	**q**	1.3	0.65	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,7,8-PeCDF	**3.0**	**J**	6.3	0.50	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
2,3,4,7,8-PeCDF	**4.6**	**J**	6.3	0.50	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total PeCDF	**48**	**q**	6.3	0.50	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,4,7,8-HxCDF	**10**		6.3	0.91	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,6,7,8-HxCDF	**5.9**	**J**	6.3	0.82	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
2,3,4,6,7,8-HxCDF	**9.4**		6.3	0.85	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,7,8,9-HxCDF	ND		6.3	0.88	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total HxCDF	**110**		6.3	0.86	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,4,6,7,8-HpCDF	**100**		6.3	1.1	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
1,2,3,4,7,8,9-HpCDF	**5.3**	**J**	6.3	1.2	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1
Total HpCDF	**260**		6.3	1.2	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1

Client Sample ID: BR500SS

Date Collected: 10/04/20 16:15
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-7

Matrix: Solid
Percent Solids: 81.3

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	**270**	**B**	13	0.31	pg/g	☼	10/09/20 05:11	10/13/20 04:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*80*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-1,2,3,7,8-PeCDD	*64*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-1,2,3,6,7,8-HxCDD	*86*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*77*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-OCDD	*93*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-2,3,7,8-TCDF	*82*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-1,2,3,7,8-PeCDF	*72*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-1,2,3,4,7,8-HxCDF	*85*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*83*		*40 - 135*	*10/09/20 05:11*	*10/13/20 04:29*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.6**		1.3	0.15	pg/g	☼	10/09/20 05:11	10/13/20 16:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*78*		*40 - 135*	*10/09/20 05:11*	*10/13/20 16:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**18.7**		0.1	0.1	%			10/08/20 20:46	1
Percent Solids	**81.3**		0.1	0.1	%			10/08/20 20:46	1
Total Solids	**81**		0.50	0.50	%			10/08/20 20:46	1

Client Sample ID: BR861SS

Date Collected: 10/04/20 17:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-8

Matrix: Solid
Percent Solids: 79.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		410	120	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Acenaphthylene	**420**		410	90	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Anthracene	**310**	**J**	410	110	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Benzo[a]anthracene	**1100**		410	180	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Benzo[b]fluoranthene	**1400**		410	100	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Benzo[k]fluoranthene	**730**		410	120	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Benzo[g,h,i]perylene	**560**		410	88	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Benzo[a]pyrene	**840**		410	180	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Chrysene	**1700**		410	230	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Dibenz(a,h)anthracene	**490**		410	260	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Fluoranthene	**1600**		410	110	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Fluorene	ND		410	81	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Indeno[1,2,3-cd]pyrene	**570**		410	200	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Naphthalene	ND		410	80	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Phenanthrene	**510**		410	110	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5
Pyrene	**1700**		410	97	ug/Kg	☼	10/13/20 08:11	10/14/20 13:43	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*45 - 105*	*10/13/20 08:11*	*10/14/20 13:43*	*5*
2-Fluorophenol (Surr)	*76*		*42 - 105*	*10/13/20 08:11*	*10/14/20 13:43*	*5*

Client Sample ID: BR861SS
Date Collected: 10/04/20 17:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-8
Matrix: Solid
Percent Solids: 79.8

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	46		31 - 105	10/13/20 08:11	10/14/20 13:43	5
Nitrobenzene-d5 (Surr)	73		53 - 105	10/13/20 08:11	10/14/20 13:43	5
Phenol-d5 (Surr)	66		47 - 105	10/13/20 08:11	10/14/20 13:43	5
Terphenyl-d14 (Surr)	77		46 - 105	10/13/20 08:11	10/14/20 13:43	5

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.32	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total TCDD	**6.7**	**q**	1.3	0.32	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,7,8-PeCDD	ND		6.3	0.57	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total PeCDD	**20**	**q**	6.3	0.57	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,4,7,8-HxCDD	**5.6**	**J B**	6.3	0.28	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,6,7,8-HxCDD	**18**		6.3	0.27	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,7,8,9-HxCDD	**10**		6.3	0.25	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total HxCDD	**160**	**B**	6.3	0.27	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,4,6,7,8-HpCDD	**570**	**B**	6.3	1.9	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total HpCDD	**1300**	**B**	6.3	1.9	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
OCDD	**6300**	**E B**	13	4.3	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total TCDF	**31**	**q**	1.3	0.64	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,7,8-PeCDF	ND		6.3	0.54	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
2,3,4,7,8-PeCDF	**4.8**	**J**	6.3	0.55	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total PeCDF	**50**	**q**	6.3	0.55	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,4,7,8-HxCDF	**11**		6.3	0.96	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,6,7,8-HxCDF	**6.9**		6.3	0.85	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
2,3,4,6,7,8-HxCDF	**9.8**		6.3	0.88	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,7,8,9-HxCDF	ND		6.3	0.92	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total HxCDF	**120**		6.3	0.90	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,4,6,7,8-HpCDF	**120**		6.3	1.1	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
1,2,3,4,7,8,9-HpCDF	**5.2**	**J**	6.3	1.2	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
Total HpCDF	**280**		6.3	1.2	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1
OCDF	**280**	**B**	13	0.32	pg/g	☼	10/09/20 05:11	10/13/20 05:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	78		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-1,2,3,7,8-PeCDD	68		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-1,2,3,6,7,8-HxCDD	88		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-1,2,3,4,6,7,8-HpCDD	81		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-OCDD	103		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-2,3,7,8-TCDF	82		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-1,2,3,7,8-PeCDF	78		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-1,2,3,4,7,8-HxCDF	89		40 - 135	10/09/20 05:11	10/13/20 05:16	1
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135	10/09/20 05:11	10/13/20 05:16	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.7**		1.3	0.18	pg/g	☼	10/09/20 05:11	10/13/20 17:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	78		40 - 135	10/09/20 05:11	10/13/20 17:12	1

Client Sample Results

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Client Sample ID: BR861SS
Date Collected: 10/04/20 17:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-8
Matrix: Solid
Percent Solids: 79.8

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.2		0.1	0.1	%			10/08/20 20:46	1
Percent Solids	79.8		0.1	0.1	%			10/08/20 20:46	1
Total Solids	80		0.50	0.50	%			10/08/20 20:46	1

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

Lab Sample ID: MB 180-333189/1-A
Matrix: Solid
Analysis Batch: 333407

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		34	9.6	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Acenaphthylene	ND		34	7.3	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Anthracene	ND		34	8.7	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[a]anthracene	ND		34	15	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[b]fluoranthene	ND		34	8.2	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[k]fluoranthene	ND		34	10	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[g,h,i]perylene	ND		34	7.2	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Benzo[a]pyrene	ND		34	14	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Chrysene	ND		34	19	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Dibenz(a,h)anthracene	ND		34	21	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Fluoranthene	ND		34	8.8	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Fluorene	ND		34	6.6	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Indeno[1,2,3-cd]pyrene	ND		34	17	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Naphthalene	ND		34	6.5	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Phenanthrene	ND		34	9.0	ug/Kg		10/13/20 08:11	10/14/20 12:25	1
Pyrene	ND		34	7.9	ug/Kg		10/13/20 08:11	10/14/20 12:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*45 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
2-Fluorophenol (Surr)	*78*		*42 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
2,4,6-Tribromophenol (Surr)	*69*		*31 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
Phenol-d5 (Surr)	*70*		*47 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*
Terphenyl-d14 (Surr)	*95*		*46 - 105*	*10/13/20 08:11*	*10/14/20 12:25*	*1*

Lab Sample ID: LCS 180-333189/2-A
Matrix: Solid
Analysis Batch: 333407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	3330	2820		ug/Kg		85	49 - 107
Acenaphthylene	3330	2790		ug/Kg		84	46 - 110
Anthracene	3330	2880		ug/Kg		87	47 - 116
Benzo[a]anthracene	3330	2680		ug/Kg		80	48 - 101
Benzo[b]fluoranthene	3330	2510		ug/Kg		75	46 - 100
Benzo[k]fluoranthene	3330	2630		ug/Kg		79	43 - 114
Benzo[g,h,i]perylene	3330	2500		ug/Kg		75	49 - 111
Benzo[a]pyrene	3330	2640		ug/Kg		79	46 - 114
Chrysene	3330	2340		ug/Kg		70	49 - 100
Dibenz(a,h)anthracene	3330	2380		ug/Kg		71	49 - 112
Fluoranthene	3330	2650		ug/Kg		80	54 - 105
Fluorene	3330	2900		ug/Kg		87	50 - 106
Indeno[1,2,3-cd]pyrene	3330	2770		ug/Kg		83	49 - 112
Naphthalene	3330	2500		ug/Kg		75	53 - 100
Phenanthrene	3330	2740		ug/Kg		82	46 - 111
Pyrene	3330	2600		ug/Kg		78	49 - 100

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

Lab Sample ID: LCS 180-333189/2-A
Matrix: Solid
Analysis Batch: 333407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333189

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		45 - 105
2-Fluorophenol (Surr)	90		42 - 105
2,4,6-Tribromophenol (Surr)	81		31 - 105
Nitrobenzene-d5 (Surr)	88		53 - 105
Phenol-d5 (Surr)	79		47 - 105
Terphenyl-d14 (Surr)	87		46 - 105

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

Lab Sample ID: MB 320-420127/1-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420127

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.21	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total TCDD	ND		1.0	0.21	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8-PeCDD	ND		5.0	0.14	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total PeCDD	ND		5.0	0.14	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,7,8-HxCDD	0.262	J	5.0	0.036	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.034	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.032	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HxCDD	0.262	J	5.0	0.034	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,6,7,8-HpCDD	0.175	J q	5.0	0.051	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HpCDD	0.385	J q	5.0	0.051	pg/g		10/09/20 05:11	10/13/20 02:53	1
OCDD	0.873	J q	10	0.012	pg/g		10/09/20 05:11	10/13/20 02:53	1
2,3,7,8-TCDF	ND		1.0	0.13	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total TCDF	ND		1.0	0.13	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8-PeCDF	ND		5.0	0.082	pg/g		10/09/20 05:11	10/13/20 02:53	1
2,3,4,7,8-PeCDF	ND		5.0	0.083	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total PeCDF	ND		5.0	0.083	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.054	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.048	pg/g		10/09/20 05:11	10/13/20 02:53	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.050	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.052	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HxCDF	ND		5.0	0.054	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.034	pg/g		10/09/20 05:11	10/13/20 02:53	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.038	pg/g		10/09/20 05:11	10/13/20 02:53	1
Total HpCDF	ND		5.0	0.038	pg/g		10/09/20 05:11	10/13/20 02:53	1
OCDF	0.807	J	10	0.12	pg/g		10/09/20 05:11	10/13/20 02:53	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	71		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-1,2,3,7,8-PeCDD	61		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-1,2,3,6,7,8-HxCDD	82		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-1,2,3,4,6,7,8-HpCDD	70		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-OCDD	68		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-2,3,7,8-TCDF	76		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-1,2,3,7,8-PeCDF	63		40 - 135	10/09/20 05:11	10/13/20 02:53	1
13C-1,2,3,4,7,8-HxCDF	83		40 - 135	10/09/20 05:11	10/13/20 02:53	1

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

Lab Sample ID: MB 320-420127/1-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420127

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	78		40 - 135	10/09/20 05:11	10/13/20 02:53	1

Lab Sample ID: LCS 320-420127/2-A
Matrix: Solid
Analysis Batch: 421141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420127

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			20.0	21.7		pg/g		108	77 - 130		
1,2,3,7,8-PeCDD			100	104		pg/g		104	79 - 134		
1,2,3,4,7,8-HxCDD			100	112		pg/g		112	65 - 144		
1,2,3,6,7,8-HxCDD			100	108		pg/g		108	73 - 147		
1,2,3,7,8,9-HxCDD			100	107		pg/g		107	80 - 143		
1,2,3,4,6,7,8-HpCDD			100	108		pg/g		108	86 - 134		
OCDD			200	217		pg/g		108	80 - 137		
2,3,7,8-TCDF			20.0	23.3		pg/g		117	79 - 137		
1,2,3,7,8-PeCDF			100	109		pg/g		109	81 - 134		
2,3,4,7,8-PeCDF			100	107		pg/g		107	76 - 132		
1,2,3,4,7,8-HxCDF			100	115		pg/g		115	72 - 140		
1,2,3,6,7,8-HxCDF			100	103		pg/g		103	63 - 152		
2,3,4,6,7,8-HxCDF			100	120		pg/g		120	72 - 151		
1,2,3,7,8,9-HxCDF			100	127		pg/g		127	72 - 152		
1,2,3,4,6,7,8-HpCDF			100	106		pg/g		106	81 - 137		
1,2,3,4,7,8,9-HpCDF			100	109		pg/g		109	79 - 139		
OCDF			200	248		pg/g		124	75 - 141		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	72		40 - 135
13C-1,2,3,7,8-PeCDD	64		40 - 135
13C-1,2,3,6,7,8-HxCDD	76		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	75		40 - 135
13C-OCDD	92		40 - 135
13C-2,3,7,8-TCDF	81		40 - 135
13C-1,2,3,7,8-PeCDF	70		40 - 135
13C-1,2,3,4,7,8-HxCDF	81		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	82		40 - 135

Method: 2540G - SM 2540G

Lab Sample ID: 180-111870-7 DU
Matrix: Solid
Analysis Batch: 332787

Client Sample ID: BR500SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	18.7			18.4		%				2	10
Percent Solids	81.3			81.6		%				0.4	10

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

Method: SM 2540G - Total, Fixed, and Volatile Solids

Lab Sample ID: 180-111870-7 DU
Matrix: Solid
Analysis Batch: 333108

Client Sample ID: BR500SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	81			81.6		%				0.4	10

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-1

GC/MS Semi VOA

Prep Batch: 333189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7	BR500SS	Total/NA	Solid	3541	
180-111870-8	BR861SS	Total/NA	Solid	3541	
MB 180-333189/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-333189/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 333407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7	BR500SS	Total/NA	Solid	EPA 8270E	333189
180-111870-8	BR861SS	Total/NA	Solid	EPA 8270E	333189
MB 180-333189/1-A	Method Blank	Total/NA	Solid	EPA 8270E	333189
LCS 180-333189/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	333189

Specialty Organics

Prep Batch: 420127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7 - RA	BR500SS	Total/NA	Solid	8290	
180-111870-7	BR500SS	Total/NA	Solid	8290	
180-111870-8 - RA	BR861SS	Total/NA	Solid	8290	
180-111870-8	BR861SS	Total/NA	Solid	8290	
MB 320-420127/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-420127/2-A	Lab Control Sample	Total/NA	Solid	8290	

Analysis Batch: 421141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7	BR500SS	Total/NA	Solid	8290A	420127
180-111870-8	BR861SS	Total/NA	Solid	8290A	420127
MB 320-420127/1-A	Method Blank	Total/NA	Solid	8290A	420127
LCS 320-420127/2-A	Lab Control Sample	Total/NA	Solid	8290A	420127

Analysis Batch: 421503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7 - RA	BR500SS	Total/NA	Solid	8290A	420127
180-111870-8 - RA	BR861SS	Total/NA	Solid	8290A	420127

General Chemistry

Analysis Batch: 332787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7	BR500SS	Total/NA	Solid	2540G	
180-111870-8	BR861SS	Total/NA	Solid	2540G	
180-111870-7 DU	BR500SS	Total/NA	Solid	2540G	

Analysis Batch: 333108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-7	BR500SS	Total/NA	Solid	SM 2540G	
180-111870-8	BR861SS	Total/NA	Solid	SM 2540G	
180-111870-7 DU	BR500SS	Total/NA	Solid	SM 2540G	

>> Select a Laboratory or Service Center <<

#N/A 301 Alpha Drive RIDC Park
#N/A Pittsburgh, PA 15238
#N/A
##

Chain of Custody Record

eurofins | Environment Testing America

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

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Jennifer Abrahams	Site Contact: Garrett Kuhl	Date:	COC No:
Your Company Name here: Tetra Tech	Email: Jennifer.Abrahams@Tetratech.com	Lab Contact: Veronica Burton	Carrier:	2 of 2 COCs
Address: 3101 Zinfandel Drive	Tel/Fax: 916-853-4526			TALS Project #:
City/State/Zip: Rancho Cordova, CA, 95670	Analysis Turnaround Time: ☒ CALENDAR DAYS ☐ WORKING DAYS			Sampler: A. Morgan / G. Kuhl
(xxx) xxx-xxxx Phone: 916-853-4526	TAT if different from Below: See notes			For Lab Use Only:
(xxx) xxx-xxxx FAX	☒ 2 weeks			Walk-in Client:
Project Name: Additional off-site Sampling	☒ 1 week			Lab Sampling:
Site: Grenada, MS	☐ 2 days			Job / SDG No.:
PO # 117-220145GA	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PAHs (EPA 8270)	(17) 2,3,7,8 PCDD/PCDF Congeners (EPA 8290)	Sample Specific Notes:
BREPA21SS	10/4/20	0845	C	Soil	2	N	N	X	X	Hold Sample
BR37SS	10/4/20	0940	C	Soil	2	N	N	X	X	Hold Sample
BR35SS	10/4/20	1114	C	Soil	2	N	N	X	X	Hold sample
BR31SS	10/4/20	1250	C	Soil	2	N	N	X	X	Hold Sample
BR28SS	10/4/20	1438	C	Soil	2	N	N	X	X	Hold Sample
BR23SS	10/4/20	1600	C	Soil	2	N	N	X	X	Hold Sample
BR50SS	10/4/20	1615	C	Soil	2	N	N	X	X	1 week TAT
BR86SS	10/4/20	1700	C	Soil	2	N	N	X	X	1 week TAT
BR23SS-EB	10/4/20	1655	G	water	4	N	N	X	X	2 week TAT

AS Morgan
10/5/20

180-111870 Chain of Custody

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

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

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

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

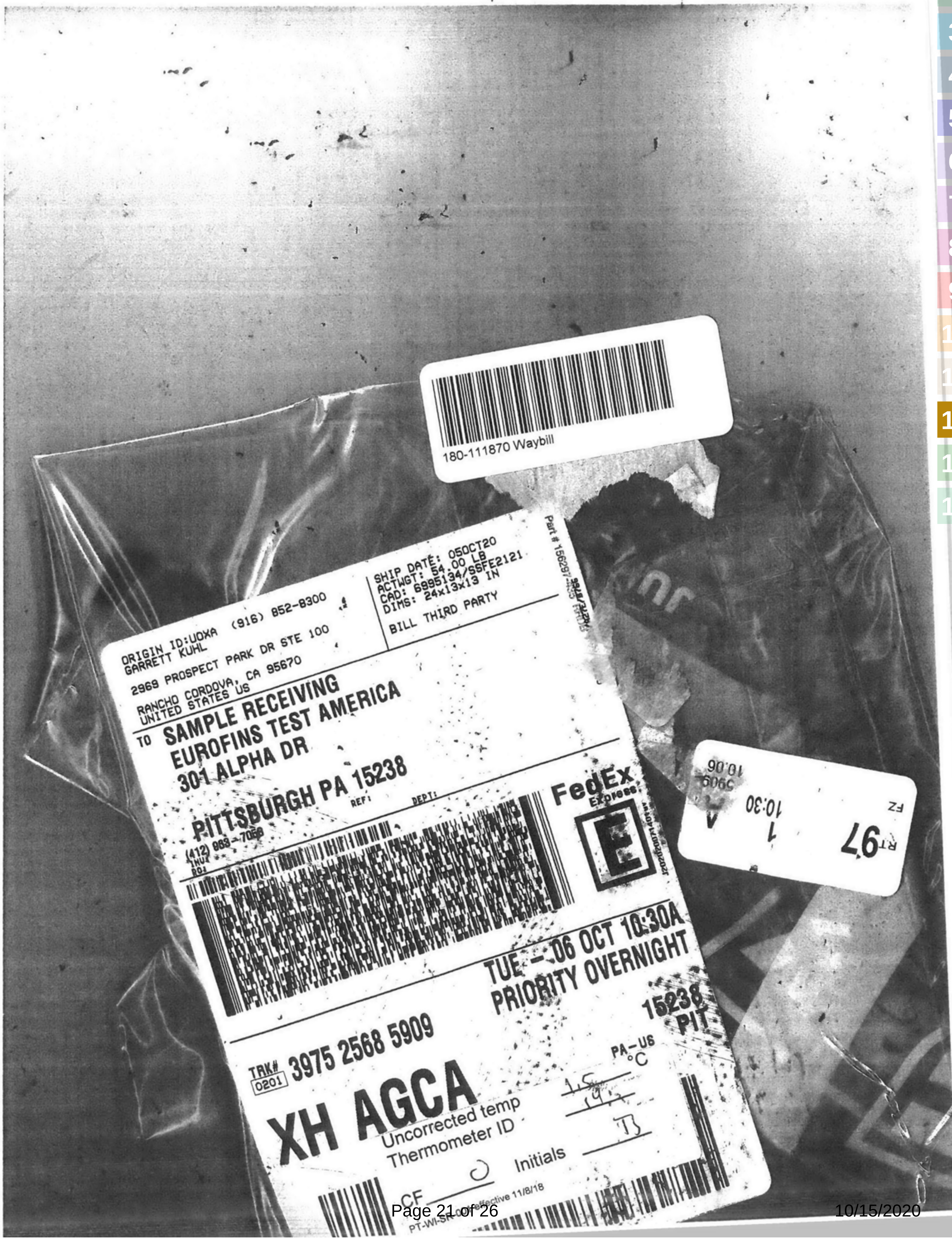
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Standard EDD

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
AS Morgan	Tetra tech	10/5/20 1700	Fed ex	Fed ex	10/5/20 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Fed ex waybill	FedEx	10.6.20 9:00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.34, dated 8/3/2020


180-111870 Waybill
ORIGIN ID:UOXA (916) 852-8300
GARRETT KUHL
2969 PROSPECT PARK DR STE 100
RANCHO CORDOVA, CA 95670
UNITED STATES US
SHIP DATE: 05OCT20
ACTWGT: 54.00 LB
CAD: 6995134/SSFE2121
DIMS: 24x13x13 IN
BILL THIRD PARTY
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
PITTSBURGH PA 15238
(412) 963-7058
REF:
DEPT:
FedEx
Express
E
TUE - 06 OCT 10:30A
PRIORITY OVERNIGHT
15238
PIT
PA-US
TRK# 0201 3975 2568 5909
XH AGCA
°C
Uncorrected temp
Thermometer ID
Initials
CF
PT-WI-SR-001 effective 11/8/18
RT97
FZ
10:30
1

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/12/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BR500SS (180-111870-7)	10/4/20	16:15 Central		Solid			X	1	
BR861SS (180-111870-8)	10/4/20	17:00 Central		Solid			X	1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/20 1500			10/8/20 0945	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1.7/2.2

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-2
Address: 880 Riverside Parkway,	Due Date Requested: 10/12/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BR233SS-EB (180-111870-9)	10/4/20	16:55 Central		Water			X	2	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/7/20 1500			10/8/20 945	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.7/2.2

Ver: 01/16/2019

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes


180-111870 Field Sheet

Tracking #: 1689 5103 2515

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: 4K6 Corr. Factor: (+/-) 0.5 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 1.7 °C Corrected: 2.2 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 10/8/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 10/08/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 10/08/20

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-1

Login Number: 111870
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-1

Login Number: 111870
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/08/20 01:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 1.7c corr: 2.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-111870-2
Client Project/Site: Grenada, Mississippi

For:
Tetra Tech GEO
2969 Prospect Park Drive
Suite 100
Rancho Cordova, California 95670

Attn: Ms. Jennifer Abrahams, P.G.

Veronica Bortot

Authorized for release by:
10/23/2020 11:15:56 AM

Veronica Bortot, Senior Project Manager
(412)963-2435
Veronica.Bortot@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-111870-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111870-2

Comments
No additional comments.

Receipt
The samples were received on 10/6/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

Receipt Exceptions

One out of two container labels for the following sample not match the information listed on the Chain-of-Custody (COC): BR351SS. The container labels list a sample id of BR3513SS, while the COC lists BR351SS. The id on the COC was used.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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

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

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

Definitions/Glossary

Client: Tetra Tech GEO
Job ID: 180-111870-2
Project/Site: Grenada, Mississippi

Qualifiers

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111870-2
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	01-01-21
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111870-2
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Eurofins TestAmerica, Pittsburgh

Sample Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111870-9	BR233SS-EB	Water	10/04/20 16:55	10/06/20 09:00	

Method Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-2

Method	Method Description	Protocol	Laboratory
EPA 8270E	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PIT
8290	Separatory Funnel (Liquid-Liquid) Extraction of Dioxins and Furans	SW846	TAL SAC

Protocol References:

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-2

Client Sample ID: BR233SS-EB

Date Collected: 10/04/20 16:55
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			270 mL	2.5 mL	332720	10/08/20 10:44	BJT	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333370	10/14/20 18:44	VVP	TAL PIT
	Instrument ID: CH732									
Total/NA	Prep	8290			1026.6 mL	20 uL	420196	10/09/20 09:46	RDR	TAL SAC
Total/NA	Analysis	8290A		1			423518	10/20/20 06:46	AS	TAL SAC
	Instrument ID: 10D5									

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL PIT

Batch Type: Prep

BJT = Bill Trout

Batch Type: Analysis

VVP = Vincent Piccolino

Lab: TAL SAC

Batch Type: Prep

RDR = Robert Royce

Batch Type: Analysis

AS = Ajay Sharda

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-2

Client Sample ID: BR233SS-EB

Date Collected: 10/04/20 16:55
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-9

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.8	0.60	ug/L		10/08/20 10:44	10/14/20 18:44	1
Acenaphthylene	ND		1.8	0.60	ug/L		10/08/20 10:44	10/14/20 18:44	1
Anthracene	ND		1.8	0.45	ug/L		10/08/20 10:44	10/14/20 18:44	1
Benzo[a]anthracene	ND		1.8	0.69	ug/L		10/08/20 10:44	10/14/20 18:44	1
Benzo[b]fluoranthene	ND		1.8	0.90	ug/L		10/08/20 10:44	10/14/20 18:44	1
Benzo[k]fluoranthene	ND		1.8	0.81	ug/L		10/08/20 10:44	10/14/20 18:44	1
Benzo[g,h,i]perylene	ND		1.8	0.64	ug/L		10/08/20 10:44	10/14/20 18:44	1
Benzo[a]pyrene	ND		1.8	0.49	ug/L		10/08/20 10:44	10/14/20 18:44	1
Chrysene	ND		1.8	0.75	ug/L		10/08/20 10:44	10/14/20 18:44	1
Dibenz(a,h)anthracene	ND		1.8	0.67	ug/L		10/08/20 10:44	10/14/20 18:44	1
Fluoranthene	ND		1.8	0.56	ug/L		10/08/20 10:44	10/14/20 18:44	1
Fluorene	ND		1.8	0.64	ug/L		10/08/20 10:44	10/14/20 18:44	1
Indeno[1,2,3-cd]pyrene	ND		1.8	0.79	ug/L		10/08/20 10:44	10/14/20 18:44	1
Naphthalene	ND		1.8	0.55	ug/L		10/08/20 10:44	10/14/20 18:44	1
Phenanthrene	ND		1.8	0.51	ug/L		10/08/20 10:44	10/14/20 18:44	1
Pyrene	ND		1.8	0.50	ug/L		10/08/20 10:44	10/14/20 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*96*		*44 - 105*	*10/08/20 10:44*	*10/14/20 18:44*	*1*
2-Fluorophenol (Surr)	*90*		*38 - 105*	*10/08/20 10:44*	*10/14/20 18:44*	*1*
2,4,6-Tribromophenol (Surr)	*108*		*38 - 111*	*10/08/20 10:44*	*10/14/20 18:44*	*1*
Nitrobenzene-d5 (Surr)	*92*		*45 - 108*	*10/08/20 10:44*	*10/14/20 18:44*	*1*
Phenol-d5 (Surr)	*94*		*40 - 105*	*10/08/20 10:44*	*10/14/20 18:44*	*1*
Terphenyl-d14 (Surr)	*95*		*20 - 128*	*10/08/20 10:44*	*10/14/20 18:44*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		9.7	1.1	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total TCDD	ND		9.7	1.1	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,7,8-PeCDD	ND		49	1.9	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total PeCDD	ND		49	1.9	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,4,7,8-HxCDD	ND		49	1.8	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,6,7,8-HxCDD	ND		49	1.6	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,7,8,9-HxCDD	ND		49	1.5	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total HxCDD	ND		49	1.8	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,4,6,7,8-HpCDD	ND		49	1.9	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total HpCDD	ND		49	1.9	pg/L		10/09/20 09:46	10/20/20 06:46	1
OCDD	**35**	**J B**	97	1.8	pg/L		10/09/20 09:46	10/20/20 06:46	1
2,3,7,8-TCDF	ND		9.7	0.65	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total TCDF	ND		9.7	0.65	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,7,8-PeCDF	ND		49	1.1	pg/L		10/09/20 09:46	10/20/20 06:46	1
2,3,4,7,8-PeCDF	ND		49	1.2	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total PeCDF	ND		49	1.2	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,4,7,8-HxCDF	ND		49	1.2	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,6,7,8-HxCDF	ND		49	1.1	pg/L		10/09/20 09:46	10/20/20 06:46	1
2,3,4,6,7,8-HxCDF	ND		49	1.2	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,7,8,9-HxCDF	ND		49	1.3	pg/L		10/09/20 09:46	10/20/20 06:46	1
Total HxCDF	ND		49	1.3	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,4,6,7,8-HpCDF	ND		49	0.58	pg/L		10/09/20 09:46	10/20/20 06:46	1
1,2,3,4,7,8,9-HpCDF	ND		49	0.66	pg/L		10/09/20 09:46	10/20/20 06:46	1

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-2

Client Sample ID: BR233SS-EB
Date Collected: 10/04/20 16:55
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	ND		49	0.66	pg/L		10/09/20 09:46	10/20/20 06:46	1
OCDF	ND		97	1.0	pg/L		10/09/20 09:46	10/20/20 06:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*89*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-1,2,3,7,8-PeCDD	*87*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-OCDD	*82*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-2,3,7,8-TCDF	*102*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-1,2,3,7,8-PeCDF	*94*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-1,2,3,4,7,8-HxCDF	*111*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*92*		*40 - 135*	*10/09/20 09:46*	*10/20/20 06:46*	*1*

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

Lab Sample ID: MB 180-332720/1-A
Matrix: Water
Analysis Batch: 333370

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 332720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.9	0.65	ug/L		10/08/20 10:30	10/14/20 11:37	1
Acenaphthylene	ND		1.9	0.65	ug/L		10/08/20 10:30	10/14/20 11:37	1
Anthracene	ND		1.9	0.49	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[a]anthracene	ND		1.9	0.75	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		10/08/20 10:30	10/14/20 11:37	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		10/08/20 10:30	10/14/20 11:37	1
Chrysene	ND		1.9	0.81	ug/L		10/08/20 10:30	10/14/20 11:37	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		10/08/20 10:30	10/14/20 11:37	1
Fluoranthene	ND		1.9	0.60	ug/L		10/08/20 10:30	10/14/20 11:37	1
Fluorene	ND		1.9	0.69	ug/L		10/08/20 10:30	10/14/20 11:37	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		10/08/20 10:30	10/14/20 11:37	1
Naphthalene	ND		1.9	0.59	ug/L		10/08/20 10:30	10/14/20 11:37	1
Phenanthrene	ND		1.9	0.55	ug/L		10/08/20 10:30	10/14/20 11:37	1
Pyrene	ND		1.9	0.54	ug/L		10/08/20 10:30	10/14/20 11:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*70*		*44 - 105*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
2-Fluorophenol (Surr)	*69*		*38 - 105*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
2,4,6-Tribromophenol (Surr)	*68*		*38 - 111*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
Nitrobenzene-d5 (Surr)	*68*		*45 - 108*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
Phenol-d5 (Surr)	*73*		*40 - 105*	*10/08/20 10:30*	*10/14/20 11:37*	*1*
Terphenyl-d14 (Surr)	*72*		*20 - 128*	*10/08/20 10:30*	*10/14/20 11:37*	*1*

Lab Sample ID: LCS 180-332720/2-A
Matrix: Water
Analysis Batch: 333370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	144		ug/L		72	51 - 100
Acenaphthylene	200	148		ug/L		74	47 - 100
Anthracene	200	159		ug/L		80	51 - 100
Benzo[a]anthracene	200	153		ug/L		76	49 - 100
Benzo[b]fluoranthene	200	153		ug/L		77	47 - 100
Benzo[k]fluoranthene	200	144		ug/L		72	47 - 100
Benzo[g,h,i]perylene	200	158		ug/L		79	50 - 100
Benzo[a]pyrene	200	153		ug/L		76	49 - 100
Chrysene	200	156		ug/L		78	49 - 100
Dibenz(a,h)anthracene	200	160		ug/L		80	50 - 100
Fluoranthene	200	164		ug/L		82	52 - 100
Fluorene	200	143		ug/L		72	52 - 100
Indeno[1,2,3-cd]pyrene	200	159		ug/L		80	51 - 100
Naphthalene	200	140		ug/L		70	53 - 100
Phenanthrene	200	152		ug/L		76	49 - 100
Pyrene	200	157		ug/L		79	45 - 100

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

Lab Sample ID: LCS 180-332720/2-A
Matrix: Water
Analysis Batch: 333370

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 332720

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	70		44 - 105
2-Fluorophenol (Surr)	76		38 - 105
2,4,6-Tribromophenol (Surr)	87		38 - 111
Nitrobenzene-d5 (Surr)	70		45 - 108
Phenol-d5 (Surr)	79		40 - 105
Terphenyl-d14 (Surr)	78		20 - 128

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

Lab Sample ID: MB 320-420196/1-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420196

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		10	0.90	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total TCDD	ND		10	0.90	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8-PeCDD	ND		50	1.1	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total PeCDD	ND		50	1.1	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,7,8-HxCDD	1.84	J	50	0.98	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,6,7,8-HxCDD	ND		50	0.88	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8,9-HxCDD	ND		50	0.82	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HxCDD	1.84	J	50	0.89	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,6,7,8-HpCDD	ND		50	1.4	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HpCDD	ND		50	1.4	pg/L		10/09/20 09:46	10/20/20 03:01	1
OCDD	18.4	J	100	1.5	pg/L		10/09/20 09:46	10/20/20 03:01	1
2,3,7,8-TCDF	ND		10	0.64	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total TCDF	ND		10	0.64	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8-PeCDF	ND		50	0.65	pg/L		10/09/20 09:46	10/20/20 03:01	1
2,3,4,7,8-PeCDF	ND		50	0.67	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total PeCDF	ND		50	0.73	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,7,8-HxCDF	ND		50	0.86	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,6,7,8-HxCDF	ND		50	0.80	pg/L		10/09/20 09:46	10/20/20 03:01	1
2,3,4,6,7,8-HxCDF	ND		50	0.83	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,7,8,9-HxCDF	ND		50	0.88	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HxCDF	ND		50	0.88	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,6,7,8-HpCDF	ND		50	0.44	pg/L		10/09/20 09:46	10/20/20 03:01	1
1,2,3,4,7,8,9-HpCDF	ND		50	0.51	pg/L		10/09/20 09:46	10/20/20 03:01	1
Total HpCDF	ND		50	0.51	pg/L		10/09/20 09:46	10/20/20 03:01	1
OCDF	ND		100	1.0	pg/L		10/09/20 09:46	10/20/20 03:01	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	93		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-1,2,3,7,8-PeCDD	94		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-1,2,3,6,7,8-HxCDD	91		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-1,2,3,4,6,7,8-HpCDD	86		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-OCDD	91		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-2,3,7,8-TCDF	110		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-1,2,3,7,8-PeCDF	102		40 - 135	10/09/20 09:46	10/20/20 03:01	1
13C-1,2,3,4,7,8-HxCDF	115		40 - 135	10/09/20 09:46	10/20/20 03:01	1

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

Lab Sample ID: MB 320-420196/1-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420196

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	95		40 - 135	10/09/20 09:46	10/20/20 03:01	1

Lab Sample ID: LCS 320-420196/2-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,7,8-TCDD	200	216		pg/L		108	64 - 142
1,2,3,7,8-PeCDD	1000	1050		pg/L		105	71 - 140
1,2,3,4,7,8-HxCDD	1000	1180		pg/L		118	56 - 146
1,2,3,6,7,8-HxCDD	1000	1170		pg/L		117	73 - 144
1,2,3,7,8,9-HxCDD	1000	1160		pg/L		116	71 - 151
1,2,3,4,6,7,8-HpCDD	1000	1110		pg/L		111	78 - 139
OCDD	2000	2080		pg/L		104	80 - 132
2,3,7,8-TCDF	200	215		pg/L		107	71 - 142
1,2,3,7,8-PeCDF	1000	1120		pg/L		112	76 - 135
2,3,4,7,8-PeCDF	1000	1130		pg/L		113	74 - 137
1,2,3,4,7,8-HxCDF	1000	1130		pg/L		113	75 - 131
1,2,3,6,7,8-HxCDF	1000	1070		pg/L		107	76 - 133
2,3,4,6,7,8-HxCDF	1000	1140		pg/L		114	80 - 137
1,2,3,7,8,9-HxCDF	1000	1100		pg/L		110	77 - 142
1,2,3,4,6,7,8-HpCDF	1000	1100		pg/L		110	79 - 133
1,2,3,4,7,8,9-HpCDF	1000	1070		pg/L		107	83 - 130
OCDF	2000	2120		pg/L		106	72 - 140

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	89		40 - 135
13C-1,2,3,7,8-PeCDD	89		40 - 135
13C-1,2,3,6,7,8-HxCDD	83		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	76		40 - 135
13C-OCDD	81		40 - 135
13C-2,3,7,8-TCDF	103		40 - 135
13C-1,2,3,7,8-PeCDF	98		40 - 135
13C-1,2,3,4,7,8-HxCDF	106		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	87		40 - 135

Lab Sample ID: LCSD 320-420196/3-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420196

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD	200	221		pg/L		111	64 - 142	2	20
1,2,3,7,8-PeCDD	1000	1050		pg/L		105	71 - 140	1	20
1,2,3,4,7,8-HxCDD	1000	1200		pg/L		120	56 - 146	2	20
1,2,3,6,7,8-HxCDD	1000	1150		pg/L		115	73 - 144	2	20
1,2,3,7,8,9-HxCDD	1000	1120		pg/L		112	71 - 151	4	20
1,2,3,4,6,7,8-HpCDD	1000	1070		pg/L		107	78 - 139	3	20
OCDD	2000	2040		pg/L		102	80 - 132	2	20
2,3,7,8-TCDF	200	218		pg/L		109	71 - 142	1	20

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

Lab Sample ID: LCSD 320-420196/3-A
Matrix: Water
Analysis Batch: 423518

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420196

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,7,8-PeCDF			1000	1130		pg/L		113	76 - 135	1	20
2,3,4,7,8-PeCDF			1000	1140		pg/L		114	74 - 137	1	20
1,2,3,4,7,8-HxCDF			1000	1130		pg/L		113	75 - 131	0	20
1,2,3,6,7,8-HxCDF			1000	1070		pg/L		107	76 - 133	0	20
2,3,4,6,7,8-HxCDF			1000	1120		pg/L		112	80 - 137	2	20
1,2,3,7,8,9-HxCDF			1000	1070		pg/L		107	77 - 142	3	20
1,2,3,4,6,7,8-HpCDF			1000	1080		pg/L		108	79 - 133	1	20
1,2,3,4,7,8,9-HpCDF			1000	1050		pg/L		105	83 - 130	2	20
OCDF			2000	2140		pg/L		107	72 - 140	1	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*89*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*88*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*88*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*80*		*40 - 135*
13C-OCDD	*81*		*40 - 135*
13C-2,3,7,8-TCDF	*103*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*97*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*111*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*90*		*40 - 135*

QC Association Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-2

GC/MS Semi VOA

Prep Batch: 332720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-9	BR233SS-EB	Total/NA	Water	3520C	
MB 180-332720/1-A	Method Blank	Total/NA	Water	3520C	
LCS 180-332720/2-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 333370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-9	BR233SS-EB	Total/NA	Water	EPA 8270E	332720
MB 180-332720/1-A	Method Blank	Total/NA	Water	EPA 8270E	332720
LCS 180-332720/2-A	Lab Control Sample	Total/NA	Water	EPA 8270E	332720

Specialty Organics

Prep Batch: 420196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-9	BR233SS-EB	Total/NA	Water	8290	
MB 320-420196/1-A	Method Blank	Total/NA	Water	8290	
LCS 320-420196/2-A	Lab Control Sample	Total/NA	Water	8290	
LCSD 320-420196/3-A	Lab Control Sample Dup	Total/NA	Water	8290	

Analysis Batch: 423518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-9	BR233SS-EB	Total/NA	Water	8290A	420196
MB 320-420196/1-A	Method Blank	Total/NA	Water	8290A	420196
LCS 320-420196/2-A	Lab Control Sample	Total/NA	Water	8290A	420196
LCSD 320-420196/3-A	Lab Control Sample Dup	Total/NA	Water	8290A	420196

>> Select a Laboratory or Service Center <<

#N/A 301 Alpha Drive RIDC Park
#N/A Pittsburgh, PA 15238
#N/A
##

Chain of Custody Record

eurofins | Environment Testing America

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

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Jennifer Abrahams	Site Contact: Garrett Kuhl	Date:	COC No:
Your Company Name here: Tetra Tech	Email: Jennifer.Abrahams@Tetratech.com	Lab Contact: Veronica Burton	Carrier:	2 of 2 COCs
Address: 3101 Zinfandel Drive	Tel/Fax: 916-853-4526			TALS Project #:
City/State/Zip: Rancho Cordova, CA, 95670	Analysis Turnaround Time: ☒ CALENDAR DAYS ☐ WORKING DAYS			Sampler: A. Morgan / G. Kuhl
(xxx) xxx-xxxx Phone: 916-853-4526	TAT if different from Below: See notes			For Lab Use Only:
(xxx) xxx-xxxx FAX	☒ 2 weeks			Walk-in Client:
Project Name: Additional off-site Sampling	☒ 1 week			Lab Sampling:
Site: Grenada, MS	☐ 2 days			Job / SDG No.:
PO # 117-220145GA	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PAHs (EPA 8270)	(17) 2,3,7,8 PCDD/PCDF Congeners (EPA 8290)	Sample Specific Notes:
BREPA21SS	10/4/20	0845	C	Soil	2	N	N	X	X	Hold Sample
BR37SS	10/4/20	0940	C	Soil	2	N	N	X	X	Hold Sample
BR35SS	10/4/20	1114	C	Soil	2	N	N	X	X	Hold sample
BR31SS	10/4/20	1250	C	Soil	2	N	N	X	X	Hold Sample
BR28SS	10/4/20	1438	C	Soil	2	N	N	X	X	Hold Sample
BR23SS	10/4/20	1600	C	Soil	2	N	N	X	X	Hold Sample
BR50SS	10/4/20	1615	C	Soil	2	N	N	X	X	1 week TAT
BR86SS	10/4/20	1700	C	Soil	2	N	N	X	X	1 week TAT
BR23SS-EB	10/4/20	1655	G	water	4	N	N	X	X	2 week TAT

AS Morgan
10/5/20

180-111870 Chain of Custody

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

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

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

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

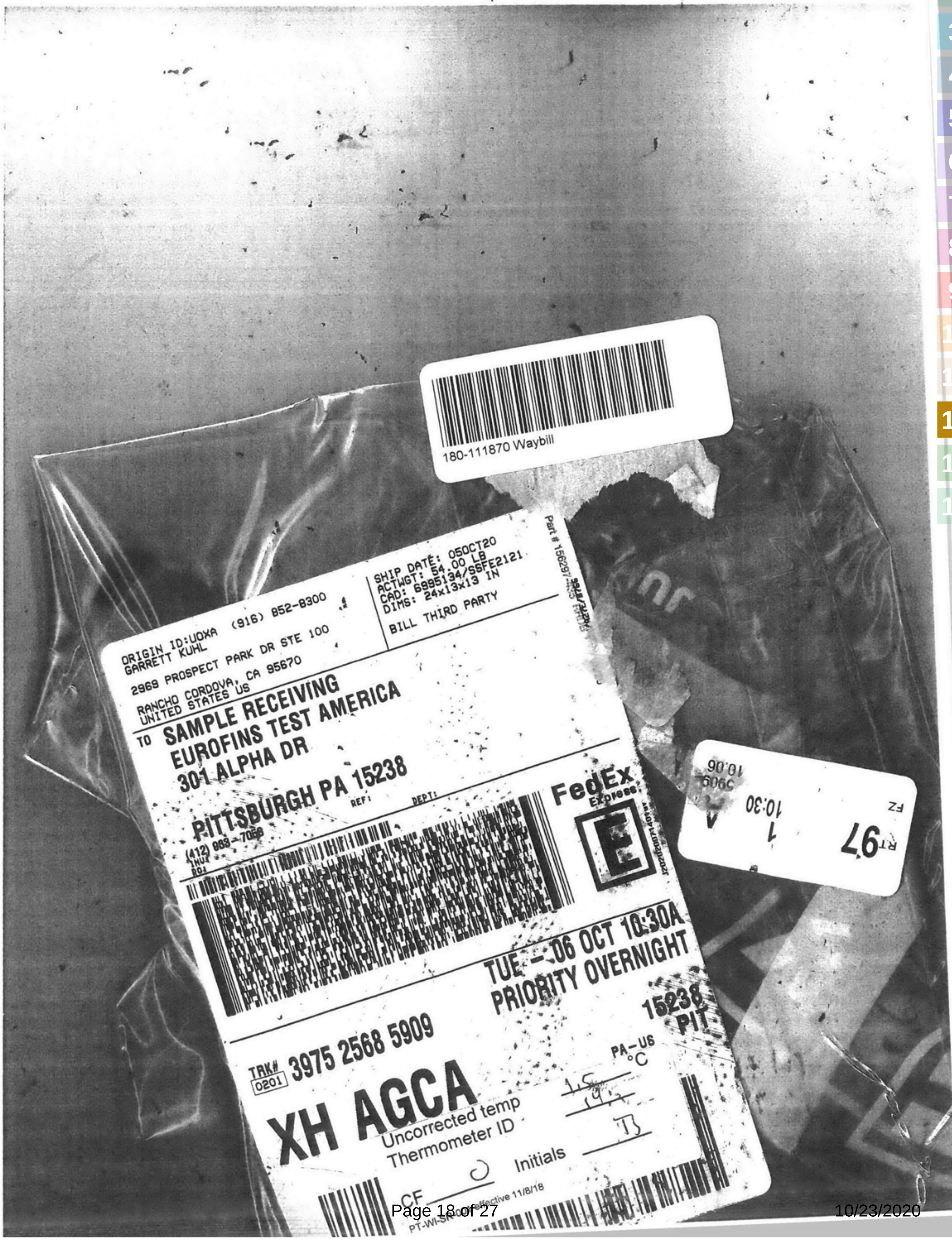
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Standard EDD

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
AS Morgan	Tetra tech	10/5/20 1700	Fed ex	Fed ex	10/5/20 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Fed ex waybill	FedEx	10.6.20 9:00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.34, dated 8/3/2020


180-111870 Waybill
ORIGIN ID:UOXA (916) 852-8300
GARRETT KUHL
2969 PROSPECT PARK DR STE 100
RANCHO CORDOVA, CA 95670
UNITED STATES US
SHIP DATE: 05OCT20
ACTWGT: 54.00 LB
CAD: 6995134/SSFE2121
DIMS: 24x13x13 IN
BILL THIRD PARTY
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
PITTSBURGH PA 15238
(412) 963-7058
REF:
DEPT:
FedEx
Express
E
TUE - 06 OCT 10:30A
PRIORITY OVERNIGHT
15238
PA-US
PIT
TRK# 0201 3975 2568 5909
XH AGCA
Uncorrected temp
Thermometer ID
Initials
CF
°C
97
FZ
10:30
1
A

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/12/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BR500SS (180-111870-7)	10/4/20	16:15 Central		Solid			X	1	
BR861SS (180-111870-8)	10/4/20	17:00 Central		Solid			X	1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/20 1500			10/8/20 0945	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1.7|2.2

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-2
Address: 880 Riverside Parkway,	Due Date Requested: 10/12/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BR233SS-EB (180-111870-9)	10/4/20	16:55 Central		Water			X	2	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/7/20 1500			10/8/20 945	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.7/2.2

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-415722.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-3
Address: 880 Riverside Parkway,	Due Date Requested: 10/23/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BREPA21SS (180-111870-1)	10/4/20	08:45 Central		Solid			X	1	
BR373SS (180-111870-2)	10/4/20	09:40 Central		Solid			X	1	
BR351SS (180-111870-3)	10/4/20	11:14 Central		Solid			X	1	
BR315SS (180-111870-4)	10/4/20	12:50 Central		Solid			X	1	
BR289SS (180-111870-5)	10/4/20	14:38 Central		Solid			X	1	
BR233SS (180-111870-6)	10/4/20	16:00 Central		Solid			X	1	

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

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

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	10/19/20 17:00			10/20/20 09:45	ETA-SAC
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: OB: 0.5 CORR: 0.0

Ver: 01/16/2019

Bottle Order Information

Bottle Order:
Bottle Order #:
Request From Client: *10/19/2020*
Date Order Posted:
Order Status: *Ready To Process*
Prepared By:
Deliver By Date: ***10/19/2020 11:59:00PM***
Lab Project Number:

Order Completion Information

Creator: *Christina Kovitch*
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative | Comment

Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #:

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.
Go to http://www.testamericainc.com/customer-support/specialized-instructions-for-field-samplers/ for field sampler instructions.

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Sacramento Sample Receiving Notes


180-111870 Field Sheet

Tracking #: 1689 5103 2515

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: 4K6 Corr. Factor: (+/-) 0.5 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 1.7 °C Corrected: 2.2 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: SD Date: 10/8/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: SD Date: 10/08/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: SD Date: 10/08/20

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Sacramento Sample Receiving Notes

Tracking # : 168951036602

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other_____

Job:_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: AK-5 Corr. Factor: (+/-) 0.5 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: —

Temp Observed: 0.5 °C Corrected: 0.0 °C

From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: JS Date: 10/20/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: JS Date: 10/20/20

Notes:_____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: JS Date: 10/20/20

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-2

Login Number: 111870
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-2

Login Number: 111870
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/08/20 01:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 1.7c corr: 2.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-2

Login Number: 111870
List Number: 3
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/20/20 11:20 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 0.5c corr: 0.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-111870-3
Client Project/Site: Grenada, Mississippi

For:
Tetra Tech GEO
2969 Prospect Park Drive
Suite 100
Rancho Cordova, California 95670

Attn: Ms. Jennifer Abrahams, P.G.

Veronica Bortot

Authorized for release by:
11/13/2020 10:11:46 AM

Veronica Bortot, Senior Project Manager
(412)963-2435
Veronica.Bortot@Eurofinset.com

PA Lab ID: 02-00416

Table of Contents

Job ID: 180-111870-3

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-111870-3

Comments
No additional comments.

Receipt
The samples were received on 10/6/2020 9:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.5º C.

Receipt Exceptions

One out of two container labels for the following sample not match the information listed on the Chain-of-Custody (COC): BR351SS. The container labels list a sample id of BR3513SS, while the COC lists BR351SS. The id on the COC was used.

GC/MS Semi VOA
Method 8270E: The following sample was diluted due to the nature of the sample matrix: BR233SS. Elevated reporting limits (RLs) are provided.

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

Dioxin
Method 8290A: The bracketing continuing calibration verification (CCV) associated with batch 320-425153 has 1,2,3,4,7,8-HxCDD with percent difference value that is between the method criteria of 20% to 25% deviation from the initial calibration curve. Per method guidelines, an average relative response factor (RRF) is calculated from the bracketing CCV and is used to quantitate any positive results in the associated samples for the affected analytes.

Method 8290A: The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): BR315SS and BR289SS . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 8290A: The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: BR289SS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 8290A: The following samples exhibited elevated noise or matrix interferences for one or more analytes causing elevation of the detection limit (EDL): BR315SS, BR289SS and BR233SS . The reporting limit (RL) for the affected analytes has been raised to be equal to the EDL, and a "G" qualifier applied.

Method 8290A: The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: BR289SS and BR233SS. These analytes have been qualified; however, the peak(s) did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

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

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

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

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

Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Qualifiers

GC/MS Semi VOA

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.

Dioxin

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Job ID: 180-111870-3
Project/Site: Grenada, Mississippi

Laboratory: Eurofins TestAmerica, Pittsburgh

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-21
California	State	2891	04-30-21
Connecticut	State	PH-0688	09-30-20 *
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-21
Illinois	NELAP	004375	06-30-21
Kansas	NELAP	E-10350	01-31-21
Kentucky (UST)	State	162013	04-30-21
Kentucky (WW)	State	KY98043	12-31-20
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-20
Nevada	State	PA00164	07-31-21
New Hampshire	NELAP	2030	04-05-21
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-21
North Carolina (WW/SW)	State	434	11-01-20
North Dakota	State	R-227	04-30-21
Oregon	NELAP	PA-2151	02-06-21
Pennsylvania	NELAP	02-00416	04-30-21
Rhode Island	State	LAO00362	12-31-20
South Carolina	State	89014	04-30-21
Texas	NELAP	T104704528	03-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	02-01-21
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20 *
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Sample Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-111870-1	BREPA21SS	Solid	10/04/20 08:45	10/06/20 09:00	
180-111870-2	BR373SS	Solid	10/04/20 09:40	10/06/20 09:00	
180-111870-3	BR351SS	Solid	10/04/20 11:14	10/06/20 09:00	
180-111870-4	BR315SS	Solid	10/04/20 12:50	10/06/20 09:00	
180-111870-5	BR289SS	Solid	10/04/20 14:38	10/06/20 09:00	
180-111870-6	BR233SS	Solid	10/04/20 16:00	10/06/20 09:00	

Method Summary

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Method	Method Description	Protocol	Laboratory
EPA 8270E	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PIT
8290A	Dioxins and Furans (HRGC/HRMS)	SW846	TAL SAC
2540G	SM 2540G	SM22	TAL PIT
SM 2540G	Total, Fixed, and Volatile Solids	SM	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
8290	Soxhlet Extraction of Dioxins and Furans	SW846	TAL SAC

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Client Sample ID: BREPA21SS
Date Collected: 10/04/20 08:45
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			334427	10/22/20 19:53	ELS	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334823	10/26/20 21:38	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BREPA21SS
Date Collected: 10/04/20 08:45
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-1
Matrix: Solid
Percent Solids: 83.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333809	10/17/20 16:03	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290			9.75 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A		1			426767	10/29/20 15:41	ALM	TAL SAC
	Instrument ID: 4D5									

Client Sample ID: BR373SS
Date Collected: 10/04/20 09:40
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			334427	10/22/20 19:53	ELS	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334823	10/26/20 21:38	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR373SS
Date Collected: 10/04/20 09:40
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-2
Matrix: Solid
Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333809	10/17/20 16:29	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		9.94 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			428963	11/06/20 02:28	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			9.94 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A		1			428890	11/05/20 15:09	AS	TAL SAC
	Instrument ID: DFS 1									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Client Sample ID: BR351SS
Date Collected: 10/04/20 11:14
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			334429	10/22/20 20:55	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334823	10/26/20 21:38	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR351SS
Date Collected: 10/04/20 11:14
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-3
Matrix: Solid
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.0 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333809	10/17/20 16:55	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		10.62 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			427868	10/30/20 21:38	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			10.62 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A		1			426767	10/29/20 17:09	ALM	TAL SAC
	Instrument ID: 4D5									

Client Sample ID: BR315SS
Date Collected: 10/04/20 12:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			334429	10/22/20 20:55	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334823	10/26/20 21:38	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR315SS
Date Collected: 10/04/20 12:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-4
Matrix: Solid
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333809	10/17/20 17:21	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		9.80 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			427868	10/30/20 22:16	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			9.80 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A		1			426767	10/29/20 17:53	ALM	TAL SAC
	Instrument ID: 4D5									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Client Sample ID: BR289SS
Date Collected: 10/04/20 14:38
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			334429	10/22/20 20:55	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334823	10/26/20 21:38	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR289SS
Date Collected: 10/04/20 14:38
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-5
Matrix: Solid
Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		1	1 mL	1 mL	333809	10/17/20 17:47	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		9.81 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			427868	10/30/20 22:55	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			9.81 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A		1			426767	10/29/20 18:36	ALM	TAL SAC
	Instrument ID: 4D5									

Client Sample ID: BR233SS
Date Collected: 10/04/20 16:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			334429	10/22/20 20:55	TAM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	SM 2540G		1			334823	10/26/20 21:38	PMH	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: BR233SS
Date Collected: 10/04/20 16:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-6
Matrix: Solid
Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	5.0 mL	333372	10/14/20 08:24	CSC	TAL PIT
Total/NA	Analysis	EPA 8270E		15	1 mL	1 mL	333809	10/17/20 18:13	VVP	TAL PIT
	Instrument ID: CH71									
Total/NA	Prep	8290	RA		10.08 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A	RA	1			427868	10/30/20 23:33	AS	TAL SAC
	Instrument ID: 11D2									
Total/NA	Prep	8290			10.08 g	20 uL	426110	10/28/20 09:18	FC	TAL SAC
Total/NA	Analysis	8290A		1			426767	10/29/20 19:20	ALM	TAL SAC
	Instrument ID: 4D5									

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Analyst References:

Lab: TAL PIT

Batch Type: Prep

CSC = Chayce Cockroft

Batch Type: Analysis

ELS = Edwin Shireman

PMH = Paloma Hoelzle

TAM = Tessa Mastalski

VVP = Vincent Piccolino

Lab: TAL SAC

Batch Type: Prep

FC = Fue Chang

Batch Type: Analysis

ALM = Adrian Messecar

AS = Ajay Sharda

Client Sample ID: BREPA21SS
Date Collected: 10/04/20 08:45
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-1
Matrix: Solid
Percent Solids: 83.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		80	23	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Acenaphthylene	ND		80	17	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Anthracene	ND		80	21	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Benzo[a]anthracene	ND		80	36	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Benzo[b]fluoranthene	**25**	**J**	80	20	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Benzo[k]fluoranthene	ND		80	24	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Benzo[g,h,i]perylene	ND		80	17	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Benzo[a]pyrene	ND		80	34	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Chrysene	ND		80	44	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Dibenz(a,h)anthracene	ND		80	51	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Fluoranthene	ND		80	21	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Fluorene	ND		80	16	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Indeno[1,2,3-cd]pyrene	ND		80	40	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Naphthalene	ND		80	15	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Phenanthrene	ND		80	21	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1
Pyrene	**21**	**J**	80	19	ug/Kg	☼	10/14/20 08:24	10/17/20 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*45 - 105*	*10/14/20 08:24*	*10/17/20 16:03*	*1*
2-Fluorophenol (Surr)	*79*		*42 - 105*	*10/14/20 08:24*	*10/17/20 16:03*	*1*
2,4,6-Tribromophenol (Surr)	*65*		*31 - 105*	*10/14/20 08:24*	*10/17/20 16:03*	*1*
Nitrobenzene-d5 (Surr)	*78*		*53 - 105*	*10/14/20 08:24*	*10/17/20 16:03*	*1*
Phenol-d5 (Surr)	*69*		*47 - 105*	*10/14/20 08:24*	*10/17/20 16:03*	*1*
Terphenyl-d14 (Surr)	*87*		*46 - 105*	*10/14/20 08:24*	*10/17/20 16:03*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.52	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total TCDD	ND		1.2	0.52	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,7,8-PeCDD	ND		6.1	0.79	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total PeCDD	**3.1**	**J**	6.1	0.79	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,4,7,8-HxCDD	**1.7**	**J**	6.1	0.26	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,6,7,8-HxCDD	**3.8**	**J**	6.1	0.23	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,7,8,9-HxCDD	**3.4**	**J**	6.1	0.23	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total HxCDD	**40**		6.1	0.24	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,4,6,7,8-HpCDD	**130**	**B**	6.1	2.5	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total HpCDD	**330**	**B**	6.1	2.5	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
OCDD	**2900**	**B**	12	7.2	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
2,3,7,8-TCDF	ND		1.2	0.28	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total TCDF	ND		1.2	0.28	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,7,8-PeCDF	ND		6.1	1.1	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
2,3,4,7,8-PeCDF	ND		6.1	1.2	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total PeCDF	ND		6.1	1.2	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,4,7,8-HxCDF	**1.3**	**J**	6.1	0.42	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,6,7,8-HxCDF	**0.82**	**J**	6.1	0.37	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
2,3,4,6,7,8-HxCDF	**0.74**	**J q**	6.1	0.41	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,7,8,9-HxCDF	ND		6.1	0.46	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
Total HxCDF	**16**	**q**	6.1	0.42	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,4,6,7,8-HpCDF	**21**		6.1	0.60	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
1,2,3,4,7,8,9-HpCDF	ND		6.1	0.84	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1

Client Sample ID: BREPA21SS

Date Collected: 10/04/20 08:45
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-1

Matrix: Solid
Percent Solids: 83.5

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
Total HpCDF	65		6.1	0.72	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1
OCDF	94		12	0.35	pg/g	☼	10/28/20 09:18	10/29/20 15:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*78*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-1,2,3,7,8-PeCDD	*77*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-OCDD	*99*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-1,2,3,7,8-PeCDF	*76*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-1,2,3,4,7,8-HxCDF	*74*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*79*		*40 - 135*	*10/28/20 09:18*	*10/29/20 15:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.5		0.1	0.1	%			10/22/20 19:53	1
Percent Solids	83.5		0.1	0.1	%			10/22/20 19:53	1
Total Solids	83		0.50	0.50	%			10/26/20 21:38	1

Client Sample ID: BR373SS

Date Collected: 10/04/20 09:40
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-2

Matrix: Solid
Percent Solids: 79.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		84	24	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Acenaphthylene	40	J	84	18	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Anthracene	35	J	84	22	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Benzo[a]anthracene	96		84	38	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Benzo[b]fluoranthene	190		84	21	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Benzo[k]fluoranthene	91		84	25	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Benzo[g,h,i]perylene	79	J	84	18	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Benzo[a]pyrene	98		84	36	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Chrysene	150		84	46	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Dibenz(a,h)anthracene	89		84	54	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Fluoranthene	140		84	22	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Fluorene	ND		84	16	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Indeno[1,2,3-cd]pyrene	74	J	84	42	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Naphthalene	21	J	84	16	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Phenanthrene	42	J	84	22	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1
Pyrene	170		84	20	ug/Kg	☼	10/14/20 08:24	10/17/20 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*45 - 105*	*10/14/20 08:24*	*10/17/20 16:29*	*1*
2-Fluorophenol (Surr)	*74*		*42 - 105*	*10/14/20 08:24*	*10/17/20 16:29*	*1*
2,4,6-Tribromophenol (Surr)	*64*		*31 - 105*	*10/14/20 08:24*	*10/17/20 16:29*	*1*
Nitrobenzene-d5 (Surr)	*75*		*53 - 105*	*10/14/20 08:24*	*10/17/20 16:29*	*1*
Phenol-d5 (Surr)	*65*		*47 - 105*	*10/14/20 08:24*	*10/17/20 16:29*	*1*
Terphenyl-d14 (Surr)	*83*		*46 - 105*	*10/14/20 08:24*	*10/17/20 16:29*	*1*

Client Sample ID: BR373SS

Date Collected: 10/04/20 09:40
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-2

Matrix: Solid
Percent Solids: 79.6

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.3	0.28	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total TCDD	**2.6**	**q**	1.3	0.28	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,7,8-PeCDD	**0.95**	**J**	6.3	0.30	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total PeCDD	**4.0**	**J**	6.3	0.30	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,4,7,8-HxCDD	**2.3**	**J**	6.3	0.18	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,6,7,8-HxCDD	**6.5**		6.3	0.17	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,7,8,9-HxCDD	**5.0**	**J**	6.3	0.16	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total HxCDD	**61**		6.3	0.17	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,4,6,7,8-HpCDD	**190**	**B**	6.3	0.84	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total HpCDD	**460**	**B**	6.3	0.84	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
OCDD	**1800**	**B**	13	1.4	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total TCDF	**8.8**	**q**	1.3	0.22	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,7,8-PeCDF	**0.76**	**J q**	6.3	0.25	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
2,3,4,7,8-PeCDF	**1.3**	**J**	6.3	0.26	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total PeCDF	**11**	**q**	6.3	0.26	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,4,7,8-HxCDF	**4.5**	**J**	6.3	0.25	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,6,7,8-HxCDF	**2.1**	**J**	6.3	0.22	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
2,3,4,6,7,8-HxCDF	**2.1**	**J**	6.3	0.23	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,7,8,9-HxCDF	ND		6.3	0.24	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total HxCDF	**39**		6.3	0.23	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,4,6,7,8-HpCDF	**45**		6.3	0.52	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
1,2,3,4,7,8,9-HpCDF	**2.3**	**J**	6.3	0.58	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
Total HpCDF	**120**		6.3	0.55	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1
OCDF	**140**		13	0.26	pg/g	☼	10/28/20 09:18	11/05/20 15:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*69*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-1,2,3,7,8-PeCDD	*65*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*76*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*70*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-OCDD	*70*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-2,3,7,8-TCDF	*79*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-1,2,3,7,8-PeCDF	*79*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*83*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*76*		*40 - 135*	*10/28/20 09:18*	*11/05/20 15:09*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**0.93**	**J**	1.3	0.24	pg/g	☼	10/28/20 09:18	11/06/20 02:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*74*		*40 - 135*	*10/28/20 09:18*	*11/06/20 02:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**20.4**		0.1	0.1	%			10/22/20 19:53	1
Percent Solids	**79.6**		0.1	0.1	%			10/22/20 19:53	1
Total Solids	**79**		0.50	0.50	%			10/26/20 21:38	1

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Client Sample ID: BR351SS
Date Collected: 10/04/20 11:14
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-3
Matrix: Solid
Percent Solids: 80.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		83	24	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Acenaphthylene	ND		83	18	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Anthracene	ND		83	21	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Benzo[a]anthracene	ND		83	37	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Benzo[b]fluoranthene	**56**	**J**	83	20	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Benzo[k]fluoranthene	**25**	**J**	83	25	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Benzo[g,h,i]perylene	**21**	**J**	83	18	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Benzo[a]pyrene	ND		83	36	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Chrysene	**51**	**J**	83	46	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Dibenz(a,h)anthracene	ND		83	53	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Fluoranthene	**93**		83	22	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Fluorene	ND		83	16	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Indeno[1,2,3-cd]pyrene	ND		83	41	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Naphthalene	ND		83	16	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Phenanthrene	**40**	**J**	83	22	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1
Pyrene	**94**		83	20	ug/Kg	☼	10/14/20 08:24	10/17/20 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*45 - 105*	*10/14/20 08:24*	*10/17/20 16:55*	*1*
2-Fluorophenol (Surr)	*73*		*42 - 105*	*10/14/20 08:24*	*10/17/20 16:55*	*1*
2,4,6-Tribromophenol (Surr)	*51*		*31 - 105*	*10/14/20 08:24*	*10/17/20 16:55*	*1*
Nitrobenzene-d5 (Surr)	*81*		*53 - 105*	*10/14/20 08:24*	*10/17/20 16:55*	*1*
Phenol-d5 (Surr)	*67*		*47 - 105*	*10/14/20 08:24*	*10/17/20 16:55*	*1*
Terphenyl-d14 (Surr)	*80*		*46 - 105*	*10/14/20 08:24*	*10/17/20 16:55*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.43	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total TCDD	**0.76**	**J q**	1.2	0.43	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,7,8-PeCDD	**1.3**	**J**	5.8	0.66	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total PeCDD	**9.4**		5.8	0.66	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,4,7,8-HxCDD	**3.1**	**J**	5.8	0.31	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,6,7,8-HxCDD	**9.8**		5.8	0.28	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,7,8,9-HxCDD	**7.4**		5.8	0.27	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total HxCDD	**77**	**q**	5.8	0.28	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,4,6,7,8-HpCDD	**230**	**B**	5.8	3.6	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total HpCDD	**500**	**B**	5.8	3.6	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
OCDD	**2000**	**B**	12	5.1	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total TCDF	**25**	**q**	1.2	0.24	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,7,8-PeCDF	**1.8**	**J**	5.8	1.0	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
2,3,4,7,8-PeCDF	**4.2**	**J**	5.8	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total PeCDF	**41**		5.8	1.0	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,4,7,8-HxCDF	**7.6**		5.8	0.65	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,6,7,8-HxCDF	**5.2**	**J**	5.8	0.58	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
2,3,4,6,7,8-HxCDF	**7.6**		5.8	0.63	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,7,8,9-HxCDF	ND		5.8	0.72	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total HxCDF	**77**		5.8	0.64	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,4,6,7,8-HpCDF	**58**		5.8	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
1,2,3,4,7,8,9-HpCDF	ND		5.8	1.6	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1
Total HpCDF	**130**		5.8	1.3	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1

Client Sample ID: BR351SS

Date Collected: 10/04/20 11:14
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-3

Matrix: Solid
Percent Solids: 80.8

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
OCDF	**120**		12	0.46	pg/g	☼	10/28/20 09:18	10/29/20 17:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*77*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-1,2,3,7,8-PeCDD	*80*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-1,2,3,6,7,8-HxCDD	*79*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*84*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-OCDD	*100*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-2,3,7,8-TCDF	*70*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-1,2,3,7,8-PeCDF	*75*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*81*		*40 - 135*	*10/28/20 09:18*	*10/29/20 17:09*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.1**	**J**	1.2	0.53	pg/g	☼	10/28/20 09:18	10/30/20 21:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*77*		*40 - 135*	*10/28/20 09:18*	*10/30/20 21:38*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**19.2**		0.1	0.1	%			10/22/20 20:55	1
Percent Solids	**80.8**		0.1	0.1	%			10/22/20 20:55	1
Total Solids	**81**		0.50	0.50	%			10/26/20 21:38	1

Client Sample ID: BR315SS

Date Collected: 10/04/20 12:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-4

Matrix: Solid
Percent Solids: 82.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		81	23	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Acenaphthylene	**49**	**J**	81	18	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Anthracene	**46**	**J**	81	21	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Benzo[a]anthracene	**90**		81	36	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Benzo[b]fluoranthene	**220**		81	20	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Benzo[k]fluoranthene	**95**		81	24	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Benzo[g,h,i]perylene	**93**		81	17	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Benzo[a]pyrene	**110**		81	35	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Chrysene	**150**		81	45	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Dibenz(a,h)anthracene	**91**		81	51	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Fluoranthene	**130**		81	21	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Fluorene	ND		81	16	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Indeno[1,2,3-cd]pyrene	**81**		81	40	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Naphthalene	ND		81	16	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Phenanthrene	**35**	**J**	81	22	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1
Pyrene	**190**		81	19	ug/Kg	☼	10/14/20 08:24	10/17/20 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*66*		*45 - 105*	*10/14/20 08:24*	*10/17/20 17:21*	*1*
2-Fluorophenol (Surr)	*70*		*42 - 105*	*10/14/20 08:24*	*10/17/20 17:21*	*1*

Client Sample ID: BR315SS
Date Collected: 10/04/20 12:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-4
Matrix: Solid
Percent Solids: 82.4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	51		31 - 105	10/14/20 08:24	10/17/20 17:21	1
Nitrobenzene-d5 (Surr)	71		53 - 105	10/14/20 08:24	10/17/20 17:21	1
Phenol-d5 (Surr)	62		47 - 105	10/14/20 08:24	10/17/20 17:21	1
Terphenyl-d14 (Surr)	73		46 - 105	10/14/20 08:24	10/17/20 17:21	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.46	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total TCDD	**4.5**	**q**	1.2	0.46	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,7,8-PeCDD	**2.0**	**J**	6.2	0.60	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total PeCDD	**23**	**q**	6.2	0.60	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,4,7,8-HxCDD	**4.4**	**J**	6.2	0.44	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,6,7,8-HxCDD	**11**		6.2	0.39	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,7,8,9-HxCDD	**8.4**		6.2	0.38	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total HxCDD	**130**		6.2	0.40	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,4,6,7,8-HpCDD	**320**	**B G**	6.6	6.6	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total HpCDD	**1100**	**B G**	6.6	6.6	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
OCDD	**4400**	**B**	12	9.9	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total TCDF	**52**	**q**	1.2	0.36	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,7,8-PeCDF	**4.2**	**J**	6.2	1.0	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
2,3,4,7,8-PeCDF	**9.1**		6.2	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total PeCDF	**95**		6.2	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,4,7,8-HxCDF	**12**		6.2	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,6,7,8-HxCDF	**10**		6.2	0.97	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
2,3,4,6,7,8-HxCDF	**16**		6.2	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,7,8,9-HxCDF	ND		6.2	1.2	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total HxCDF	**170**		6.2	1.1	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,4,6,7,8-HpCDF	**160**		6.2	2.3	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
1,2,3,4,7,8,9-HpCDF	**5.9**	**J**	6.2	3.3	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
Total HpCDF	**350**		6.2	2.8	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1
OCDF	**240**		12	0.51	pg/g	☼	10/28/20 09:18	10/29/20 17:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	79		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-1,2,3,7,8-PeCDD	84		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-1,2,3,6,7,8-HxCDD	83		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-1,2,3,4,6,7,8-HpCDD	87		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-OCDD	113		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-2,3,7,8-TCDF	73		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-1,2,3,7,8-PeCDF	76		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-1,2,3,4,7,8-HxCDF	78		40 - 135	10/28/20 09:18	10/29/20 17:53	1
13C-1,2,3,4,6,7,8-HpCDF	84		40 - 135	10/28/20 09:18	10/29/20 17:53	1

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**2.5**	**q**	1.2	0.53	pg/g	☼	10/28/20 09:18	10/30/20 22:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	81		40 - 135	10/28/20 09:18	10/30/20 22:16	1

Client Sample ID: BR315SS

Date Collected: 10/04/20 12:50
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-4

Matrix: Solid
Percent Solids: 82.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.6		0.1	0.1	%			10/22/20 20:55	1
Percent Solids	82.4		0.1	0.1	%			10/22/20 20:55	1
Total Solids	82		0.50	0.50	%			10/26/20 21:38	1

Client Sample ID: BR289SS

Date Collected: 10/04/20 14:38
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-5

Matrix: Solid
Percent Solids: 84.7

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		79	23	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Acenaphthylene	58	J	79	17	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Anthracene	48	J	79	20	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Benzo[a]anthracene	140		79	35	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Benzo[b]fluoranthene	260		79	19	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Benzo[k]fluoranthene	120		79	23	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Benzo[g,h,i]perylene	90		79	17	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Benzo[a]pyrene	150		79	34	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Chrysene	170		79	43	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Dibenz(a,h)anthracene	93		79	50	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Fluoranthene	150		79	21	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Fluorene	ND		79	15	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Indeno[1,2,3-cd]pyrene	93		79	39	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Naphthalene	ND		79	15	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Phenanthrene	27	J	79	21	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1
Pyrene	240		79	19	ug/Kg	☼	10/14/20 08:24	10/17/20 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*45 - 105*	*10/14/20 08:24*	*10/17/20 17:47*	*1*
2-Fluorophenol (Surr)	*75*		*42 - 105*	*10/14/20 08:24*	*10/17/20 17:47*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*31 - 105*	*10/14/20 08:24*	*10/17/20 17:47*	*1*
Nitrobenzene-d5 (Surr)	*74*		*53 - 105*	*10/14/20 08:24*	*10/17/20 17:47*	*1*
Phenol-d5 (Surr)	*66*		*47 - 105*	*10/14/20 08:24*	*10/17/20 17:47*	*1*
Terphenyl-d14 (Surr)	*75*		*46 - 105*	*10/14/20 08:24*	*10/17/20 17:47*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.46	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total TCDD	5.7	q	1.2	0.46	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,7,8-PeCDD	2.2	J	6.0	0.64	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total PeCDD	26		6.0	0.64	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,4,7,8-HxCDD	5.3	J q	6.0	0.49	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,6,7,8-HxCDD	16		6.0	0.44	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,7,8,9-HxCDD	8.8		6.0	0.43	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total HxCDD	160	q	6.0	0.46	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,4,6,7,8-HpCDD	420	G B	6.7	6.7	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total HpCDD	1000	G B	6.7	6.7	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
OCDD	8700	G E B	19	19	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total TCDF	28		1.2	0.34	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,7,8-PeCDF	2.1	J q	6.0	0.94	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1

Client Sample ID: BR289SS

Date Collected: 10/04/20 14:38
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-5

Matrix: Solid
Percent Solids: 84.7

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,7,8-PeCDF	3.4	J q	6.0	0.98	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total PeCDF	33	q	6.0	0.96	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,4,7,8-HxCDF	5.1	J	6.0	0.67	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,6,7,8-HxCDF	5.6	J	6.0	0.60	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
2,3,4,6,7,8-HxCDF	5.4	J	6.0	0.65	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,7,8,9-HxCDF	0.75	J	6.0	0.74	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total HxCDF	110		6.0	0.67	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,4,6,7,8-HpCDF	97		6.0	1.7	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
1,2,3,4,7,8,9-HpCDF	4.9	J	6.0	2.3	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
Total HpCDF	290		6.0	2.0	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1
OCDF	330		12	0.86	pg/g	☼	10/28/20 09:18	10/29/20 18:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*74*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-1,2,3,7,8-PeCDD	*79*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-1,2,3,6,7,8-HxCDD	*75*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*81*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-OCDD	*105*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-2,3,7,8-TCDF	*68*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-1,2,3,7,8-PeCDF	*73*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-1,2,3,4,7,8-HxCDF	*75*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*
13C-1,2,3,4,6,7,8-HpCDF	*77*		*40 - 135*	*10/28/20 09:18*	*10/29/20 18:36*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	2.5		1.2	0.78	pg/g	☼	10/28/20 09:18	10/30/20 22:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDF	*77*		*40 - 135*	*10/28/20 09:18*	*10/30/20 22:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.3		0.1	0.1	%			10/22/20 20:55	1
Percent Solids	84.7		0.1	0.1	%			10/22/20 20:55	1
Total Solids	84		0.50	0.50	%			10/26/20 21:38	1

Client Sample ID: BR233SS

Date Collected: 10/04/20 16:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-6

Matrix: Solid
Percent Solids: 81.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1200	350	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Acenaphthylene	470	J	1200	270	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Anthracene	ND		1200	320	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Benzo[a]anthracene	ND		1200	550	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Benzo[b]fluoranthene	800	J	1200	300	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Benzo[k]fluoranthene	ND		1200	370	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Benzo[g,h,i]perylene	450	J	1200	260	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Benzo[a]pyrene	540	J	1200	530	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Chrysene	ND		1200	680	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Dibenz(a,h)anthracene	ND		1200	780	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15

Client Sample ID: BR233SS
Date Collected: 10/04/20 16:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-6
Matrix: Solid
Percent Solids: 81.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	**770**	**J**	1200	320	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Fluorene	ND		1200	240	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Indeno[1,2,3-cd]pyrene	ND		1200	610	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Naphthalene	ND		1200	240	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Phenanthrene	**630**	**J**	1200	330	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15
Pyrene	**770**	**J**	1200	290	ug/Kg	☼	10/14/20 08:24	10/17/20 18:13	15

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*53*		*45 - 105*	*10/14/20 08:24*	*10/17/20 18:13*	*15*
2-Fluorophenol (Surr)	*56*		*42 - 105*	*10/14/20 08:24*	*10/17/20 18:13*	*15*
2,4,6-Tribromophenol (Surr)	*35*		*31 - 105*	*10/14/20 08:24*	*10/17/20 18:13*	*15*
Nitrobenzene-d5 (Surr)	*58*		*53 - 105*	*10/14/20 08:24*	*10/17/20 18:13*	*15*
Phenol-d5 (Surr)	*53*		*47 - 105*	*10/14/20 08:24*	*10/17/20 18:13*	*15*
Terphenyl-d14 (Surr)	*60*		*46 - 105*	*10/14/20 08:24*	*10/17/20 18:13*	*15*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.2	0.92	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total TCDD	**2.0**		1.2	0.92	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,7,8-PeCDD	**2.3**	**J**	6.1	1.2	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total PeCDD	**25**	**q**	6.1	1.2	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,4,7,8-HxCDD	**6.3**		6.1	0.58	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,6,7,8-HxCDD	**19**		6.1	0.52	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,7,8,9-HxCDD	**11**		6.1	0.50	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total HxCDD	**180**		6.1	0.53	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,4,6,7,8-HpCDD	**580**	**B G**	7.9	7.9	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total HpCDD	**1400**	**B G**	7.9	7.9	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
OCDD	**7900**	**E B G**	17	17	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total TCDF	**34**	**q**	1.2	0.65	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,7,8-PeCDF	ND		6.1	1.5	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
2,3,4,7,8-PeCDF	ND		6.1	1.6	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total PeCDF	**30**	**q**	6.1	1.6	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,4,7,8-HxCDF	**5.5**	**J**	6.1	0.67	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,6,7,8-HxCDF	**4.2**	**J**	6.1	0.60	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
2,3,4,6,7,8-HxCDF	**3.4**	**J**	6.1	0.65	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,7,8,9-HxCDF	ND		6.1	0.74	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total HxCDF	**110**		6.1	0.67	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,4,6,7,8-HpCDF	**110**		6.1	1.9	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
1,2,3,4,7,8,9-HpCDF	**6.3**		6.1	2.7	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
Total HpCDF	**380**		6.1	2.3	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1
OCDF	**490**		12	1.2	pg/g	☼	10/28/20 09:18	10/29/20 19:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C-2,3,7,8-TCDD	*70*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-1,2,3,7,8-PeCDD	*75*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-1,2,3,6,7,8-HxCDD	*71*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-1,2,3,4,6,7,8-HpCDD	*73*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-OCDD	*87*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-2,3,7,8-TCDF	*61*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-1,2,3,7,8-PeCDF	*71*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*
13C-1,2,3,4,7,8-HxCDF	*68*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*

Client: Tetra Tech GEO
Project/Site: Grenada, Mississippi

Job ID: 180-111870-3

Client Sample ID: BR233SS
Date Collected: 10/04/20 16:00
Date Received: 10/06/20 09:00

Lab Sample ID: 180-111870-6
Matrix: Solid
Percent Solids: 81.0

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	*72*		*40 - 135*	*10/28/20 09:18*	*10/29/20 19:20*	*1*

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

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	**1.8**		1.2	0.59	pg/g	☼	10/28/20 09:18	10/30/20 23:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	*73*		*40 - 135*	*10/28/20 09:18*	*10/30/20 23:33*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**19.0**		0.1	0.1	%			10/22/20 20:55	1
Percent Solids	**81.0**		0.1	0.1	%			10/22/20 20:55	1
Total Solids	**80**		0.50	0.50	%			10/26/20 21:38	1

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

Lab Sample ID: MB 180-333372/1-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 333372

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		67	19	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Acenaphthylene	ND		67	15	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Anthracene	ND		67	17	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]anthracene	ND		67	30	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[b]fluoranthene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[k]fluoranthene	ND		67	20	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[g,h,i]perylene	ND		67	14	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Benzo[a]pyrene	ND		67	29	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Chrysene	ND		67	37	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Dibenz(a,h)anthracene	ND		67	43	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluoranthene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Fluorene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Indeno[1,2,3-cd]pyrene	ND		67	33	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Naphthalene	ND		67	13	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Phenanthrene	ND		67	18	ug/Kg		10/14/20 08:24	10/16/20 12:16	1
Pyrene	ND		67	16	ug/Kg		10/14/20 08:24	10/16/20 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*45 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
2-Fluorophenol (Surr)	*64*		*42 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
2,4,6-Tribromophenol (Surr)	*39*		*31 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Nitrobenzene-d5 (Surr)	*70*		*53 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Phenol-d5 (Surr)	*61*		*47 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*
Terphenyl-d14 (Surr)	*70*		*46 - 105*	*10/14/20 08:24*	*10/16/20 12:16*	*1*

Lab Sample ID: LCS 180-333372/2-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	6670	5160		ug/Kg		77	49 - 107
Acenaphthylene	6670	5240		ug/Kg		79	46 - 110
Anthracene	6670	5380		ug/Kg		81	47 - 116
Benzo[a]anthracene	6670	4840		ug/Kg		73	48 - 101
Benzo[b]fluoranthene	6670	4630		ug/Kg		69	46 - 100
Benzo[k]fluoranthene	6670	4660		ug/Kg		70	43 - 114
Benzo[g,h,i]perylene	6670	4500		ug/Kg		68	49 - 111
Benzo[a]pyrene	6670	4770		ug/Kg		72	46 - 114
Chrysene	6670	4350		ug/Kg		65	49 - 100
Dibenz(a,h)anthracene	6670	4320		ug/Kg		65	49 - 112
Fluoranthene	6670	5050		ug/Kg		76	54 - 105
Fluorene	6670	5240		ug/Kg		79	50 - 106
Indeno[1,2,3-cd]pyrene	6670	5010		ug/Kg		75	49 - 112
Naphthalene	6670	4820		ug/Kg		72	53 - 100
Phenanthrene	6670	5130		ug/Kg		77	46 - 111
Pyrene	6670	4880		ug/Kg		73	49 - 100

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

Lab Sample ID: LCS 180-333372/2-A
Matrix: Solid
Analysis Batch: 333708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 333372

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		45 - 105
2-Fluorophenol (Surr)	90		42 - 105
2,4,6-Tribromophenol (Surr)	80		31 - 105
Nitrobenzene-d5 (Surr)	88		53 - 105
Phenol-d5 (Surr)	78		47 - 105
Terphenyl-d14 (Surr)	85		46 - 105

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

Lab Sample ID: MB 320-426110/1-A
Matrix: Solid
Analysis Batch: 426767

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426110

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		1.0	0.54	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total TCDD	ND		1.0	0.54	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,7,8-PeCDD	ND		5.0	0.50	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total PeCDD	ND		5.0	0.50	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,4,7,8-HxCDD	ND		5.0	0.23	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,6,7,8-HxCDD	ND		5.0	0.21	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,7,8,9-HxCDD	ND		5.0	0.20	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total HxCDD	ND		5.0	0.23	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,4,6,7,8-HpCDD	0.254	J q	5.0	0.14	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total HpCDD	0.254	J q	5.0	0.14	pg/g		10/28/20 09:18	10/29/20 13:29	1
OCDD	1.45	J	10	0.23	pg/g		10/28/20 09:18	10/29/20 13:29	1
2,3,7,8-TCDF	ND		1.0	0.32	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total TCDF	ND		1.0	0.32	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,7,8-PeCDF	ND		5.0	0.50	pg/g		10/28/20 09:18	10/29/20 13:29	1
2,3,4,7,8-PeCDF	ND		5.0	0.52	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total PeCDF	ND		5.0	0.99	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,4,7,8-HxCDF	ND		5.0	0.20	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,6,7,8-HxCDF	ND		5.0	0.18	pg/g		10/28/20 09:18	10/29/20 13:29	1
2,3,4,6,7,8-HxCDF	ND		5.0	0.19	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,7,8,9-HxCDF	ND		5.0	0.22	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total HxCDF	ND		5.0	0.22	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,4,6,7,8-HpCDF	ND		5.0	0.12	pg/g		10/28/20 09:18	10/29/20 13:29	1
1,2,3,4,7,8,9-HpCDF	ND		5.0	0.17	pg/g		10/28/20 09:18	10/29/20 13:29	1
Total HpCDF	ND		5.0	0.17	pg/g		10/28/20 09:18	10/29/20 13:29	1
OCDF	ND		10	0.19	pg/g		10/28/20 09:18	10/29/20 13:29	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	75		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-1,2,3,7,8-PeCDD	74		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-1,2,3,6,7,8-HxCDD	77		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-1,2,3,4,6,7,8-HpCDD	81		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-OCDD	95		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-2,3,7,8-TCDF	67		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-1,2,3,7,8-PeCDF	72		40 - 135	10/28/20 09:18	10/29/20 13:29	1
13C-1,2,3,4,7,8-HxCDF	73		40 - 135	10/28/20 09:18	10/29/20 13:29	1

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

Lab Sample ID: MB 320-426110/1-A
Matrix: Solid
Analysis Batch: 426767

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 426110

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-1,2,3,4,6,7,8-HpCDF	80		40 - 135	10/28/20 09:18	10/29/20 13:29	1

Lab Sample ID: LCS 320-426110/2-A
Matrix: Solid
Analysis Batch: 426767

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 426110

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,3,7,8-TCDD			20.0	17.9		pg/g		89	77 - 130		
1,2,3,7,8-PeCDD			100	88.0		pg/g		88	79 - 134		
1,2,3,4,7,8-HxCDD			100	89.7		pg/g		90	65 - 144		
1,2,3,6,7,8-HxCDD			100	98.9		pg/g		99	73 - 147		
1,2,3,7,8,9-HxCDD			100	97.0		pg/g		97	80 - 143		
1,2,3,4,6,7,8-HpCDD			100	97.2		pg/g		97	86 - 134		
OCDD			200	212		pg/g		106	80 - 137		
2,3,7,8-TCDF			20.0	18.6		pg/g		93	79 - 137		
1,2,3,7,8-PeCDF			100	93.8		pg/g		94	81 - 134		
2,3,4,7,8-PeCDF			100	96.2		pg/g		96	76 - 132		
1,2,3,4,7,8-HxCDF			100	101		pg/g		101	72 - 140		
1,2,3,6,7,8-HxCDF			100	102		pg/g		102	63 - 152		
2,3,4,6,7,8-HxCDF			100	105		pg/g		105	72 - 151		
1,2,3,7,8,9-HxCDF			100	107		pg/g		107	72 - 152		
1,2,3,4,6,7,8-HpCDF			100	94.2		pg/g		94	81 - 137		
1,2,3,4,7,8,9-HpCDF			100	104		pg/g		104	79 - 139		
OCDF			200	205		pg/g		103	75 - 141		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	71		40 - 135
13C-1,2,3,7,8-PeCDD	73		40 - 135
13C-1,2,3,6,7,8-HxCDD	71		40 - 135
13C-1,2,3,4,6,7,8-HpCDD	75		40 - 135
13C-OCDD	94		40 - 135
13C-2,3,7,8-TCDF	65		40 - 135
13C-1,2,3,7,8-PeCDF	71		40 - 135
13C-1,2,3,4,7,8-HxCDF	67		40 - 135
13C-1,2,3,4,6,7,8-HpCDF	75		40 - 135

Lab Sample ID: LCSD 320-426110/3-A
Matrix: Solid
Analysis Batch: 426767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 426110

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,7,8-TCDD			20.0	17.7		pg/g		88	77 - 130	1	20
1,2,3,7,8-PeCDD			100	87.4		pg/g		87	79 - 134	1	20
1,2,3,4,7,8-HxCDD			100	91.3		pg/g		91	65 - 144	2	20
1,2,3,6,7,8-HxCDD			100	96.4		pg/g		96	73 - 147	3	20
1,2,3,7,8,9-HxCDD			100	95.8		pg/g		96	80 - 143	1	20
1,2,3,4,6,7,8-HpCDD			100	95.1		pg/g		95	86 - 134	2	20
OCDD			200	207		pg/g		103	80 - 137	3	20
2,3,7,8-TCDF			20.0	18.9		pg/g		95	79 - 137	2	20

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

Lab Sample ID: LCSD 320-426110/3-A
Matrix: Solid
Analysis Batch: 426767

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 426110

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3,7,8-PeCDF			100	94.2		pg/g		94	81 - 134	0	20
2,3,4,7,8-PeCDF			100	96.4		pg/g		96	76 - 132	0	20
1,2,3,4,7,8-HxCDF			100	99.7		pg/g		100	72 - 140	2	20
1,2,3,6,7,8-HxCDF			100	98.8		pg/g		99	63 - 152	3	20
2,3,4,6,7,8-HxCDF			100	103		pg/g		103	72 - 151	2	20
1,2,3,7,8,9-HxCDF			100	105		pg/g		105	72 - 152	2	20
1,2,3,4,6,7,8-HpCDF			100	94.6		pg/g		95	81 - 137	0	20
1,2,3,4,7,8,9-HpCDF			100	104		pg/g		104	79 - 139	1	20
OCDF			200	205		pg/g		103	75 - 141	0	20

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C-2,3,7,8-TCDD	*74*		*40 - 135*
13C-1,2,3,7,8-PeCDD	*76*		*40 - 135*
13C-1,2,3,6,7,8-HxCDD	*78*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDD	*82*		*40 - 135*
13C-OCDD	*97*		*40 - 135*
13C-2,3,7,8-TCDF	*67*		*40 - 135*
13C-1,2,3,7,8-PeCDF	*72*		*40 - 135*
13C-1,2,3,4,7,8-HxCDF	*74*		*40 - 135*
13C-1,2,3,4,6,7,8-HpCDF	*80*		*40 - 135*

Method: SM 2540G - Total, Fixed, and Volatile Solids

Lab Sample ID: 180-111870-1 DU
Matrix: Solid
Analysis Batch: 334823

Client Sample ID: BREPA21SS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Solids	83			82.9		%				0.2	10

GC/MS Semi VOA

Prep Batch: 333372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-1	BREPA21SS	Total/NA	Solid	3541	
180-111870-2	BR373SS	Total/NA	Solid	3541	
180-111870-3	BR351SS	Total/NA	Solid	3541	
180-111870-4	BR315SS	Total/NA	Solid	3541	
180-111870-5	BR289SS	Total/NA	Solid	3541	
180-111870-6	BR233SS	Total/NA	Solid	3541	
MB 180-333372/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 333708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-333372/1-A	Method Blank	Total/NA	Solid	EPA 8270E	333372
LCS 180-333372/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270E	333372

Analysis Batch: 333809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-1	BREPA21SS	Total/NA	Solid	EPA 8270E	333372
180-111870-2	BR373SS	Total/NA	Solid	EPA 8270E	333372
180-111870-3	BR351SS	Total/NA	Solid	EPA 8270E	333372
180-111870-4	BR315SS	Total/NA	Solid	EPA 8270E	333372
180-111870-5	BR289SS	Total/NA	Solid	EPA 8270E	333372
180-111870-6	BR233SS	Total/NA	Solid	EPA 8270E	333372

Specialty Organics

Prep Batch: 426110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-1	BREPA21SS	Total/NA	Solid	8290	
180-111870-2 - RA	BR373SS	Total/NA	Solid	8290	
180-111870-2	BR373SS	Total/NA	Solid	8290	
180-111870-3 - RA	BR351SS	Total/NA	Solid	8290	
180-111870-3	BR351SS	Total/NA	Solid	8290	
180-111870-4 - RA	BR315SS	Total/NA	Solid	8290	
180-111870-4	BR315SS	Total/NA	Solid	8290	
180-111870-5 - RA	BR289SS	Total/NA	Solid	8290	
180-111870-5	BR289SS	Total/NA	Solid	8290	
180-111870-6 - RA	BR233SS	Total/NA	Solid	8290	
180-111870-6	BR233SS	Total/NA	Solid	8290	
MB 320-426110/1-A	Method Blank	Total/NA	Solid	8290	
LCS 320-426110/2-A	Lab Control Sample	Total/NA	Solid	8290	
LCSD 320-426110/3-A	Lab Control Sample Dup	Total/NA	Solid	8290	

Analysis Batch: 426767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-1	BREPA21SS	Total/NA	Solid	8290A	426110
180-111870-3	BR351SS	Total/NA	Solid	8290A	426110
180-111870-4	BR315SS	Total/NA	Solid	8290A	426110
180-111870-5	BR289SS	Total/NA	Solid	8290A	426110
180-111870-6	BR233SS	Total/NA	Solid	8290A	426110
MB 320-426110/1-A	Method Blank	Total/NA	Solid	8290A	426110
LCS 320-426110/2-A	Lab Control Sample	Total/NA	Solid	8290A	426110

Specialty Organics (Continued)

Analysis Batch: 426767 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-426110/3-A	Lab Control Sample Dup	Total/NA	Solid	8290A	426110

Analysis Batch: 427868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-3 - RA	BR351SS	Total/NA	Solid	8290A	426110
180-111870-4 - RA	BR315SS	Total/NA	Solid	8290A	426110
180-111870-5 - RA	BR289SS	Total/NA	Solid	8290A	426110
180-111870-6 - RA	BR233SS	Total/NA	Solid	8290A	426110

Analysis Batch: 428890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-2	BR373SS	Total/NA	Solid	8290A	426110

Analysis Batch: 428963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-2 - RA	BR373SS	Total/NA	Solid	8290A	426110

General Chemistry

Analysis Batch: 334427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-1	BREPA21SS	Total/NA	Solid	2540G	
180-111870-2	BR373SS	Total/NA	Solid	2540G	

Analysis Batch: 334429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-3	BR351SS	Total/NA	Solid	2540G	
180-111870-4	BR315SS	Total/NA	Solid	2540G	
180-111870-5	BR289SS	Total/NA	Solid	2540G	
180-111870-6	BR233SS	Total/NA	Solid	2540G	

Analysis Batch: 334823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-111870-1	BREPA21SS	Total/NA	Solid	SM 2540G	
180-111870-2	BR373SS	Total/NA	Solid	SM 2540G	
180-111870-3	BR351SS	Total/NA	Solid	SM 2540G	
180-111870-4	BR315SS	Total/NA	Solid	SM 2540G	
180-111870-5	BR289SS	Total/NA	Solid	SM 2540G	
180-111870-6	BR233SS	Total/NA	Solid	SM 2540G	
180-111870-1 DU	BREPA21SS	Total/NA	Solid	SM 2540G	

>> Select a Laboratory or Service Center <<

#N/A 301 Alpha Drive RIDC Park
#N/A Pittsburgh, PA 15238
#N/A
##

Chain of Custody Record

eurofins | Environment Testing America

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

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Jennifer Abrahams	Site Contact: Garrett Kuhl	Date:	COC No:
Your Company Name here: Tetra Tech	Email: Jennifer.Abrahams@Tetratech.com	Lab Contact: Veronica Burton	Carrier:	2 of 2 COCs
Address: 3101 Zinfandel Drive	Tel/Fax: 916-853-4526			TALS Project #:
City/State/Zip: Rancho Cordova, CA, 95670	Analysis Turnaround Time: ☒ CALENDAR DAYS ☐ WORKING DAYS			Sampler: A. Morgan / G. Kuhl
(xxx) xxx-xxxx Phone: 916-853-4526	TAT if different from Below: See notes			For Lab Use Only:
(xxx) xxx-xxxx FAX	☒ 2 weeks			Walk-in Client:
Project Name: Additional off-site Sampling	☒ 1 week			Lab Sampling:
Site: Grenada, MS	☐ 2 days			Job / SDG No.:
PO # 117-220145GA	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PAHs (EPA 8270)	(17) 2,3,7,8 PCDD/PCDF Congeners (EPA 8290)	Sample Specific Notes:
BREPA21SS	10/4/20	0845	C	Soil	2	N	N	X	X	Hold Sample
BR37SS	10/4/20	0940	C	Soil	2	N	N	X	X	Hold Sample
BR35SS	10/4/20	1114	C	Soil	2	N	N	X	X	Hold sample
BR31SS	10/4/20	1250	C	Soil	2	N	N	X	X	Hold Sample
BR28SS	10/4/20	1438	C	Soil	2	N	N	X	X	Hold Sample
BR23SS	10/4/20	1600	C	Soil	2	N	N	X	X	Hold Sample
BR50SS	10/4/20	1615	C	Soil	2	N	N	X	X	1 week TAT
BR86SS	10/4/20	1700	C	Soil	2	N	N	X	X	1 week TAT
BR23SS-EB	10/4/20	1655	G	water	4	N	N	X	X	2 week TAT

AS Morgan
10/5/20

180-111870 Chain of Custody

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

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

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

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

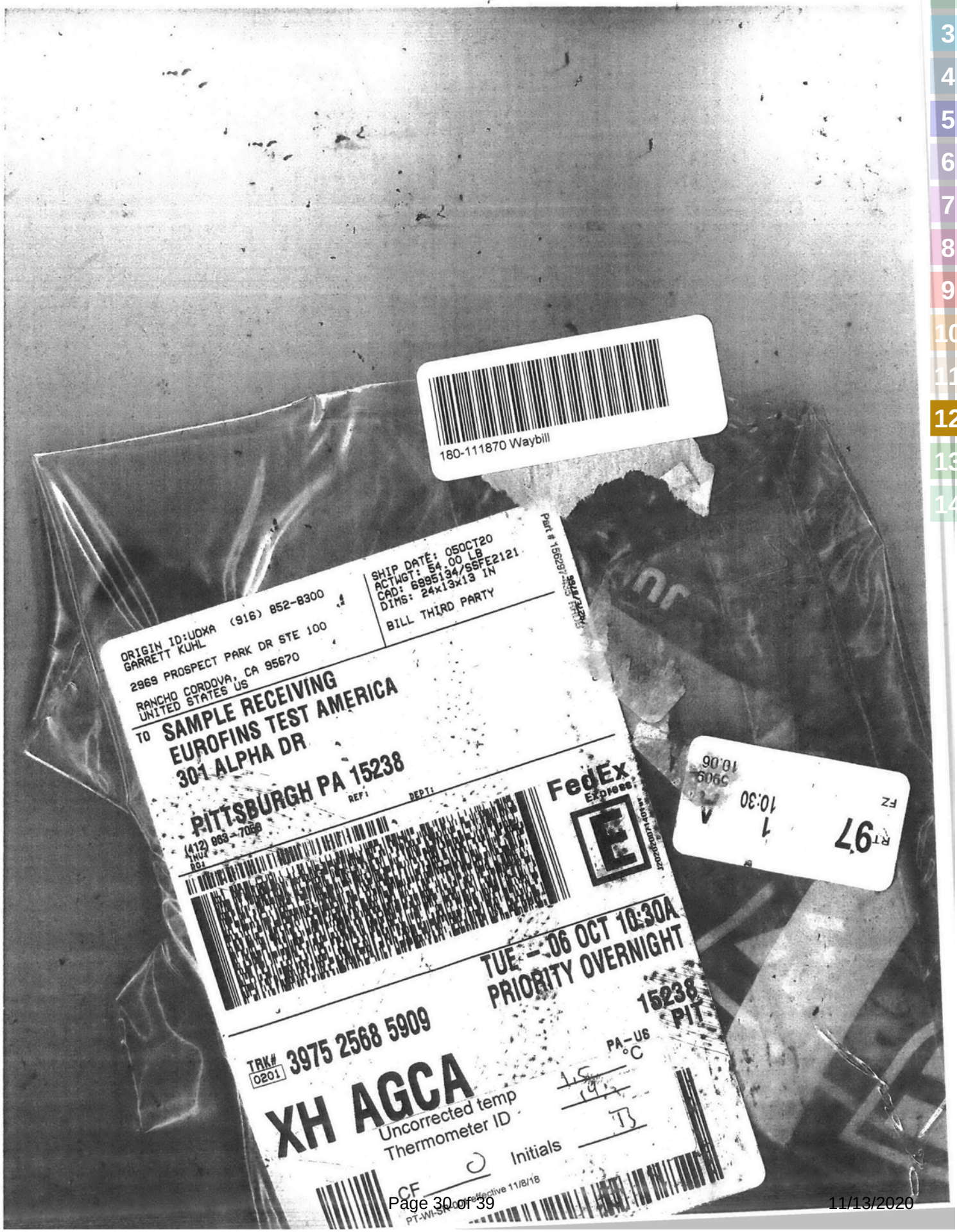
☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Standard EDD

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
AS Morgan	Tetra tech	10/5/20 1700	Fed ex	Fed ex	10/5/20 1700
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			Fed ex waybill	Pitt	10.6.20 9:00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.34, dated 8/3/2020


180-111870 Waybill
ORIGIN ID:UDXA (916) 852-8300
GARRETT KUHL
2969 PROSPECT PARK DR STE 100
RANCHO CORDOVA, CA 95670
UNITED STATES US
SHIP DATE: 05OCT20
ACTWGT: 54.00 LB
CAD: 6995134/SSFE2121
DIMS: 24x13x13 IN
BILL THIRD PARTY
TO SAMPLE RECEIVING
EUROFINS TEST AMERICA
301 ALPHA DR
PITTSBURGH PA 15238
(412) 963-7058
REF:
DEPT:
FedEx Express
TUE - 06 OCT 10:30A
PRIORITY OVERNIGHT
15238
PIT
TRK# 0201 3975 2568 5909
XH AGCA
Uncorrected temp
Thermometer ID
Initials
PA-US
°C
CF
Part # 156097

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-1
Address: 880 Riverside Parkway,	Due Date Requested: 10/12/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BR500SS (180-111870-7)	10/4/20	16:15 Central		Solid			X	1	
BR861SS (180-111870-8)	10/4/20	17:00 Central		Solid			X	1	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		10/7/20 1540	UPS		10/8/20 0945	Eurofins
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1.7/2.2

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-414269.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-2
Address: 880 Riverside Parkway,	Due Date Requested: 10/12/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sep 17 Isomers & Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BR233SS-EB (180-111870-9)	10/4/20	16:55 Central		Water			X	2	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	10/7/20 1500			10/8/20 945	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: Seal	Cooler Temperature(s) °C and Other Remarks: 1.7/2.2

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Bortot, Veronica	Carrier Tracking No(s):	COC No: 180-415722.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Veronica.Bortot@Eurofinset.com	State of Origin: Mississippi	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-111870-3
Address: 880 Riverside Parkway,	Due Date Requested: 10/23/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Grenada, Mississippi	Project #: 18010096			
Site:	SSOW#:			

Analysis Requested

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	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8290A/8290_P_Sox 17 Isomers w/ Totals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
BREPA21SS (180-111870-1)	10/4/20	08:45 Central		Solid			X	1	
BR373SS (180-111870-2)	10/4/20	09:40 Central		Solid			X	1	
BR351SS (180-111870-3)	10/4/20	11:14 Central		Solid			X	1	
BR315SS (180-111870-4)	10/4/20	12:50 Central		Solid			X	1	
BR289SS (180-111870-5)	10/4/20	14:38 Central		Solid			X	1	
BR233SS (180-111870-6)	10/4/20	16:00 Central		Solid			X	1	

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

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

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	10/19/20 17:00			10/20/20 09:45	ETA-SAC
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 08:0.5 CORR:0.0

Ver: 01/16/2019

Bottle Order Information

Bottle Order:
Bottle Order #:
Request From Client: *10/19/2020*
Date Order Posted:
Order Status: *Ready To Process*
Prepared By:
Deliver By Date: ***10/19/2020 11:59:00PM***
Lab Project Number:

Order Completion Information

Creator: *Christina Kovitch*
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative Comment

Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #: Seal #: Seal #:

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.
Go to http://www.testamericainc.com/customer-support/specialized-instructions-for-field-samplers/ for field sampler instructions.

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes


180-111870 Field Sheet

Tracking #: 1689 5103 2515

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: 4K6 Corr. Factor: (+/-) 0.5 °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: Seal

Cooler ID: _____

Temp Observed: 1.7 °C Corrected: 2.2 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: SD Date: 10/8/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: SD Date: 10/08/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: SD Date: 10/08/20

WSD

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Sacramento Sample Receiving Notes

180-111870 Field Sheet

Job: _____

Tracking # : 168951036602

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: AK-5 Corr. Factor: (+/-) 0.5 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: —

Temp Observed: 0.5 °C Corrected: 0.0 °C

From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 10/20/20

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: _____ Date: 10/20/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 10/20/20

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-3

Login Number: 111870
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-3

Login Number: 111870
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/08/20 01:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 1.7c corr: 2.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 180-111870-3

Login Number: 111870
List Number: 3
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 10/20/20 11:20 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	ob: 0.5c corr: 0.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

2020 Data Validation Reports

Data Validation Summary Report
Implementation of 2020 Work Plan for Additional Off-Site Sampling

Koppers Drive and Bailey Road
Grenada, Mississippi

PREPARED FOR

Beazer East, Inc.
c/o Three Rivers Management, Inc.
600 River Avenue, Suite 200
Pittsburgh, PA 15212

Koppers Inc.
436 Seventh Avenue
Pittsburgh, PA 15219

PREPARED BY

Tetra Tech
1093 Commerce Park Drive, Suite 100
Oak Ridge, TN 37830

December 14, 2020

TABLE OF CONTENTS

LIST OF TABLES

ATTACHMENTS

LIST OF ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
CCB	continuing calibration blank
CCV	continuing calibration verification
DL	detection limit
DMC	deuterated monitoring compound
DQO	data quality objectives
DVSR	data validation summary report
EB	equipment blank
EDD	electronic data delivery
EDL	estimated detection limit
EMPC	estimated maximum potential concentration
FD	field duplicate
GC-MS	gas chromatography-mass spectroscopy
IC	ion chromatography
ICAL	initial calibration
ICB	initial calibration blank
ICS	interference check samples
ICV	initial calibration verification
IDL	instrument detection limits
LCS	laboratory control sample
MDL	method detection limit
mg/kg	milligram per kilogram
mg/L	milligram per liter
MS/MSD	matrix spike / matrix spike duplicate
N/A	not applicable
NFG	National Functional Guidelines
%C	percent completeness
%D	percent difference or drift
%R	percent recovery
%RSD	percent relative standard deviation
PARCCS	precision, accuracy, representativeness, comparability, completeness, sensitivity
QA	quality assurance
QAPP	quality assurance project plan

Acronyms/Abbreviations	Definition
QC	quality control
RL	reporting limit
RPD	relative percent difference
SDG	sample delivery group
SVOC	semivolatile organic compound
Tetra Tech	Tetra Tech, Inc.
USEPA	United States Environmental Protection Agency
µg/L	micrograms per liter
VOC	volatile organic compound
WG	groundwater
WQ	water quality control sample

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has prepared this data validation summary report (DVSR) to assess the validity and usability of laboratory analytical data from the Implementation of the 2020 Work Plan for Additional Off-Site Sampling at Koppers Drive and Bailey Road in Grenada, Mississippi.

Eurofins TestAmerica, Inc. in Pittsburgh, Pennsylvania and West Sacramento, California provided laboratory analytical services. The analyses were performed by the methods and labs shown in Table 1.

The laboratory assigns job numbers, also called sample delivery groups (SDGs), to all samples. The samples associated with quality assurance and quality control (QA/QC) are designed to document the data quality of the samples in each sampling round or within an SDG. Table 2 cross-references each sample with its analysis, SDG, collection date, client sample number, laboratory sample number, QC type, and matrix. The samples shown in Table 2 are those submitted to the lab. Additional lab QC, using the field samples chosen by the lab, are not listed.

The laboratory analytical data were verified and validated in accordance with procedures described in the *RFI Work Plan Addendum 3 Former Koppers Inc. Grenada Facility Grenada, Mississippi Site* (Tetra Tech, 2020) referred to as the updated Quality Assurance Project Plan (QAPP); *National Functional Guidelines for High Resolution Superfund Methods Data Review, (USEPA, 2016)*; *National Functional Guidelines for Superfund Organic Methods Data Review, (USEPA, 2017);* and laboratory methods. Approximately 95 percent of the data was validated to Stage 2B and 5 percent to Stage 4. Data validation checklists are compiled in Attachment A. The electronic data deliverables (EDDs) were updated with the validation qualifiers and revised results, where applicable.

This report summarizes the QA/QC evaluation of the data using precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project data quality objectives (DQOs). This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability of the data.

2.0 PRECISION AND ACCURACY OF ENVIRONMENTAL DATA

Environmental data quality depends on sample collection procedures, analytical methods and instrumentation, documentation, and sample matrix properties. Both sampling procedures and laboratory analyses contain potential sources of uncertainty, error, and/or bias, which may affect the overall quality of a measurement. Errors for sample data may result from incomplete equipment decontamination, inappropriate sampling techniques, sample heterogeneity, improper filtering, and improper preservation. The accuracy of analytical results is dependent on selecting appropriate analytical methods, maintaining equipment properly, and complying with QC requirements. The sample matrix also is an important factor in the ability to obtain precise and accurate results within a given medium.

Environmental and laboratory QA/QC samples provide information on the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. Field QA/QC samples include equipment blanks (EBs), field duplicates (FDs), and matrix spike/matrix spike duplicates (MS/MSDs). Laboratory QA/QC samples include method blanks, laboratory control samples (LCSs), laboratory control sample duplicates (LCSDs), and additional MS/MSDs needed to meet method requirements.

2.1 PRECISION

Precision is a measure of the agreement of analytical results under a given set of conditions. It is a quantity that is not measured directly but is calculated from concentrations. Precision can be expressed as the relative percent difference (RPD) between two measurements:

$$RPD = \frac{(C1 - C2)*100}{(C1 + C2)/2}$$

where:
C1 = reported concentration for the sample
C2 = reported concentration for the duplicate

Precision can be expressed as the percent relative standard deviation (%RSD) between three or more measurements:

$$\%RSD = (s/\bar{a})*100$$

where:
%RSD = percent relative standard deviation
s = standard deviation
$\bar{a}$ = mean of replicate analyses

Precision is assessed by calculating %RSD during an initial calibration (ICAL) and RPD from the percent recoveries of the spiked compounds for each sample in the MS/MSD pair. In the absence of an MS/MSD pair, a laboratory duplicate or LCS/LCS duplicate pair can be analyzed as an alternative means of assessing precision. An additional measure of sampling precision is obtained by collecting and analyzing field duplicate samples, which are compared using the RPD results as the evaluation criteria.

MS and MSD samples are field samples which have been spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the appropriateness of the analytical method and effectiveness in recovering target analytes from a specific environmental matrix. The LCS sample is spiked with the same target analytes as the MS/MSD using an interference-free matrix instead of a field sample aliquot. The LCS measures laboratory efficiency in recovering target analytes in the absence of matrix interferences. It is used to verify that the analyses are being performed in control.

The laboratory analyzes laboratory replicates. A field sample is analyzed and an unspiked duplicate of that sample is also analyzed. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate and calculates RPDs to assess laboratory precision.

Calibration precision is determined by calculating %RSD. Laboratory and field sampling precision are evaluated by calculating RPDs for field sample duplicate pairs. The sampler collects two field samples at the same location and under identical conditions. The laboratory then analyzes the samples under identical conditions.

An RPD outside the allowed limit between MS/MSD samples indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a reported result. The actual analyte concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample heterogeneity, sample matrix interference, improper sample collection or handling, inconsistent sample preparation, instrument column fouling, and poor instrument stability. In duplicate pairs, results may be reported in either the primary or duplicate samples at levels below the reporting limit (RL) or non-detected. Since these values are estimated, RPD exceedances from these duplicate pairs do not suggest a significant impact to data quality.

2.2 ACCURACY

Accuracy is a measure of the closeness of agreement between a measured value and the true value of an analytical parameter. It may be used to identify bias in each measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of continuing calibrations, LCS, LCSD, MS, MSD, and surrogates. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. Accuracy is determined using the percent recovery (%R) of MS and LCS analyses.

Percent recovery is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

where:
A = measured concentration in the spiked sample
B = measured native concentration in the unspiked sample
C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples and LCS is evaluated with the acceptance criteria specified by the QAPPs and laboratory limits. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or quantitation limits reported for environmental samples.

2.3 REPRESENTATIVENESS

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. It is evaluated by reviewing the QC results of blanks, samples, and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed for this event were method blanks and EBs.

A method blank is a laboratory grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

EBs consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated and measure efficiency of the decontamination procedure. Equipment blanks are collected and analyzed for all target analytes.

Contaminants found in both the environmental sample and the blank sample are assumed to be laboratory artifacts if both values are less than the RL or if a sample result and blank contaminant value are greater than the RL and the sample result is less than 10 times the blank contaminant value.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times are specific for each method and matrix analyzed. Holding time exceedance can cause loss of sample constituents due to biodegradation, precipitation, volatilization, and chemical degradation. Sample results for analyses that were performed after the method holding time are qualified according to national functional guidelines (NFGs).

2.4 COMPARABILITY

Comparability is a qualitative characteristic that defines the extent to which the data for a chemical parameter measurement are consistent with, and may be compared with, data from other sampling events. Comparability is dependent upon the design of the sampling plans and execution of activities consistent with approved plans. Factors affecting comparability include sample collection and handling techniques, matrix type, and analytical method. Comparability is achieved through the use of standard techniques to collect representative samples, consistent application of analytical method protocols, and use of appropriate units in reporting analytical results. Comparability is also dependent upon other PARCCS criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

2.5 COMPLETENESS

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to determine if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

where:
%C = percent completeness
T = total number of sample results
R = total number of rejected sample results
Completeness is also determined by comparing the planned number of samples per method and matrix as specified in the QAPP, with the number determined above. Data rejected in favor of alternate results are not used in the completion calculation.

2.6 SENSITIVITY

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. It is generally used to describe the instrument detection limits or RLs established to meet project DQOs. The method detection limit (MDL) represents the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. Adjusted MDL values reflect sample-specific actions, such as dilutions or varying aliquot sizes. The Test

America laboratory data report shows the adjusted MDL and RL for the SW-846 Method 8270D/E data. The RL is the minimum concentration that can be reported based on the analysis of a specific matrix. The RL is often the lowest acceptable calibration point for the analyte. The SW-846 Method 8290A data shows an estimated detection limit (EDL). The EDL is the minimum concentration required to produce a specified signal-to-noise ratio. All results reported between the adjusted MDL and RL or EDL and RL were qualified “J” by the labs.

3.0 VALIDATION RESULTS AND PARCCS

This section discusses the validation results and the associated PARCCS criteria. Before conducting the PARCCS evaluation, the analytical data were validated according to the QAPP, NFGs, and the analytical methods.

Samples not meeting the acceptance criteria were denoted with a validation qualifier that indicates a deficiency with the data. Table 4 contains validation qualifiers used in data validation.

When more than one validation qualifier is applicable to a data point, the final validation qualifier applied is based on the following hierarchy:

R > J	“R” takes precedence over the “J” qualifier.
J+	The high bias (J+) qualifier is applied to detected results only.
J > J+ or J-	The unbiased (J) qualifier supersedes biased (J+ or J-) qualifiers since it is not possible to assess the direction of the potential bias.
J > EMPC	“J” qualifier supersedes the “EMPC” qualifier.
J = J+ plus J-	Adding biased (J+ or J-) qualifiers with opposite signs results in an unbiased qualifier (J).
UJ = U plus J	“UJ” qualifier is used when a non-detected “U” flag is added to a “J” flag.

Table 5 identifies the QC elements reviewed for each validation level. The actual elements are method-dependent.

Table 6 presents all results qualified during validation.

3.1 PRECISION

3.1.1 Instrument Calibration

The objective of an ICAL is to ensure that an instrument can produce acceptable qualitative and quantitative data by determining the ratio of instrument response to analyte concentration. %RSD in methods 8290A and 8270D/E is used to evaluate ICAL results and provide a means of evaluating precision within an analytical system. No data were qualified for imprecision in the ICAL for this task.

3.1.2 MS/MSD and LCS/LCSD

Most MS/MSD and LCS/LCSD RPDs were within the lab’s acceptance criteria. In SDG 180-111805-1, benzo[g,h,i]perylene RPD was high between the MS and MSD of KD297SS. The parent sample was non-detect, so there can be no imprecision. Per NFG the sample was not qualified. In SDGs 180-111697-1 and 180-111805-1, the RPD of 2,3,4,6,7,8-HxCDF was high between the LCS and LCSD. The affected samples were qualified "J" or "UJ" per NFG.

3.1.3 Field Duplicate Samples

For results > 5X the RL, the FD samples were evaluated for acceptable precision with RPDs. If one or both results was < 5X the RL, samples were evaluated by the difference between the two measurements. Table 7 includes a summary of the FD analyses and results where an analyte was detected in either the parent and/or the FD. If RPDs exceeded 40 percent or the absolute value of the difference between the results was greater than 2x the RL, the results were qualified. Two pairs were analyzed: KD010SS and KD860SS and BR500SS and BR861SS. Thirty-eight results were qualified "J" or "UJ" for imprecision.

3.2 ACCURACY

3.2.1 Instrument Calibration

The objective of continuing calibration verification is to ensure that the instrument continues to meet the sensitivity and linearity criteria throughout each analytical sequence. Initial and continuing calibration verification (CCV) results provide a means of evaluating accuracy within an analytical run. Percent difference or drift (%D), %R, correlation coefficient, and coefficient of determination are the parameters used to measure the effectiveness of instrument calibration. The correlation coefficient indicates the linearity of the calibration curve. %R and %D are used to verify the ongoing calibration acceptability of the analytical system. No data were qualified for calibration outliers.

3.2.2 MS/MSD

In 180-111869-1, 1,2,3,7,8,9-HxCDD recovery was high in the MS of DW202SS. It was qualified “J” in the parent sample.

3.2.3 LCS Samples

Recoveries were within the lab’s limit. No data were qualified for LCS recovery outliers.

3.2.4 Isotope Dilution Analytes

Isotope dilution analytes are added to all samples analyzed by 8290A. All recoveries were within the lab’s acceptance limits.

3.2.5 Surrogates

Surrogates or deuterated compounds are added to all samples analyzed by 8270D/E to measure the efficiency of the analytical method. In SDG 180-111869-1, no surrogates were detected in DW206SS because of sample dilution. No qualification was applied. Tribromophenol recovery was low in DW202SS. The target compounds were all base-neutrals. Tribromophenol is an acid compound, so no qualification was needed.

3.2.6 Analyte Quantitation and Target Identification

Raw data were evaluated for the Stage 4 samples. All analyte quantitation and target identifications reviewed matched the reported values. Target compounds detected below the RLs were flagged “J” by the laboratory and should be considered estimated. The qualifier was retained in validation.

In the 8290A analyses, estimated maximum possible concentrations (EMPCs) were calculated by the laboratory for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. The lab calculated EMPCs for multiple results. The validator assigned the “EMPC” qualifier to 58 of these results.

Results for detected total homologues were considered estimated and qualified “J” because concentrations were determined from calibrated and non-calibrated (estimated) values. Three hundred three results were qualified “J” due to uncertainty associated with quantitation.

In 8290A analyses, many data points that exceeded the calibration ranges of the instrument were reported. The results that exceeded the calibration range were qualified “J.” Thirty results were qualified for exceeding the calibration range.

3.3 REPRESENTATIVENESS

3.3.1 Sample Preservation and Holding Times

Holding times and sample preservation were evaluated to verify compliance with the analytical methods. 8270D/E and 8290A samples do not require preservation other than cooling. Holding times were met for all samples.

3.3.2 Blanks

Method blanks and EBs were analyzed to evaluate representativeness. The concentration of an analyte in any blank was used for data qualification. If contaminants were detected in a blank, the blank concentration was compared to the sample results. If the analyte was not detected in the sample, no qualification was applied to the sample.

In 8290A analyses, every method blank had multiple detections. The concentrations in the soil samples were >10x the amount in the blanks, so there was no qualification. For the method blanks associated with the EBs, analytes were also detected. Twenty-four results were qualified “U” in EBs because of lab contamination. The concentrations in the EBs was <10x the amount in the blanks.

3.4 COMPARABILITY

The laboratory used standard analytical methods for all analyses. In all cases, the adjusted MDLs attained were at or below the RLs. The comparability of the data is acceptable.

3.5 COMPLETENESS

The completeness level attained for the field samples and EBs is 100 percent. The percentage was calculated as the total number of accepted (non-rejected) sample results divided by the total number of sample results multiplied by 100. No data were rejected.

3.6 SENSITIVITY

The calibrations were evaluated for instrument sensitivity and were determined to be technically acceptable. Due to high analyte concentrations, many analytical runs were analyzed at dilutions. For diluted analyses, adjusted MDLs and RLs were elevated.

3.6.1 Internal Standards

Internal standards were added to all samples analyzed by methods 8270D/E and 8290A. Internal standard areas and retention times were evaluated to ensure that instrument sensitivity and response remained stable during analysis. In 8290A, internal standard areas, retention times, and recoveries were reported in Level IV data packages only. They were evaluated in Stage 4 validation to ensure that instrument sensitivity and response remained stable during analysis. No data were qualified for internal standard anomalies.

3.6.2 Tailing Factors

Method SW-846 8270D/E requires that the instrument tuning solution be able to assess the column performance and injection port inertness. Tailing factors are used to determine the presence of active sites on the column that would affect sensitivity. Based upon method 8270D/E requirements, the tailing factor measured at 10% peak height for the extracted quantitation ion should be no greater than 2. They were evaluated in Stage 4 validation. Tailing factors were acceptable.

4.0 SUMMARY

The analytical data validation of the laboratory analytical results generated from the Implementation of the 2020 Work Plan for Additional Off-Site Sampling at Koppers Drive and Bailey Road in Grenada, Mississippi established that the overall project requirements and completeness levels were met. Sample results were qualified for calibration exceedances, compound identification, EMPCs, imprecision between the LCS and LCSD, imprecision between samples and their FDs, quantitation, and detections below the RL. No data were rejected.

5.0 REFERENCES

Tetra Tech. (2020). *RFI Work Plan Addendum 3 Former Koppers Inc. Grenada Facility Grenada, Mississippi*.

United States Environmental Protection Agency (USEPA). (2016). *National Functional Guidelines for High Resolution Superfund Methods Data Review*. EPA-542-B-16-001. April.

USEPA. (2017b). *National Functional Guidelines for Superfund Organic Methods Data Review.* EPA-540-R-2017-002. January.

Tables

Table 1 Analytical Methods

Method	Parameters	Lab
SW-846 Method 8270D/E	Polynuclear Aromatic Hydrocarbons	Eurofins TestAmerica - Pittsburgh
SW-846 Method 8290A	Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans	Eurofins TestAmerica - West Sacramento

Table 2 Sample Cross-Reference

SDG	Client Sample ID	Lab Sample ID	Matrix	Sample Type	Sample Date	SW-846 8270D/E	SW-846 8290A
180-111697-1	KD302SS	180-111697-1	Soil	Normal	9/28/2020	X	X
180-111697-1	KD280SS	180-111697-2	Soil	Normal	9/28/2020	X	X
180-111697-1	KD280SS-EB	180-111697-3	Water	Equipment Blank	9/28/2020	X	X
180-111697-1	KD248SS	180-111697-4	Soil	Normal	9/29/2020	X	X
180-111697-1	KD216SS	180-111697-5	Soil	Normal	9/29/2020	X	X
180-111697-1	KD132SS	180-111697-6	Soil	Normal	9/29/2020	X	X
180-111697-1	KDEPA9SS	180-111697-7	Soil	Normal	9/29/2020	X	X
180-111697-1	KD106SS-EB	180-111697-8	Water	Equipment Blank	9/29/2020	X	X
180-111697-1	KD106SS	180-111697-9	Soil	Normal	9/29/2020	X	X
180-111697-1	KD080SS	180-111697-10	Soil	Normal	9/30/2020	X	X
180-111697-1	KD010SS	180-111697-11	Soil	Normal	9/30/2020	X	X
180-111697-1	KD860SS	180-111697-12	Soil	Field Duplicate	9/30/2020	X	X
180-111805-1	KD029SS	180-111805-1	Soil	Normal	9/30/2020	X	X
180-111805-1	KD045SS	180-111805-2	Soil	Normal	10/1/2020	X	X
180-111805-1	KD123SS	180-111805-3	Soil	Normal	10/1/2020	X	X
180-111805-1	KD149SS	180-111805-4	Soil	Normal	10/1/2020	X	X
180-111805-1	KD225ESS	180-111805-5	Soil	Normal	10/1/2020	X	X
180-111805-1	KD225WSS	180-111805-6	Soil	Normal	10/1/2020	X	X
180-111805-1	DW201SS	180-111805-7	Soil	Normal	10/2/2020	X	X
180-111805-1	KD251SS	180-111805-8	Soil	Normal	10/2/2020	X	X
180-111805-1	KD275SS	180-111805-9	Soil	Normal	10/2/2020	X	X
180-111805-1	KD297SS	180-111805-10	Soil	Normal	10/2/2020	X	X
180-111805-1	KD297SS-MS	180-111805-10 MS	Soil	Matrix Spike	10/2/2020	X	X
180-111805-1	KD297SS-MSD	180-111805-10 MSD	Soil	Matrix Spike Duplicate	10/2/2020	X	X
180-111805-1	KD010SS-EB	180-111805-11	Water	Equipment Blank	9/30/2020	X	X
180-111805-1	KD297SS-EB	180-111805-12	Water	Equipment Blank	10/2/2020	X	X
180-111805-1	KD225WSS-EB	180-111805-13	Water	Equipment Blank	10/1/2020	X	X
180-111869-1	DW202SS	180-111869-1	Soil	Normal	10/3/2020	X	X
180-111869-1	DW202SS-MS	180-111869-1 MS	Soil	Matrix Spike	10/3/2020	X	X
180-111869-1	DW202SS-MSD	180-111869-1 MSD	Soil	Matrix Spike Duplicate	10/3/2020	X	X
180-111869-1	DW203SS	180-111869-2	Soil	Normal	10/3/2020	X	X
180-111869-1	DW204SS	180-111869-3	Soil	Normal	10/3/2020	X	X
180-111869-1	DW205SS	180-111869-4	Soil	Normal	10/3/2020	X	X
180-111869-1	DW206SS	180-111869-5	Soil	Normal	10/3/2020	X	X
180-111869-1	DW207SS	180-111869-6	Soil	Normal	10/3/2020	X	X
180-111869-1	KD321SS	180-111869-7	Soil	Normal	10/3/2020	X	X
180-111869-1	DW208SS	180-111869-8	Soil	Normal	10/3/2020	X	X
180-111869-1	DW209SS	180-111869-9	Soil	Normal	10/3/2020	X	X
180-111869-1	DW210SS	180-111869-10	Soil	Normal	10/3/2020	X	X
180-111869-1	DW210SS-EB	180-111869-11	Water	Equipment Blank	10/3/2020	X	X
180-111870-1	BR500SS	180-111870-7	Soil	Normal	10/4/2020	X	X
180-111870-1	BR861SS	180-111870-8	Soil	Field Duplicate	10/4/2020	X	X
180-111870-2	BR233SS-EB	180-111870-9	Water	Equipment Blank	10/4/2020	X	X
180-111870-3	BREPA21SS	180-111870-1	Soil	Normal	10/4/2020	X	X
180-111870-3	BR373SS	180-111870-2	Soil	Normal	10/4/2020	X	X
180-111870-3	BR351SS	180-111870-3	Soil	Normal	10/4/2020	X	X
180-111870-3	BR315SS	180-111870-4	Soil	Normal	10/4/2020	X	X
180-111870-3	BR289SS	180-111870-5	Soil	Normal	10/4/2020	X	X
180-111870-3	BR233SS	180-111870-6	Soil	Normal	10/4/2020	X	X

Table 3 Sample Validation Stages

SDG	Client Sample ID	Lab Sample ID	Matrix	Sample Type	Sample Date	SW-846 8270D/E	SW-846 8290A
180-111697-1	KD302SS	180-111697-1	Soil	Normal	9/28/2020	Stage 2B	Stage 2B
180-111697-1	KD280SS	180-111697-2	Soil	Normal	9/28/2020	Stage 2B	Stage 2B
180-111697-1	KD280SS-EB	180-111697-3	Water	Equipment Blank	9/28/2020	Stage 2B	Stage 2B
180-111697-1	KD248SS	180-111697-4	Soil	Normal	9/29/2020	Stage 2B	Stage 2B
180-111697-1	KD216SS	180-111697-5	Soil	Normal	9/29/2020	Stage 2B	Stage 2B
180-111697-1	KD132SS	180-111697-6	Soil	Normal	9/29/2020	Stage 2B	Stage 2B
180-111697-1	KDEPA9SS	180-111697-7	Soil	Normal	9/29/2020	Stage 2B	Stage 2B
180-111697-1	KD106SS-EB	180-111697-8	Water	Equipment Blank	9/29/2020	Stage 2B	Stage 2B
180-111697-1	KD106SS	180-111697-9	Soil	Normal	9/29/2020	Stage 2B	Stage 2B
180-111697-1	KD080SS	180-111697-10	Soil	Normal	9/30/2020	Stage 2B	Stage 2B
180-111697-1	KD010SS	180-111697-11	Soil	Normal	9/30/2020	Stage 2B	Stage 2B
180-111697-1	KD860SS	180-111697-12	Soil	Field Duplicate	9/30/2020	Stage 2B	Stage 2B
180-111805-1	KD029SS	180-111805-1	Soil	Normal	9/30/2020	Stage 2B	Stage 2B
180-111805-1	KD045SS	180-111805-2	Soil	Normal	10/1/2020	Stage 2B	Stage 2B
180-111805-1	KD123SS	180-111805-3	Soil	Normal	10/1/2020	Stage 2B	Stage 2B
180-111805-1	KD149SS	180-111805-4	Soil	Normal	10/1/2020	Stage 2B	Stage 2B
180-111805-1	KD225ESS	180-111805-5	Soil	Normal	10/1/2020	Stage 2B	Stage 2B
180-111805-1	KD225WSS	180-111805-6	Soil	Normal	10/1/2020	Stage 2B	Stage 2B
180-111805-1	DW201SS	180-111805-7	Soil	Normal	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD251SS	180-111805-8	Soil	Normal	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD275SS	180-111805-9	Soil	Normal	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD297SS	180-111805-10	Soil	Normal	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD297SS-MS	180-111805-10 MS	Soil	Matrix Spike	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD297SS-MSD	180-111805-10 MSD	Soil	Matrix Spike Duplicate	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD010SS-EB	180-111805-11	Water	Equipment Blank	9/30/2020	Stage 2B	Stage 2B
180-111805-1	KD297SS-EB	180-111805-12	Water	Equipment Blank	10/2/2020	Stage 2B	Stage 2B
180-111805-1	KD225WSS-EB	180-111805-13	Water	Equipment Blank	10/1/2020	Stage 2B	Stage 2B
180-111869-1	DW202SS	180-111869-1	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW202SS-MS	180-111869-1 MS	Soil	Matrix Spike	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW202SS-MSD	180-111869-1 MSD	Soil	Matrix Spike Duplicate	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW203SS	180-111869-2	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW204SS	180-111869-3	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW205SS	180-111869-4	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW206SS	180-111869-5	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW207SS	180-111869-6	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	KD321SS	180-111869-7	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW208SS	180-111869-8	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW209SS	180-111869-9	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW210SS	180-111869-10	Soil	Normal	10/3/2020	Stage 2B	Stage 2B
180-111869-1	DW210SS-EB	180-111869-11	Water	Equipment Blank	10/3/2020	Stage 2B	Stage 2B
180-111870-1	BR500SS	180-111870-7	Soil	Normal	10/4/2020	Stage 4	Stage 4
180-111870-1	BR861SS	180-111870-8	Soil	Field Duplicate	10/4/2020	Stage 4	Stage 4
180-111870-2	BR233SS-EB	180-111870-9	Water	Equipment Blank	10/4/2020	Stage 4	Stage 4
180-111870-3	BREPA21SS	180-111870-1	Soil	Normal	10/4/2020	Stage 2B	Stage 2B
180-111870-3	BR373SS	180-111870-2	Soil	Normal	10/4/2020	Stage 2B	Stage 2B
180-111870-3	BR351SS	180-111870-3	Soil	Normal	10/4/2020	Stage 2B	Stage 2B
180-111870-3	BR315SS	180-111870-4	Soil	Normal	10/4/2020	Stage 2B	Stage 2B
180-111870-3	BR289SS	180-111870-5	Soil	Normal	10/4/2020	Stage 2B	Stage 2B
180-111870-3	BR233SS	180-111870-6	Soil	Normal	10/4/2020	Stage 2B	Stage 2B

Table 4 Validation Qualifiers and Definitions

Validation Qualifier	Definition
EMPC	Chromatographic peaks are present in the expected retention time window; however, the peaks do not meet all of the conditions required for a positive identification. The reported result represents the estimated maximum possible concentration if the compound was present.
J	The analyte was positively identified; the concentration is estimated.
N	Tentative; the result was not detected on a second column necessary to confirm the qualitative identification.
R	The result is unusable. The sample result is rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in sample.
U	Analyte was not detected at the reporting limit.
	The compound should be considered “not detected” because it was detected in the field/equipment blank, trip blank, or laboratory method blank at a similar level.
UJ	The analyte was not detected; the reporting limit may be inaccurate or imprecise.

Table 5 Validation Checks and Stages

Verification and Validation Checks	Stage 2B	Stage 4
Documentation identifies the laboratory receiving and conducting analyses, and includes documentation for all samples submitted by the project or requester for analyses.	X	X
Requested analytical methods were performed and the analysis dates are present.	X	X
Requested target analyte results are reported along with the original laboratory data qualifiers and data qualifier definitions for each reported result (and the uncertainty of each result and clear indication of the type of uncertainty reported if required, e.g., for radiochemical analyses).	X	X
Requested target analyte result units are reported (along with their associated uncertainty units if required, e.g., for radiochemical analyses).	X	X
Requested reporting limits for all samples are present and results at and below the requested (required) reporting limits are clearly identified (including sample detection limits if required).	X	X
Sampling dates (including times if needed), date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH, and temperature) are documented.	X	X
For radiochemical analyses, the sample-specific critical values (sometimes called "critical level," "decision level," or "detection threshold") and sample specific minimum detectable value, activity, or concentration for all samples are reported and results at and below the requested (required) critical values are clearly identified.	X	X
For radiochemical analyses, the chemical yield (if applicable to the method) and reference date and time (especially for short lived isotopes) are reported for all samples (as appropriate).	X	X
Sample results are evaluated by comparing sample conditions upon receipt at the laboratory (e.g., preservation checks) and sample characteristics (e.g., percent moisture) to the requirements and guidelines present in national or regional data validation documents, analytical method(s), or contract.	X	X
Requested methods (handling, preparation, cleanup, and analytical) are performed.	X	X
Method dates (including dates, times and duration of analysis for radiation counting measurements and other methods, if needed) for handling (e.g., Toxicity Characteristic Leaching Procedure), preparation, cleanup and analysis are present, as appropriate.	X	X
Sample-related QC data and QC acceptance criteria (e.g., method blanks, surrogate recoveries, deuterated monitoring compounds (DMC) recoveries, laboratory control sample (LCS) recoveries, duplicate analyses, matrix spike and matrix spike duplicate recoveries, serial dilutions, post digestion spikes, standard reference materials) are provided and linked to the reported field samples (including the field quality control samples such as trip and equipment blanks).	X	X
Requested spike analytes or compounds (e.g., surrogate, DMCs, LCS spikes, post digestion spikes) have been added, as appropriate.	X	X
Sample holding times (from sampling date to preparation and preparation to analysis) are evaluated.	X	X
Frequency of QC samples is checked for appropriateness (e.g., one LCS per 20 samples in a preparation batch).	X	X

Attachment A

Validation Checklists

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111697-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	12	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport	X		No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	KD106SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, Total HpCDD, and Total HpCDF "U". KD280SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 2,3,7,8-TCDF, and Total TCDF "U".
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples	X		Yes	KD280SS-EB and KD106SS-EB: Qualify 2,3,4,6,7,8-HxCDF "J" or "UJ".
11. Field Duplicates	X		Yes	KD010SS and KD860SS: Qualify 13 analytes "J".
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify OCDD "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
KD302SS	180-111697-1	9/28/2020	2.7 °C/0.9 °C	10/06/2020	10/17/2020
KD280SS	180-111697-2	9/28/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD280SS-EB	180-111697-3	9/28/2020	2.7 °C/0.9 °C	10/07/2020	10/10/2020
KD248SS	180-111697-4	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD216SS	180-111697-5	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD132SS	180-111697-6	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KDEPA9SS	180-111697-7	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020; 10/22/2020
KD106SS-EB	180-111697-8	9/29/2020	2.7 °C/0.9 °C	10/07/2020	10/10/2020
KD106SS	180-111697-9	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020; 10/22/2020
KD080SS	180-111697-10	9/30/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD010SS	180-111697-11	9/30/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020; 10/22/2020
KD860SS	180-111697-12	9/30/2020	2.7 °C/0.9 °C	10/06/2020	10/20/2020; 10/22/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes
Notes: The sample receipt at the West Sacramento lab states that corrected temperature at receipt was 6.9 °C. The writing on the COC looks like 0.9 °C.	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	Yes
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
WDM for ICAL on Instrument 3D5 analyzed on 9/23/2020. The standards were analyzed on 10/5/2020. Level III package does not provide all information.	

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
There is an ICAL sheet (page 579) that says RT and S/N ratio were good for soil ICAL, as were ion ratios. Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
In MB 320-419261/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD,OCDF, Total HpCDD, and Total HxCDD. In MB 320-419525/1-A (water), the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 2,3,7,8-TCDF, OCDD, Total HpCDD, Total HpCDF, and Total TCDF. In KD106SS-EB, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, Total HpCDD, and Total HpCDF were detected. In KD280SS-EB, twenty-one analytes were detected.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	No
RPD of the LCS 320-419525/LCSD 320-419525 exceeded control limits for 2,3,4,6,7,8-HxCDF.	

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	No
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	No
Notes: REG/FD pair: KD010SS and KD860SS	

12. Internal Standards and Recovery Standards	
Were samples spiked with internal standards and recovery standards?	Yes
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/02/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270D/8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111697-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	12	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates		X	No	None
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270D/8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
KD302SS	180-111697-1	9/28/2020	2.7 ºC	10/08/2020	10/11/2020
KD280SS	180-111697-2	9/28/2020	2.7 ºC	10/08/2020	10/11/2020
KD280SS-EB	180-111697-3	9/28/2020	2.7 ºC	10/02/2020	10/12/2020
KD248SS	180-111697-4	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD216SS	180-111697-5	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD132SS	180-111697-6	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KDEPA9SS	180-111697-7	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD106SS-EB	180-111697-8	9/29/2020	2.7 ºC	10/05/2020	10/16/2020
KD106SS	180-111697-9	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD080SS	180-111697-10	9/30/2020	2.7 ºC	10/14/2020	10/16/2020
KD010SS	180-111697-11	9/30/2020	2.7 ºC	10/14/2020	10/16/2020
KD860SS	180-111697-12	9/30/2020	2.7 ºC	10/14/2020	10/16/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes
Were qualifications required based on this information?	No

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	No

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	Yes
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	Yes
Notes: One pair was analyzed: KD010SS and KD860SS. All results agreed.	

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/21/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111805-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	15 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	KD010SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, OCDD, Total HpCDD, and Total TCDF "U". KD225WSS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, OCDD, and Total HpCDD "U". KD297SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, OCDD, Total HpCDD, and Total TCDF "U".
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples	X		Yes	KD010SS-EB, KD297SS-EB, and KD225WSS-EB: Qualify 2,3,4,6,7,8-HxCDF "UJ".
11. Field Duplicates	---	---	---	---
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify OCDD "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
KD029SS	180-111805-1	9/30/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD045SS	180-111805-2	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD123SS	180-111805-3	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020
KD149SS	180-111805-4	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD225ESS	180-111805-5	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020
KD225WSS	180-111805-6	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
DW201SS	180-111805-7	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD251SS	180-111805-8	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020
KD275SS	180-111805-9	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD297SS	180-111805-10	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD297SS-MS	180-111805-10 MS	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD297SS-MSD	180-111805-10 MSD	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD010SS-EB	180-111805-11	9/30/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/07/2020	10/10/2020
KD297SS-EB	180-111805-12	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/07/2020	10/10/2020
KD225WSS-EB	180-111805-13	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/07/2020	10/10/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 ºC?	Yes
Were samples received in proper condition?	Yes
Notes:	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: There is no “relinquished by” time listed on one of the two COCs.	

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	Yes
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
Notes: WDM for ICAL on Instrument 3D5 analyzed on 9/23/2020. The standards were analyzed on 10/5/2020.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
Notes: Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? (Forms 6A/6B) Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-419758/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDF, OCDD, OCDF, and Total HpCDF. In MB 320-419525/1-A (water), the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 2,3,7,8-TCDF, OCDD, Total HpCDD, Total HpCDF, and Total TCDF. In KD010SS-EB, 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, OCDD, OCDF, Total HpCDD, and Total TCDF were detected. In KD225WSS-EB, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD, Total HpCDD, and Total HxCDD were detected. In KD297SS-EB, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, 2,3,7,8-TCDD, 2,3,7,8-TCDF, OCDD, OCDF, Total HpCDD, Total HxCDD, Total TCDD, and Total TCDF were detected..	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	Yes
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within laboratory established limits?	No
Were field blanks used for the MS/MSD samples?	No
Notes: OCDD recovery was high in the MSD of KD297SS. The concentration in the parent sample was > 4x the amount spiked, so recovery criteria do not apply. No qualification.	

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	No
Notes: RPD of the LCS 320-419525/LCSD 320-419525 exceeded control limits for 2,3,4,6,7,8-HxCDF.	

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards?	N/A
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/03/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111805-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	15 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
KD029SS	180-111805-1	9/30/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD045SS	180-111805-2	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD123SS	180-111805-3	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD149SS	180-111805-4	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD225ESS	180-111805-5	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD225WSS	180-111805-6	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
DW201SS	180-111805-7	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD251SS	180-111805-8	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD275SS	180-111805-9	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD297SS	180-111805-10	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD297SS-MS	180-111805-10 MS	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD297SS-MSD	180-111805-10 MSD	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/17/2020
KD010SS-EB	180-111805-11	9/30/2020	1.8 ºC/3.6 ºC	10/07/2020	10/16/2020
KD297SS-EB	180-111805-12	10/02/2020	1.8 ºC/3.6 ºC	10/07/2020	10/16/2020
KD225WSS-EB	180-111805-13	10/01/2020	1.8 ºC/3.6 ºC	10/07/2020	10/16/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
There is no “relinquished by” time listed on one out of two COCs.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes
Were qualifications required based on this information?	No

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within the laboratory limits?	No
Were field blanks used for the MS/MSD samples?	No
Notes: Benzo[g,h,i]perylene RPD was high between the MS and MSD of KD297SS. The parent is non-detect, so no qualification is required.	

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/23/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111869-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	13 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	DW210SS-EB: Qualify OCDD "U".
8. Isotope Dilution Analytes		X	No	
9. Matrix Spike/Matrix Spike Duplicate	X		Yes	DW202SS: Qualify 1,2,3,7,8,9-HxCDD “J”.
10. Laboratory Control Samples		X	No	
11. Field Duplicates	---	---	---	---
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected “Total” isomers “J”, where applicable. Qualify all compounds detected below the RL “J”. Qualify applicable compounds “EMPC”. Qualify 1,2,3,4,6,7,8-HpCDD, OCDD, and OCDF “J” where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
DW202SS	180-111869-1	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW202SS-MS	180-111869-1 MS	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW202SS-MSD	180-111869-1 MSD	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW203SS	180-111869-2	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/19/2020
DW204SS	180-111869-3	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW205SS	180-111869-4	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW206SS	180-111869-5	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/19/2020
DW207SS	180-111869-6	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
KD321SS	180-111869-7	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/19/2020
DW208SS	180-111869-8	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW209SS	180-111869-9	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW210SS	180-111869-10	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW210SS-EB	180-111869-11	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/20/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes
Were qualifications required based on this information?	No
Notes:	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: There is no “relinquished by” time listed on the COC.	

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	No
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
Notes: WDM on Instrument 10D5, analyzed on 10/20/2020 @ 00:34, was analyzed after the CCV.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
Notes: Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? (Forms 6A/6B) Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-420127/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD, OCDF, Total HpCDD, and Total HxCDD. In MB 320-420196/1-A (water), the following analytes were detected: 1,2,3,4,7,8-HxCDD, OCDD, and Total HxCDD. In DW210SS-EB, OCDD was detected.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	Yes
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within laboratory established limits?	No
Were field blanks used for the MS/MSD samples?	No
Notes: OCDD and 1,2,3,4,6,7,8-HpCD, 1,2,3,4,6,7,8-HpCDF OCDF recoveries were high in the MS and/or MSD of DW202SS. The concentrations in the parent sample were > 4x the amount spiked, so recovery criteria do not apply. No qualification. 1,2,3,7,8,9-HxCDD recovery was high in the MS of DW202SS.	

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards and recovery standards?	N/A
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/04/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111869-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	13 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds	X		No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
DW202SS	180-111869-1	10/03/2020	1.4 °C	10/14/2020	10/16/2020
DW202SS-MS	180-111869-1 MS	10/03/2020	1.4 °C	10/14/2020	10/16/2020
DW202SS-MSD	180-111869-1 MSD	10/03/2020	1.4 °C	10/14/2020	10/16/2020
DW203SS	180-111869-2	10/03/2020	1.4 °C	10/13/2020	10/14/2020
DW204SS	180-111869-3	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW205SS	180-111869-4	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW206SS	180-111869-5	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW207SS	180-111869-6	10/03/2020	1.4 °C	10/13/2020	10/15/2020
KD321SS	180-111869-7	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW208SS	180-111869-8	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW209SS	180-111869-9	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW210SS	180-111869-10	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW210SS-EB	180-111869-11	10/03/2020	1.4 °C	10/08/2020	10/14/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 °C?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: There is no "relinquished by" time listed on the COC.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes
Were qualifications required based on this information?	No

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	No
Notes: No surrogates were detected in DW206SS because of sample dilution. No qualification is needed. Tribromophenol (TBF) recovery was low in DW202SS. The target compounds are all base-neutrals. TBF is an acid compound. No qualification is needed.	

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within the laboratory limits?	Yes
Were field blanks used for the MS/MSD samples?	No

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/24/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	2	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		No	None
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	X		Yes	BR500SS and BR861SS: Qualify Total TCDD "J".
12. Internal Standards and Recovery Standards		X	No	None
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify 1,2,3,4,6,7,8-HpCDD, OCDD, and OCDF "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)		X	No	None
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
BR500SS	180-111870-7	10/04/2020	1.5 °C/2.2 °C	10/09/2020	10/13/2020; 10/13/2020
BR861SS	180-111870-8	10/04/2020	1.4 °C/2.2 °C	10/09/2020	10/13/2020; 10/13/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	Yes
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series? (Raw QC Data; Tune Data)	Yes
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the ion abundance ratios within established limits?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes
Notes:	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-420127/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD, OCDF, Total HpCDD, and Total HxCDD. In BR233SS-EB (in SDG 180-111870-2), OCDD was detected.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	Yes
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	No
Notes: REG/FD pair: BR500SS and BR861SS	

12. Internal Standards	
Were samples spiked with internal standards? 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD	Yes
Were ion abundance ratios within established limits?	Yes
Were retention times within established limits?	Yes

13. Compound Identification and Quantitation	
Were the retention times within established limits? (-1 to +3 seconds from the respective isotope dilution analyte or internal standard signal)	No
Were ion abundance ratios within established limits?	No
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	Yes
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/08/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	2	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	X		Yes	BR500SS and BR861SS: Qualify benzo[a]anthracene, benzo[b]fluoranthene, chrysene, fluoranthene, and pyrene "J" or "UJ".
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	X		Yes	BR500SS: Qualify benzo[g,h,i]perylene "U".
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
BR500SS	180-111870-7	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR861SS	180-111870-8	10/04/2020	1.5 °C	10/14/2020	10/17/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in other data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	Yes
Was DDT % breakdown less than 20%?	Yes

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	No
Notes: REG/FD pair: BR500SS and BR861SS	

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	Yes
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	No
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	Yes
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes
Notes: Benzo[g,h,i]perylene spectrum in BR500SS did not have all the ions of the reference spectrum	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/07/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-2
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	1	Matrix:	Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	BR233SS-EB: Qualify OCDD "U".
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	No	None
14. Calculations and Raw Data (Stage 4 only)		X	No	None
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
BR233SS-EB	180-111870-9	10/04/2020	1.5 °C/2.2 °C	10/09/2020	10/19/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in different data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	No
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series? (Raw QC Data; Tune Data)	Yes
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
Notes: WDM 320-423518/43 was analyzed after the CCV, but before sample.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the ion abundance ratios within established limits?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: In MB 320-420193/1-A, the following analytes were detected: 1,2,3,4,7,8-HxCDD, OCDD, OCDF, and Total HxCDD. OCDD was detected in BR233SS-EB.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards? 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD	Yes
Were ion abundance ratios within established limits?	Yes
Were retention times within established limits?	Yes

13. Compound Identification and Quantitation	
Were the retention times within established limits? (-1 to +3 seconds from the respective isotope dilution analyte or internal standard signal)	Yes
Were ion abundance ratios within established limits?	Yes
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	No
Were the isomers characterized by a response with an S/N of at least 2.5?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/10/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-2
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	1	Matrix:	Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	No	None
14. Calculations and Raw Data (Stage 4 only)		X	No	None
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
BR233SS-EB	180-111870-9	10/04/2020	1.5 °C	10/08/2020	10/14/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in other data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	Yes
Was DDT % breakdown less than 20%?	Yes

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	Yes
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes
Notes: There were no target compound detections in the sample. RRTs of surrogates were acceptable.	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/08/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-3
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	6	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		No	None
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify OCDD "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
BREPA21SS	180-111870-1	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020
BR373SS	180-111870-2	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	11/05/2020; 11/06/2020
BR351SS	180-111870-3	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020
BR315SS	180-111870-4	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020
BR289SS	180-111870-5	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020
BR233SS	180-111870-6	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 ºC?	Yes
Were samples received in proper condition?	Yes
Notes:	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	No
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
WDM on instrument 4D5 analyzed on 10/29/2020 was analyzed after the CCV. Level III package does not provide all information.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
Notes: Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-426110/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, OCDD, and Total HpCDD. Concentrations in samples were >10x the amount in the MB. In BR233SS-EB (in SDG 180-111870-2), OCDD was detected. No qualification.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards?	N/A
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J". Several analytes exhibited elevated noise or matrix interferences and have elevated EDLs and RLs. They were qualified by the lab, but do not need validation qualification.	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/10/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-3
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	6	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
BREPA21SS	180-111870-1	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR373SS	180-111870-2	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR351SS	180-111870-3	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR315SS	180-111870-4	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR289SS	180-111870-5	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR233SS	180-111870-6	10/04/2020	1.5 °C	10/14/2020	10/17/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 °C?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in other data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/25/2020

Table 5 Validation Checks and Stages

Verification and Validation Checks	Stage 2B	Stage 4
Sample results are evaluated by comparing holding times and sample-related QC data to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract.	X	X
Initial calibration data (e.g., initial calibration standards, initial calibration verification [ICV] standards, initial calibration blanks [ICBs]) are provided for all requested analytes and linked to field samples reported. For each initial calibration, the calibration type used is present along with the initial calibration equation used including any weighting factor(s) applied and the associated correlation coefficients, as appropriate. Recalculations of the standard concentrations using the initial calibration curve are present, along with their associated percent recoveries, as appropriate (e.g., if required by the project, method, or contract). For the ICV standard, the associated percent recovery (or percent difference, as appropriate) is present.	X	X
Appropriate number and concentration of initial calibration standards are present.	X	X
Continuing calibration data (e.g., continuing calibration verification [CCV] standards and continuing calibration blanks [CCBs]) are provided for all requested analytes and linked to field samples reported, as appropriate. For the CCV standard(s), the associated percent recoveries (or percent differences, as appropriate) are present.	X	X
Reported samples are bracketed by CCV standards and CCBs standards as appropriate.	X	X
Method specific instrument performance checks are present as appropriate (e.g., tunes for mass spectrometry methods, DDT/Endrin breakdown checks for pesticides and aroclors, instrument blanks and interference checks for ICP methods).	X	X
Frequency of instrument QC samples is checked for appropriateness (e.g., gas chromatography-mass spectroscopy [GC-MS] tunes have been run every 12 hours).	X	X
Sample results are evaluated by comparing instrument-related QC data to the requirements and guidelines present in national or regional data validation documents, analytical method(s), or contract.	X	X
Instrument response data (e.g., GC peak areas, ICP corrected intensities) are reported for requested analytes, surrogates, internal standards, and DMCs for all requested field samples, matrix spikes, matrix spike duplicates, LCS, and method blanks, as well as calibration data and instrument QC checks (e.g., tunes, DDT/Endrin breakdowns, interelement correction factors, and Florisil cartridge checks).		X
Reported target analyte instrument responses are associated with appropriate internal standard analyte(s) for each (or selected) analyte(s) (for methods using internal standard for calibration).		X
Fit and appropriateness of the initial calibration curve used or required (e.g., mean calibration factor, regression analysis [linear or non-linear, with or without weighting factors, with or without forcing]) is checked with recalculation of the initial calibration curve for each (or selected) analyte(s) from the instrument response.		X
Comparison of instrument response to the minimum response requirements for each (or selected) analyte(s)		X

Table 5 Validation Checks and Stages

Verification and Validation Checks	Stage 2B	Stage 4
Recalculation of each (or selected) opening and closing CCV (and CCB) response from the peak data reported for each (or selected) analyte(s) from the instrument response, as appropriate		X
Compliance check of recalculated opening and/or closing CCV (and CCB) response to recalculated initial calibration response for each (or selected) analyte(s)		X
Recalculation of percent ratios for each (or selected) tune from the instrument response, as appropriate		X
Compliance check of recalculated percent ratio for each (or selected) tune from the instrument response.		X
Recalculation of each (or selected) instrument performance check (e.g., DDT/Endrin breakdown for pesticide analysis, instrument blanks, interference checks) from the instrument response		X
Recalculation and compliance check of retention time windows (for chromatographic methods) for each (or selected) analyte(s) from the laboratory reported retention times		X
Recalculation of reported results for each reported (or selected) target analyte(s) from the instrument response		X
Recalculation of each (or selected) reported spike recovery (surrogate recoveries, DMC recoveries, LCS recoveries, duplicate analyses, matrix spike and matrix spike duplicate recoveries, serial dilutions, post digestion spikes, standard reference materials, etc.) from the instrument response		X
Each (or selected) sample result(s) and spike recovery(ies) are evaluated by comparing the recalculated numbers to the laboratory reported numbers according to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract.		X
All required instrument outputs (e.g., chromatograms, mass spectra, atomic emission spectra, instrument background corrections, and interference corrections) for evaluating sample and instrument performance are present.		X
Sample results are evaluated by checking each (or selected) instrument output (e.g., chromatograms, mass spectra, atomic emission spectra data, instrument background corrections, interference corrections) for correct identification and quantitation of analytes (e.g., peak integrations, use of appropriate internal standards for quantitation, elution order of analytes, and interferences).		X
Each (or selected) instrument's output(s) is evaluated for confirmation of non-detected or tentatively identified analytes.		X

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111697-1	KD302SS	180-111697-1	09/28/20	Benzo[a]anthracene	8270E	ug/Kg	85	51	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Benzo[b]fluoranthene	8270E	ug/Kg	85	83	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Benzo[g,h,i]perylene	8270E	ug/Kg	85	36	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Chrysene	8270E	ug/Kg	85	59	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Fluoranthene	8270E	ug/Kg	85	79	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Naphthalene	8270E	ug/Kg	85	31	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Phenanthrene	8270E	ug/Kg	85	70	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Pyrene	8270E	ug/Kg	85	71	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.5	1.1	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.5	1.7	J B	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.5	1.1	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	6.5	3.3	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.5	0.85	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.5	2.9	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,7,8,9-HxCDF	8290A	pg/g	6.5	0.29	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.5	0.62	J q	EMPC	EMPC
180-111697-1	KD302SS	180-111697-1	09/28/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.5	0.45	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.5	0.67	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.5	0.49	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.65	J	J	Detect < RL
180-111697-1	KD302SS	180-111697-1	09/28/20	Total HpCDD	8290A	pg/g	6.5	210	B	J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total HpCDF	8290A	pg/g	6.5	46		J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total HxCDD	8290A	pg/g	6.5	32	q B	J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total HxCDF	8290A	pg/g	6.5	16		J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total PeCDD	8290A	pg/g	6.5	4.5	J q	J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total PeCDF	8290A	pg/g	6.5	5.3	J	J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total TCDD	8290A	pg/g	1.3	1.2	J	J	Quantitation
180-111697-1	KD302SS	180-111697-1	09/28/20	Total TCDF	8290A	pg/g	1.3	1.3		J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Acenaphthylene	8270E	ug/Kg	260	110	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Anthracene	8270E	ug/Kg	260	170	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Benzo[a]pyrene	8270E	ug/Kg	260	180	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Benzo[g,h,i]perylene	8270E	ug/Kg	260	190	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Benzo[k]fluoranthene	8270E	ug/Kg	260	140	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	260	160	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Naphthalene	8270E	ug/Kg	260	100	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Phenanthrene	8270E	ug/Kg	260	210	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	5.9	1.2	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	5.9	1.5	J B	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	5.9	2	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	5.9	3.6	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	5.9	0.97	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	5.9	2.9	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.9	0.51	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	5.9	1.1	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	2,3,4,7,8-PeCDF	8290A	pg/g	5.9	0.69	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111697-1	KD080SS	180-111697-10	09/30/20	2,3,7,8-TCDF	8290A	pg/g	1.2	1.1	J	J	Detect < RL
180-111697-1	KD080SS	180-111697-10	09/30/20	Total HpCDD	8290A	pg/g	5.9	270	B	J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Total HpCDF	8290A	pg/g	5.9	58		J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Total HxCDD	8290A	pg/g	5.9	33	B	J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Total HxCDF	8290A	pg/g	5.9	19		J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Total PeCDD	8290A	pg/g	5.9	3	J q	J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Total PeCDF	8290A	pg/g	5.9	7.2	q	J	Quantitation
180-111697-1	KD080SS	180-111697-10	09/30/20	Total TCDF	8290A	pg/g	1.2	2.3	q	J	Quantitation
180-111697-1	KD010SS	180-111697-11	09/30/20	Acenaphthene	8270E	ug/Kg	82	34	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	Fluorene	8270E	ug/Kg	82	56	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	5.8	660	B	J	FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,4,6,7,8-HpCDF	8290A	pg/g	5.8	120		J	FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	5.8	4.5	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	5.8	20		J	FD DIFF
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	5.8	3.5	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,7,8-PeCDD	8290A	pg/g	5.8	2.8	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.8	0.75	J q	EMPC	EMPC
180-111697-1	KD010SS	180-111697-11	09/30/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	5.8	3.1	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	2,3,4,7,8-PeCDF	8290A	pg/g	5.8	0.94	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	2,3,7,8-TCDF	8290A	pg/g	1.2	0.59	J	J	Detect < RL
180-111697-1	KD010SS	180-111697-11	09/30/20	OCDD	8290A	pg/g	12	6900	E B	J	Exceeds calibration range; FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	OCDF	8290A	pg/g	12	490	B	J	FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	Total HpCDD	8290A	pg/g	5.8	1600	B	J	Quantitation; FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	Total HpCDF	8290A	pg/g	5.8	410		J	Quantitation; FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	Total HxCDD	8290A	pg/g	5.8	190	B	J	Quantitation; FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	Total HxCDF	8290A	pg/g	5.8	100		J	Quantitation; FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	Total PeCDD	8290A	pg/g	5.8	31		J	Quantitation; FD RPD
180-111697-1	KD010SS	180-111697-11	09/30/20	Total PeCDF	8290A	pg/g	5.8	11	q	J	Quantitation; FD DIFF
180-111697-1	KD010SS	180-111697-11	09/30/20	Total TCDD	8290A	pg/g	1.2	2.5	q	J	Quantitation; FD DIFF
180-111697-1	KD010SS	180-111697-11	09/30/20	Total TCDF	8290A	pg/g	1.2	6.2	q	J	Quantitation; FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	Acenaphthene	8270E	ug/Kg	81	43	J	J	Detect < RL
180-111697-1	KD860SS	180-111697-12	09/30/20	Fluorene	8270E	ug/Kg	81	44	J	J	Detect < RL
180-111697-1	KD860SS	180-111697-12	09/30/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	5.7	1200	B	J	FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	1,2,3,4,6,7,8-HpCDF	8290A	pg/g	5.7	210		J	FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	5.7	37		J	FD DIFF
180-111697-1	KD860SS	180-111697-12	09/30/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	5.7	4.8	J	J	Detect < RL
180-111697-1	KD860SS	180-111697-12	09/30/20	1,2,3,7,8-PeCDD	8290A	pg/g	5.7	5.5	J	J	Detect < RL
180-111697-1	KD860SS	180-111697-12	09/30/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.7	1.3	J q	EMPC	EMPC
180-111697-1	KD860SS	180-111697-12	09/30/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	5.7	5.4	J	J	Detect < RL
180-111697-1	KD860SS	180-111697-12	09/30/20	2,3,4,7,8-PeCDF	8290A	pg/g	5.7	1.2	J q	EMPC	EMPC
180-111697-1	KD860SS	180-111697-12	09/30/20	OCDD	8290A	pg/g	11	14000	E B	J	Exceeds calibration range; FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	OCDF	8290A	pg/g	11	840	B	J	FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	Total HpCDD	8290A	pg/g	5.7	2800	B	J	Quantitation; FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	Total HpCDF	8290A	pg/g	5.7	710		J	Quantitation; FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	Total HxCDD	8290A	pg/g	5.7	360	B	J	Quantitation; FD RPD

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111697-1	KD860SS	180-111697-12	09/30/20	Total HxCDF	8290A	pg/g	5.7	190		J	Quantitation; FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	Total PeCDD	8290A	pg/g	5.7	72		J	Quantitation; FD RPD
180-111697-1	KD860SS	180-111697-12	09/30/20	Total PeCDF	8290A	pg/g	5.7	37	q	J	Quantitation; FD DIFF
180-111697-1	KD860SS	180-111697-12	09/30/20	Total TCDD	8290A	pg/g	1.1	12		J	Quantitation; FD DIFF
180-111697-1	KD860SS	180-111697-12	09/30/20	Total TCDF	8290A	pg/g	1.1	14		J	Quantitation; FD RPD
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6	1.4	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6	1.7	J B	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6	1.2	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	6	4.1	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6	0.79	J q	EMPC	EMPC
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6	3.1	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,7,8,9-HxCDF	8290A	pg/g	6	0.24	J q	EMPC	EMPC
180-111697-1	KD280SS	180-111697-2	09/28/20	1,2,3,7,8-PeCDD	8290A	pg/g	6	0.64	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6	0.79	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	2,3,4,7,8-PeCDF	8290A	pg/g	6	0.42	J	J	Detect < RL
180-111697-1	KD280SS	180-111697-2	09/28/20	Total HpCDD	8290A	pg/g	6	260	B	J	Quantitation
180-111697-1	KD280SS	180-111697-2	09/28/20	Total HpCDF	8290A	pg/g	6	73		J	Quantitation
180-111697-1	KD280SS	180-111697-2	09/28/20	Total HxCDD	8290A	pg/g	6	34	q B	J	Quantitation
180-111697-1	KD280SS	180-111697-2	09/28/20	Total HxCDF	8290A	pg/g	6	24	q	J	Quantitation
180-111697-1	KD280SS	180-111697-2	09/28/20	Total PeCDD	8290A	pg/g	6	4.3	J	J	Quantitation
180-111697-1	KD280SS	180-111697-2	09/28/20	Total PeCDF	8290A	pg/g	6	5.2	J	J	Quantitation
180-111697-1	KD280SS	180-111697-2	09/28/20	Total TCDF	8290A	pg/g	1.2	0.54	J q	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/L	51	2.8	J B	U	Present in the method blank
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,4,6,7,8-HpCDF	8290A	pg/L	51	1.6	J q B	U	Present in the method blank
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/L	51	1.5	J	J	Detect < RL
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,4,7,8-HxCDD	8290A	pg/L	51	1.8	J	J	Detect < RL
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,4,7,8-HxCDF	8290A	pg/L	51	1.2	J	J	Detect < RL
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,6,7,8-HxCDF	8290A	pg/L	51	1	J q	EMPC	EMPC
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,7,8-PeCDD	8290A	pg/L	51	0.65	J q	EMPC	EMPC
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	1,2,3,7,8-PeCDF	8290A	pg/L	51	1	J	J	Detect < RL
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	2,3,4,6,7,8-HxCDF	8290A	pg/L	51	1.1	J *1	J	Detect < RL, LCS RPD
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	2,3,7,8-TCDD	8290A	pg/L	10	0.78	J q	EMPC	EMPC
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	2,3,7,8-TCDF	8290A	pg/L	10	0.99	J B	U	Present in the method blank
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	OCDD	8290A	pg/L	100	11	J B	J	Detect < RL
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	OCDF	8290A	pg/L	100	3.8	J q	EMPC	EMPC
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total HpCDD	8290A	pg/L	51	3.9	J q B	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total HpCDF	8290A	pg/L	51	3.1	J q B	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total HxCDD	8290A	pg/L	51	1.8	J	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total HxCDF	8290A	pg/L	51	3.4	J q	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total PeCDD	8290A	pg/L	51	0.65	J q	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total PeCDF	8290A	pg/L	51	1	J	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total TCDD	8290A	pg/L	10	0.78	J q	J	Quantitation
180-111697-1	KD280SS-EB	180-111697-3	09/28/20	Total TCDF	8290A	pg/L	10	1.8	J B	U	Present in the method blank
180-111697-1	KD248SS	180-111697-4	09/29/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	5.2	J B	J	Detect < RL
180-111697-1	KD248SS	180-111697-4	09/29/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.3	3.7	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111697-1	KD248SS	180-111697-4	09/29/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.3	2.5	J	J	Detect < RL
180-111697-1	KD248SS	180-111697-4	09/29/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.3	1.5	J	J	Detect < RL
180-111697-1	KD248SS	180-111697-4	09/29/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	0.71	J	J	Detect < RL
180-111697-1	KD248SS	180-111697-4	09/29/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.3	1.8	J	J	Detect < RL
180-111697-1	KD248SS	180-111697-4	09/29/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	0.56	J q	EMPC	EMPC
180-111697-1	KD248SS	180-111697-4	09/29/20	OCDD	8290A	pg/g	13	8500	E B	J	Exceeds calibration range
180-111697-1	KD248SS	180-111697-4	09/29/20	Total HpCDD	8290A	pg/g	6.3	1400	B	J	Quantitation
180-111697-1	KD248SS	180-111697-4	09/29/20	Total HpCDF	8290A	pg/g	6.3	630		J	Quantitation
180-111697-1	KD248SS	180-111697-4	09/29/20	Total HxCDD	8290A	pg/g	6.3	120	B	J	Quantitation
180-111697-1	KD248SS	180-111697-4	09/29/20	Total HxCDF	8290A	pg/g	6.3	140		J	Quantitation
180-111697-1	KD248SS	180-111697-4	09/29/20	Total PeCDD	8290A	pg/g	6.3	12	q	J	Quantitation
180-111697-1	KD248SS	180-111697-4	09/29/20	Total PeCDF	8290A	pg/g	6.3	13	q	J	Quantitation
180-111697-1	KD248SS	180-111697-4	09/29/20	Total TCDD	8290A	pg/g	1.3	1.1	J	J	Quantitation
180-111697-1	KD216SS	180-111697-5	09/29/20	Benzo[a]anthracene	8270E	ug/Kg	83	75	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Benzo[a]pyrene	8270E	ug/Kg	83	55	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Benzo[g,h,i]perylene	8270E	ug/Kg	83	67	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Benzo[k]fluoranthene	8270E	ug/Kg	83	53	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	83	64	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Naphthalene	8270E	ug/Kg	83	32	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Phenanthrene	8270E	ug/Kg	83	66	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	5.9	1.4	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	5.9	1.8	J B	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	5.9	1.5	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	5.9	3.8	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	5.9	1.2	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	5.9	3.4	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,7,8-PeCDD	8290A	pg/g	5.9	0.68	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.9	0.37	J q	EMPC	EMPC
180-111697-1	KD216SS	180-111697-5	09/29/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	5.9	0.95	J	J	Detect < RL
180-111697-1	KD216SS	180-111697-5	09/29/20	Total HpCDD	8290A	pg/g	5.9	280	B	J	Quantitation
180-111697-1	KD216SS	180-111697-5	09/29/20	Total HpCDF	8290A	pg/g	5.9	68		J	Quantitation
180-111697-1	KD216SS	180-111697-5	09/29/20	Total HxCDD	8290A	pg/g	5.9	37	B	J	Quantitation
180-111697-1	KD216SS	180-111697-5	09/29/20	Total HxCDF	8290A	pg/g	5.9	20		J	Quantitation
180-111697-1	KD216SS	180-111697-5	09/29/20	Total PeCDD	8290A	pg/g	5.9	3.6	J q	J	Quantitation
180-111697-1	KD216SS	180-111697-5	09/29/20	Total PeCDF	8290A	pg/g	5.9	3.4	J q	J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Acenaphthylene	8270E	ug/Kg	84	20	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Anthracene	8270E	ug/Kg	84	28	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Benzo[a]anthracene	8270E	ug/Kg	84	79	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Benzo[a]pyrene	8270E	ug/Kg	84	65	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Benzo[g,h,i]perylene	8270E	ug/Kg	84	78	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Benzo[k]fluoranthene	8270E	ug/Kg	84	37	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	84	52	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Naphthalene	8270E	ug/Kg	84	45	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Phenanthrene	8270E	ug/Kg	84	76	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.3	2.3	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	2.9	J B	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.3	2.1	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.3	1.3	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.3	5.7	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,7,8,9-HxCDF	8290A	pg/g	6.3	0.45	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.3	1	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	0.44	J q	EMPC	EMPC
180-111697-1	KD132SS	180-111697-6	09/29/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.3	1.3	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.9	J	J	Detect < RL
180-111697-1	KD132SS	180-111697-6	09/29/20	Total HpCDD	8290A	pg/g	6.3	570	B	J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total HpCDF	8290A	pg/g	6.3	130		J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total HxCDD	8290A	pg/g	6.3	65	B	J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total HxCDF	8290A	pg/g	6.3	34		J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total PeCDD	8290A	pg/g	6.3	9.4	q	J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total PeCDF	8290A	pg/g	6.3	5.9	J q	J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total TCDD	8290A	pg/g	1.3	2.8	q	J	Quantitation
180-111697-1	KD132SS	180-111697-6	09/29/20	Total TCDF	8290A	pg/g	1.3	3.5		J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Acenaphthylene	8270E	ug/Kg	87	44	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Anthracene	8270E	ug/Kg	87	72	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Benzo[k]fluoranthene	8270E	ug/Kg	87	74	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Naphthalene	8270E	ug/Kg	87	70	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.8	4.5	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.8	5.2	J B	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.8	3.1	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.8	2.3	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.8	6.6	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.8	1.9	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.8	0.84	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.8	2.3	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.8	0.85	J	J	Detect < RL
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	2,3,7,8-TCDF	8290A	pg/g	1.4	0.61	J q	EMPC	EMPC
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	OCDD	8290A	pg/g	14	6200	E B	J	Exceeds calibration range
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total HpCDD	8290A	pg/g	6.8	1100	B	J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total HpCDF	8290A	pg/g	6.8	480		J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total HxCDD	8290A	pg/g	6.8	120	B	J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total HxCDF	8290A	pg/g	6.8	100	q	J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total PeCDD	8290A	pg/g	6.8	21	q	J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total PeCDF	8290A	pg/g	6.8	14		J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total TCDD	8290A	pg/g	1.4	5.1		J	Quantitation
180-111697-1	KDEPA9SS	180-111697-7	09/29/20	Total TCDF	8290A	pg/g	1.4	8.2		J	Quantitation
180-111697-1	KD106SS-EB	180-111697-8	09/29/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/L	51	0.6	J B	U	Present in the method blank
180-111697-1	KD106SS-EB	180-111697-8	09/29/20	1,2,3,4,6,7,8-HpCDF	8290A	pg/L	51	0.33	J q B	U	Present in the method blank
180-111697-1	KD106SS-EB	180-111697-8	09/29/20	2,3,4,6,7,8-HxCDF	8290A	pg/L	51	ND	*1	UJ	LCS RPD
180-111697-1	KD106SS-EB	180-111697-8	09/29/20	OCDD	8290A	pg/L	100	2.9	J B	U	Present in the method blank
180-111697-1	KD106SS-EB	180-111697-8	09/29/20	Total HpCDD	8290A	pg/L	51	1.5	J B	U	Present in the method blank

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111697-1	KD106SS-EB	180-111697-8	09/29/20	Total HpCDF	8290A	pg/L	51	0.33	J q B	U	Present in the method blank
180-111697-1	KD106SS	180-111697-9	09/29/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.3	5.2	J	J	Detect < RL
180-111697-1	KD106SS	180-111697-9	09/29/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	4.4	J B	J	Detect < RL
180-111697-1	KD106SS	180-111697-9	09/29/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.3	4.1	J	J	Detect < RL
180-111697-1	KD106SS	180-111697-9	09/29/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.3	1.7	J	J	Detect < RL
180-111697-1	KD106SS	180-111697-9	09/29/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	1.5	J q	EMPC	EMPC
180-111697-1	KD106SS	180-111697-9	09/29/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.3	4.3	J	J	Detect < RL
180-111697-1	KD106SS	180-111697-9	09/29/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	3	J	J	Detect < RL
180-111697-1	KD106SS	180-111697-9	09/29/20	Total HpCDD	8290A	pg/g	6.3	1000	B	J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total HpCDF	8290A	pg/g	6.3	270		J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total HxCDD	8290A	pg/g	6.3	120	B	J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total HxCDF	8290A	pg/g	6.3	100	q	J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total PeCDD	8290A	pg/g	6.3	20		J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total PeCDF	8290A	pg/g	6.3	25	q	J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total TCDD	8290A	pg/g	1.3	3.1		J	Quantitation
180-111697-1	KD106SS	180-111697-9	09/29/20	Total TCDF	8290A	pg/g	1.3	19		J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Acenaphthylene	8270E	ug/Kg	84	61	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	Anthracene	8270E	ug/Kg	84	81	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	Benzo[k]fluoranthene	8270E	ug/Kg	84	78	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	84	82	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	Naphthalene	8270E	ug/Kg	84	51	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.4	4.1	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.4	3.3	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.4	3.1	J	J	Detect < RL
180-111805-1	KD029SS	180-111805-1	09/30/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.4	J q	EMPC	EMPC
180-111805-1	KD029SS	180-111805-1	09/30/20	OCDD	8290A	pg/g	13	11000	E B	J	Exceeds calibration range
180-111805-1	KD029SS	180-111805-1	09/30/20	Total HpCDD	8290A	pg/g	11	3000	G	J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total HpCDF	8290A	pg/g	6.4	700	B	J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total HxCDD	8290A	pg/g	6.4	370		J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total HxCDF	8290A	pg/g	6.4	200	q	J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total PeCDD	8290A	pg/g	6.4	57		J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total PeCDF	8290A	pg/g	6.4	47	q	J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total TCDD	8290A	pg/g	1.3	12	q	J	Quantitation
180-111805-1	KD029SS	180-111805-1	09/30/20	Total TCDF	8290A	pg/g	1.3	20	q	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Benzo[b]fluoranthene	8270E	ug/Kg	82	32	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	Fluoranthene	8270E	ug/Kg	82	34	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	Naphthalene	8270E	ug/Kg	82	28	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	Phenanthrene	8270E	ug/Kg	82	27	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	Pyrene	8270E	ug/Kg	82	40	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.3	2.3	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	3	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.3	2.3	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	6.3	6.2	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.3	1.5	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.3	5.5	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.3	1.2	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	0.55	J q	EMPC	EMPC
180-111805-1	KD297SS	180-111805-10	10/02/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.3	1.2	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	0.79	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.41	J q	EMPC	EMPC
180-111805-1	KD297SS	180-111805-10	10/02/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.75	J	J	Detect < RL
180-111805-1	KD297SS	180-111805-10	10/02/20	Total HpCDD	8290A	pg/g	6.3	510		J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total HpCDF	8290A	pg/g	6.3	100	B	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total HxCDD	8290A	pg/g	6.3	64	q	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total HxCDF	8290A	pg/g	6.3	33	q	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total PeCDD	8290A	pg/g	6.3	13	q	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total PeCDF	8290A	pg/g	6.3	9.7	q	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total TCDD	8290A	pg/g	1.3	5.2	q	J	Quantitation
180-111805-1	KD297SS	180-111805-10	10/02/20	Total TCDF	8290A	pg/g	1.3	11	q	J	Quantitation
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/L	48	0.73	J B	U	Present in the method blank
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	2,3,4,6,7,8-HxCDF	8290A	pg/L	48	ND	*1	UJ	LCS RPD
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	2,3,7,8-TCDF	8290A	pg/L	9.7	0.67	J q B	U	Present in the method blank
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	OCDD	8290A	pg/L	97	2.1	J q B	U	Present in the method blank
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	OCDF	8290A	pg/L	97	0.62	J q	EMPC	EMPC
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	Total HpCDD	8290A	pg/L	48	1.6	J q B	U	Present in the method blank
180-111805-1	KD010SS-EB	180-111805-11	09/30/20	Total TCDF	8290A	pg/L	9.7	0.67	J q B	U	Present in the method blank
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/L	50	0.62	J B	U	Present in the method blank
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	1,2,3,4,7,8-HxCDD	8290A	pg/L	50	1.8	J	J	Detect < RL
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	2,3,4,6,7,8-HxCDF	8290A	pg/L	50	ND	*1	UJ	LCS RPD
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	2,3,7,8-TCDD	8290A	pg/L	9.9	0.86	J q	EMPC	EMPC
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	2,3,7,8-TCDF	8290A	pg/L	9.9	1	J B	U	Present in the method blank
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	OCDD	8290A	pg/L	99	3.2	J q B	U	Present in the method blank
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	OCDF	8290A	pg/L	99	0.68	J q	EMPC	EMPC
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	Total HpCDD	8290A	pg/L	50	1.9	J B	U	Present in the method blank
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	Total HxCDD	8290A	pg/L	50	1.8	J	J	Quantitation
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	Total TCDD	8290A	pg/L	9.9	0.86	J q	J	Quantitation
180-111805-1	KD297SS-EB	180-111805-12	10/02/20	Total TCDF	8290A	pg/L	9.9	1	J B	U	Present in the method blank
180-111805-1	KD225WSS-EE	180-111805-13	10/01/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/L	48	1.1	J B	U	Present in the method blank
180-111805-1	KD225WSS-EE	180-111805-13	10/01/20	1,2,3,4,7,8-HxCDD	8290A	pg/L	48	1	J q	EMPC	EMPC
180-111805-1	KD225WSS-EE	180-111805-13	10/01/20	2,3,4,6,7,8-HxCDF	8290A	pg/L	48	ND	*1	UJ	LCS RPD
180-111805-1	KD225WSS-EE	180-111805-13	10/01/20	OCDD	8290A	pg/L	96	3.5	J B	U	Present in the method blank
180-111805-1	KD225WSS-EE	180-111805-13	10/01/20	Total HpCDD	8290A	pg/L	48	2.8	J B	U	Present in the method blank
180-111805-1	KD225WSS-EE	180-111805-13	10/01/20	Total HxCDD	8290A	pg/L	48	1	J q	J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Fluorene	8270E	ug/Kg	84	16	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	Naphthalene	8270E	ug/Kg	84	59	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6	5.1	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6	3.4	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	1,2,3,7,8-PeCDD	8290A	pg/g	6	2.2	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	1,2,3,7,8-PeCDF	8290A	pg/g	6	1.1	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6	3	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111805-1	KD045SS	180-111805-2	10/01/20	2,3,4,7,8-PeCDF	8290A	pg/g	6	1.4	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	2,3,7,8-TCDD	8290A	pg/g	1.2	0.2	J q	EMPC	EMPC
180-111805-1	KD045SS	180-111805-2	10/01/20	2,3,7,8-TCDF	8290A	pg/g	1.2	0.69	J	J	Detect < RL
180-111805-1	KD045SS	180-111805-2	10/01/20	OCDD	8290A	pg/g	12	7900	E B	J	Exceeds calibration range
180-111805-1	KD045SS	180-111805-2	10/01/20	Total HpCDD	8290A	pg/g	8.6	2000	G	J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total HpCDF	8290A	pg/g	6	480	B	J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total HxCDD	8290A	pg/g	6	210		J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total HxCDF	8290A	pg/g	6	110		J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total PeCDD	8290A	pg/g	6	26		J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total PeCDF	8290A	pg/g	6	21	q	J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total TCDD	8290A	pg/g	1.2	7.1	q	J	Quantitation
180-111805-1	KD045SS	180-111805-2	10/01/20	Total TCDF	8290A	pg/g	1.2	13		J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Acenaphthylene	8270E	ug/Kg	86	51	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	Anthracene	8270E	ug/Kg	86	74	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	Naphthalene	8270E	ug/Kg	86	49	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	Phenanthrene	8270E	ug/Kg	86	58	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.4	4.2	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.4	4.1	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.4	2.4	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.4	0.8	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.4	2.9	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.4	0.71	J q	EMPC	EMPC
180-111805-1	KD123SS	180-111805-3	10/01/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.25	J q	EMPC	EMPC
180-111805-1	KD123SS	180-111805-3	10/01/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.79	J	J	Detect < RL
180-111805-1	KD123SS	180-111805-3	10/01/20	OCDD	8290A	pg/g	13	6500	E B	J	Exceeds calibration range
180-111805-1	KD123SS	180-111805-3	10/01/20	Total HpCDD	8290A	pg/g	7.1	1500	G	J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total HpCDF	8290A	pg/g	6.4	530	B	J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total HxCDD	8290A	pg/g	6.4	170		J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total HxCDF	8290A	pg/g	6.4	120		J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total PeCDD	8290A	pg/g	6.4	18	q	J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total PeCDF	8290A	pg/g	6.4	14	q	J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total TCDD	8290A	pg/g	1.3	3.7	q	J	Quantitation
180-111805-1	KD123SS	180-111805-3	10/01/20	Total TCDF	8290A	pg/g	1.3	5.5	q	J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Acenaphthylene	8270E	ug/Kg	82	65	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	Anthracene	8270E	ug/Kg	82	77	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	Naphthalene	8270E	ug/Kg	82	74	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.5	4.6	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.5	4.2	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.5	3	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.5	1.3	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.5	4.6	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.5	1.7	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.36	J q	EMPC	EMPC
180-111805-1	KD149SS	180-111805-4	10/01/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.86	J	J	Detect < RL
180-111805-1	KD149SS	180-111805-4	10/01/20	OCDD	8290A	pg/g	13	11000	E B	J	Exceeds calibration range

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111805-1	KD149SS	180-111805-4	10/01/20	Total HpCDD	8290A	pg/g	13	2700	G	J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total HpCDF	8290A	pg/g	6.5	1000	B	J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total HxCDD	8290A	pg/g	6.5	250		J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total HxCDF	8290A	pg/g	6.5	210		J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total PeCDD	8290A	pg/g	6.5	24	q	J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total PeCDF	8290A	pg/g	6.5	27	q	J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total TCDD	8290A	pg/g	1.3	5.8	q	J	Quantitation
180-111805-1	KD149SS	180-111805-4	10/01/20	Total TCDF	8290A	pg/g	1.3	13		J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Fluorene	8270E	ug/Kg	88	24	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.6	5.9	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.6	4.3	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.6	2.7	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.6	2.2	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.6	0.94	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.6	2.3	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.6	1.2	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.34	J q	EMPC	EMPC
180-111805-1	KD225ESS	180-111805-5	10/01/20	2,3,7,8-TCDF	8290A	pg/g	1.3	1	J	J	Detect < RL
180-111805-1	KD225ESS	180-111805-5	10/01/20	OCDD	8290A	pg/g	13	7700	E B	J	Exceeds calibration range
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total HpCDD	8290A	pg/g	6.6	1400		J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total HpCDF	8290A	pg/g	6.6	340	B	J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total HxCDD	8290A	pg/g	6.6	150		J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total HxCDF	8290A	pg/g	6.6	85		J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total PeCDD	8290A	pg/g	6.6	19	q	J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total PeCDF	8290A	pg/g	6.6	15	q	J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total TCDD	8290A	pg/g	1.3	3.5	q	J	Quantitation
180-111805-1	KD225ESS	180-111805-5	10/01/20	Total TCDF	8290A	pg/g	1.3	6.9	q	J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Naphthalene	8270E	ug/Kg	170	140	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.7	6.1	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.7	4.4	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.7	1.5	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.7	2.2	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	2,3,7,8-TCDD	8290A	pg/g	1.3	1.1	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.63	J	J	Detect < RL
180-111805-1	KD225WSS	180-111805-6	10/01/20	OCDD	8290A	pg/g	13	8400	E B	J	Exceeds calibration range
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total HpCDD	8290A	pg/g	8.8	2100	G	J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total HpCDF	8290A	pg/g	6.7	1300	B	J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total HxCDD	8290A	pg/g	6.7	280		J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total HxCDF	8290A	pg/g	6.7	330		J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total PeCDD	8290A	pg/g	6.7	33	q	J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total PeCDF	8290A	pg/g	6.7	34	q	J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total TCDD	8290A	pg/g	1.3	5.9	q	J	Quantitation
180-111805-1	KD225WSS	180-111805-6	10/01/20	Total TCDF	8290A	pg/g	1.3	6.9		J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Acenaphthene	8270E	ug/Kg	88	37	J	J	Detect < RL
180-111805-1	DW201SS	180-111805-7	10/02/20	Fluorene	8270E	ug/Kg	88	44	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111805-1	DW201SS	180-111805-7	10/02/20	1,2,3,7,8-PeCDD	8290A	pg/g	7	5.1	J q	EMPC	EMPC
180-111805-1	DW201SS	180-111805-7	10/02/20	1,2,3,7,8-PeCDF	8290A	pg/g	7	1.6	J q	EMPC	EMPC
180-111805-1	DW201SS	180-111805-7	10/02/20	2,3,4,7,8-PeCDF	8290A	pg/g	7	2.6	J	J	Detect < RL
180-111805-1	DW201SS	180-111805-7	10/02/20	2,3,7,8-TCDF	8290A	pg/g	1.4	0.7	J	J	Detect < RL
180-111805-1	DW201SS	180-111805-7	10/02/20	OCDD	8290A	pg/g	14	22000	E B	J	Exceeds calibration range
180-111805-1	DW201SS	180-111805-7	10/02/20	Total HpCDD	8290A	pg/g	10	4600	G	J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total HpCDF	8290A	pg/g	7	1700	B	J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total HxCDD	8290A	pg/g	7	460		J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total HxCDF	8290A	pg/g	7	400		J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total PeCDD	8290A	pg/g	7	46	q	J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total PeCDF	8290A	pg/g	7	64	q	J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total TCDD	8290A	pg/g	1.4	9.7	q	J	Quantitation
180-111805-1	DW201SS	180-111805-7	10/02/20	Total TCDF	8290A	pg/g	1.4	20		J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Benzo[b]fluoranthene	8270E	ug/Kg	78	48	J	J	Detect < RL
180-111805-1	KD251SS	180-111805-8	10/02/20	Benzo[g,h,i]perylene	8270E	ug/Kg	78	29	J	J	Detect < RL
180-111805-1	KD251SS	180-111805-8	10/02/20	Fluoranthene	8270E	ug/Kg	78	51	J	J	Detect < RL
180-111805-1	KD251SS	180-111805-8	10/02/20	Pyrene	8270E	ug/Kg	78	51	J	J	Detect < RL
180-111805-1	KD251SS	180-111805-8	10/02/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	5.7	3	J	J	Detect < RL
180-111805-1	KD251SS	180-111805-8	10/02/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	5.7	3.1	J q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	5.7	2	J q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	5.7	7.7	q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	1,2,3,7,8-PeCDD	8290A	pg/g	5.7	0.77	J q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.7	0.47	J q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	5.7	1.1	J	J	Detect < RL
180-111805-1	KD251SS	180-111805-8	10/02/20	2,3,4,7,8-PeCDF	8290A	pg/g	5.7	0.4	J q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	2,3,7,8-TCDF	8290A	pg/g	1.1	0.65	J q	EMPC	EMPC
180-111805-1	KD251SS	180-111805-8	10/02/20	Total HpCDD	8290A	pg/g	5.7	510		J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total HpCDF	8290A	pg/g	5.7	140	B	J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total HxCDD	8290A	pg/g	5.7	66	q	J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total HxCDF	8290A	pg/g	5.7	36	q	J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total PeCDD	8290A	pg/g	5.7	4.2	J q	J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total PeCDF	8290A	pg/g	5.7	5.9	q	J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total TCDD	8290A	pg/g	1.1	1.3	q	J	Quantitation
180-111805-1	KD251SS	180-111805-8	10/02/20	Total TCDF	8290A	pg/g	1.1	4.1	q	J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Acenaphthylene	8270E	ug/Kg	85	36	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Anthracene	8270E	ug/Kg	85	44	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Benzo[a]pyrene	8270E	ug/Kg	85	83	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Benzo[g,h,i]perylene	8270E	ug/Kg	85	66	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Benzo[k]fluoranthene	8270E	ug/Kg	85	62	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	85	60	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Naphthalene	8270E	ug/Kg	85	64	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	1,2,3,4,6,7,8-HpCDF	8290A	pg/g	6.5	47	B q	EMPC	EMPC
180-111805-1	KD275SS	180-111805-9	10/02/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.5	2.7	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.5	4.3	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.5	6.2	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111805-1	KD275SS	180-111805-9	10/02/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.5	2.1	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.94	J	J	Detect < RL
180-111805-1	KD275SS	180-111805-9	10/02/20	Total HpCDD	8290A	pg/g	6.5	550		J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Total HpCDF	8290A	pg/g	6.5	130	B q	J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Total HxCDD	8290A	pg/g	6.5	65		J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Total HxCDF	8290A	pg/g	6.5	36	q	J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Total PeCDD	8290A	pg/g	6.5	11	q	J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Total PeCDF	8290A	pg/g	6.5	2.7	J q	J	Quantitation
180-111805-1	KD275SS	180-111805-9	10/02/20	Total TCDF	8290A	pg/g	1.3	6.1	q	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Fluorene	8270E	ug/Kg	420	100	J	J	Detect < RL
180-111869-1	DW202SS	180-111869-1	10/03/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	27	5100	E B G	J	Exceeds calibration range
180-111869-1	DW202SS	180-111869-1	10/03/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	8.3	21	q G	EMPC	EMPC
180-111869-1	DW202SS	180-111869-1	10/03/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.1	140	F1	J	MS recovery
180-111869-1	DW202SS	180-111869-1	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.1	2.1	J	J	Detect < RL
180-111869-1	DW202SS	180-111869-1	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.2	0.58	J	J	Detect < RL
180-111869-1	DW202SS	180-111869-1	10/03/20	OCDD	8290A	pg/g	13	54000	E B G	J	Exceeds calibration range
180-111869-1	DW202SS	180-111869-1	10/03/20	Total HpCDD	8290A	pg/g	27	9200	B G	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total HpCDF	8290A	pg/g	12	3300	G	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total HxCDD	8290A	pg/g	6.1	1100	B	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total HxCDF	8290A	pg/g	8.1	900	q G	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total PeCDD	8290A	pg/g	6.1	68		J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total PeCDF	8290A	pg/g	6.1	110	q	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total TCDD	8290A	pg/g	1.2	11	q	J	Quantitation
180-111869-1	DW202SS	180-111869-1	10/03/20	Total TCDF	8290A	pg/g	1.2	21	q	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	7.4	1.3	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	7.4	1.8	J B	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	7.4	3.3	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	7.4	3.1	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	7.4	1.3	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	7.4	3	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,7,8-PeCDD	8290A	pg/g	7.4	0.57	J q	EMPC	EMPC
180-111869-1	DW210SS	180-111869-10	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	7.4	0.72	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	7.4	1.5	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	7.4	0.81	J q	EMPC	EMPC
180-111869-1	DW210SS	180-111869-10	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.5	0.45	J	J	Detect < RL
180-111869-1	DW210SS	180-111869-10	10/03/20	Total HpCDD	8290A	pg/g	7.4	230	B	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total HpCDF	8290A	pg/g	7.4	60		J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total HxCDD	8290A	pg/g	7.4	40	q B	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total HxCDF	8290A	pg/g	7.4	24	q	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total PeCDD	8290A	pg/g	7.4	5.9	J q	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total PeCDF	8290A	pg/g	7.4	9.3	q	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total TCDD	8290A	pg/g	1.5	1.5	q	J	Quantitation
180-111869-1	DW210SS	180-111869-10	10/03/20	Total TCDF	8290A	pg/g	1.5	7.4	q	J	Quantitation
180-111869-1	DW210SS-EB	180-111869-11	10/03/20	OCDD	8290A	pg/L	97	15	J B	U	Present in the method blank
180-111869-1	DW203SS	180-111869-2	10/03/20	Naphthalene	8270E	ug/Kg	88	81	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111869-1	DW203SS	180-111869-2	10/03/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.3	3.6	J	J	Detect < RL
180-111869-1	DW203SS	180-111869-2	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	0.72	J q	EMPC	EMPC
180-111869-1	DW203SS	180-111869-2	10/03/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.3	4.5	J	J	Detect < RL
180-111869-1	DW203SS	180-111869-2	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	1.1	J	J	Detect < RL
180-111869-1	DW203SS	180-111869-2	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.29	J q	EMPC	EMPC
180-111869-1	DW203SS	180-111869-2	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.65	J	J	Detect < RL
180-111869-1	DW203SS	180-111869-2	10/03/20	OCDD	8290A	pg/g	13	17000	E B	J	Exceeds calibration range
180-111869-1	DW203SS	180-111869-2	10/03/20	Total HpCDD	8290A	pg/g	14	3000	B G	J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total HpCDF	8290A	pg/g	7.1	1000	G	J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total HxCDD	8290A	pg/g	6.3	300	B	J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total HxCDF	8290A	pg/g	6.3	210		J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total PeCDD	8290A	pg/g	6.3	29	q	J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total PeCDF	8290A	pg/g	6.3	29	q	J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total TCDD	8290A	pg/g	1.3	4.7	q	J	Quantitation
180-111869-1	DW203SS	180-111869-2	10/03/20	Total TCDF	8290A	pg/g	1.3	4.1	q	J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	21	4700	E B G	J	Exceeds calibration range
180-111869-1	DW204SS	180-111869-3	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	2.7	J	J	Detect < RL
180-111869-1	DW204SS	180-111869-3	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	3.5	J	J	Detect < RL
180-111869-1	DW204SS	180-111869-3	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.7	J q	EMPC	EMPC
180-111869-1	DW204SS	180-111869-3	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.72	J	J	Detect < RL
180-111869-1	DW204SS	180-111869-3	10/03/20	OCDD	8290A	pg/g	13	51000	E B	J	Exceeds calibration range
180-111869-1	DW204SS	180-111869-3	10/03/20	Total HpCDD	8290A	pg/g	21	9900	B G	J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total HpCDF	8290A	pg/g	7.1	2900	G	J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total HxCDD	8290A	pg/g	6.3	900	B	J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total HxCDF	8290A	pg/g	6.3	700		J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total PeCDD	8290A	pg/g	6.3	66		J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total PeCDF	8290A	pg/g	6.3	82		J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total TCDD	8290A	pg/g	1.3	9.1	q	J	Quantitation
180-111869-1	DW204SS	180-111869-3	10/03/20	Total TCDF	8290A	pg/g	1.3	15	q	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Fluorene	8270E	ug/Kg	390	95	J	J	Detect < RL
180-111869-1	DW205SS	180-111869-4	10/03/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	24	6700	E B G	J	Exceeds calibration range
180-111869-1	DW205SS	180-111869-4	10/03/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.5	22	q G	EMPC	EMPC
180-111869-1	DW205SS	180-111869-4	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.1	3.8	J	J	Detect < RL
180-111869-1	DW205SS	180-111869-4	10/03/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.8	17	q G	EMPC	EMPC
180-111869-1	DW205SS	180-111869-4	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.1	4.8	J	J	Detect < RL
180-111869-1	DW205SS	180-111869-4	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.2	0.95	J q	EMPC	EMPC
180-111869-1	DW205SS	180-111869-4	10/03/20	OCDD	8290A	pg/g	26	76000	E B G	J	Exceeds calibration range
180-111869-1	DW205SS	180-111869-4	10/03/20	OCDF	8290A	pg/g	12	5800	E B	J	Exceeds calibration range
180-111869-1	DW205SS	180-111869-4	10/03/20	Total HpCDD	8290A	pg/g	24	15000	B G	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Total HpCDF	8290A	pg/g	11	4800	G	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Total HxCDD	8290A	pg/g	6.1	1600	B	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Total HxCDF	8290A	pg/g	6.9	1100	q G	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Total PeCDD	8290A	pg/g	9.5	54	G	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Total PeCDF	8290A	pg/g	6.1	100	q	J	Quantitation
180-111869-1	DW205SS	180-111869-4	10/03/20	Total TCDD	8290A	pg/g	1.2	15	q	J	Quantitation

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111869-1	DW205SS	180-111869-4	10/03/20	Total TCDF	8290A	pg/g	1.2	16		J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Acenaphthene	8270E	ug/Kg	3100	1300	J	J	Detect < RL
180-111869-1	DW206SS	180-111869-5	10/03/20	Fluorene	8270E	ug/Kg	3100	1100	J	J	Detect < RL
180-111869-1	DW206SS	180-111869-5	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6	1.2	J q	EMPC	EMPC
180-111869-1	DW206SS	180-111869-5	10/03/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6	5.4	J	J	Detect < RL
180-111869-1	DW206SS	180-111869-5	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6	1.8	J	J	Detect < RL
180-111869-1	DW206SS	180-111869-5	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.2	1	J	J	Detect < RL
180-111869-1	DW206SS	180-111869-5	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.2	0.97	J	J	Detect < RL
180-111869-1	DW206SS	180-111869-5	10/03/20	OCDD	8290A	pg/g	12	21000	E B	J	Exceeds calibration range
180-111869-1	DW206SS	180-111869-5	10/03/20	Total HpCDD	8290A	pg/g	9.5	4100	B G	J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total HpCDF	8290A	pg/g	6	1300		J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total HxCDD	8290A	pg/g	6	380	B	J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total HxCDF	8290A	pg/g	6	290		J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total PeCDD	8290A	pg/g	6	31	q	J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total PeCDF	8290A	pg/g	6	37	q	J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total TCDD	8290A	pg/g	1.2	3.5	q	J	Quantitation
180-111869-1	DW206SS	180-111869-5	10/03/20	Total TCDF	8290A	pg/g	1.2	7.3		J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Fluorene	8270E	ug/Kg	410	100	J	J	Detect < RL
180-111869-1	DW207SS	180-111869-6	10/03/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	50	6500	E B G	J	Exceeds calibration range
180-111869-1	DW207SS	180-111869-6	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.2	4.1	J	J	Detect < RL
180-111869-1	DW207SS	180-111869-6	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.2	5	J	J	Detect < RL
180-111869-1	DW207SS	180-111869-6	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.2	0.83	J q	EMPC	EMPC
180-111869-1	DW207SS	180-111869-6	10/03/20	OCDD	8290A	pg/g	18	72000	E B G	J	Exceeds calibration range
180-111869-1	DW207SS	180-111869-6	10/03/20	OCDF	8290A	pg/g	12	6200	E B	J	Exceeds calibration range
180-111869-1	DW207SS	180-111869-6	10/03/20	Total HpCDD	8290A	pg/g	50	16000	B G	J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total HpCDF	8290A	pg/g	11	4400	G	J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total HxCDD	8290A	pg/g	6.2	1500	B	J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total HxCDF	8290A	pg/g	6.2	940		J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total PeCDD	8290A	pg/g	6.5	82	q G	J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total PeCDF	8290A	pg/g	6.2	90		J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total TCDD	8290A	pg/g	1.2	22	q	J	Quantitation
180-111869-1	DW207SS	180-111869-6	10/03/20	Total TCDF	8290A	pg/g	1.2	20	q	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Acenaphthylene	8270E	ug/Kg	84	36	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Anthracene	8270E	ug/Kg	84	40	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Benzo[g,h,i]perylene	8270E	ug/Kg	84	72	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Benzo[k]fluoranthene	8270E	ug/Kg	84	76	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	84	68	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Naphthalene	8270E	ug/Kg	84	46	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Phenanthrene	8270E	ug/Kg	84	79	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.1	2.1	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.1	3.4	J B	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.1	1.5	J q	EMPC	EMPC
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.1	1.5	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.1	5.8	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.1	1.1	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111869-1	KD321SS	180-111869-7	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.1	0.63	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.1	1.4	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.1	0.56	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.2	0.29	J q	EMPC	EMPC
180-111869-1	KD321SS	180-111869-7	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.2	0.8	J	J	Detect < RL
180-111869-1	KD321SS	180-111869-7	10/03/20	Total HpCDD	8290A	pg/g	6.1	520	B	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total HpCDF	8290A	pg/g	6.1	110		J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total HxCDD	8290A	pg/g	6.1	71	B	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total HxCDF	8290A	pg/g	6.1	35	q	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total PeCDD	8290A	pg/g	6.1	11	q	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total PeCDF	8290A	pg/g	6.1	7.8	q	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total TCDD	8290A	pg/g	1.2	2.5	q	J	Quantitation
180-111869-1	KD321SS	180-111869-7	10/03/20	Total TCDF	8290A	pg/g	1.2	4.1	q	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	1,2,3,4,6,7,8-HpCDD	8290A	pg/g	50	6400	G E B	J	Exceeds calibration range
180-111869-1	DW208SS	180-111869-8	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.9	4.5	J	J	Detect < RL
180-111869-1	DW208SS	180-111869-8	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	5.9	5.3	J	J	Detect < RL
180-111869-1	DW208SS	180-111869-8	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.2	0.89	J q	EMPC	EMPC
180-111869-1	DW208SS	180-111869-8	10/03/20	OCDD	8290A	pg/g	28	72000	G E B	J	Exceeds calibration range
180-111869-1	DW208SS	180-111869-8	10/03/20	OCDF	8290A	pg/g	12	6000	E B	J	Exceeds calibration range
180-111869-1	DW208SS	180-111869-8	10/03/20	Total HpCDD	8290A	pg/g	50	16000	G B	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total HpCDF	8290A	pg/g	10	4100	G	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total HxCDD	8290A	pg/g	5.9	1500	B	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total HxCDF	8290A	pg/g	5.9	1000	q	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total PeCDD	8290A	pg/g	5.9	120	q	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total PeCDF	8290A	pg/g	5.9	110		J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total TCDD	8290A	pg/g	1.2	31	q	J	Quantitation
180-111869-1	DW208SS	180-111869-8	10/03/20	Total TCDF	8290A	pg/g	1.2	33		J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Benzo[b]fluoranthene	8270E	ug/Kg	91	41	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	Fluoranthene	8270E	ug/Kg	91	37	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	Pyrene	8270E	ug/Kg	91	38	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.5	3.4	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.5	5.2	J B	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.5	3	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.5	2.5	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.5	6	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.5	1.8	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.5	1	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.5	2.1	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.5	0.99	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	2,3,7,8-TCDD	8290A	pg/g	1.3	0.29	J q	EMPC	EMPC
180-111869-1	DW209SS	180-111869-9	10/03/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.8	J	J	Detect < RL
180-111869-1	DW209SS	180-111869-9	10/03/20	Total HpCDD	8290A	pg/g	6.5	910	B	J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Total HpCDF	8290A	pg/g	6.5	200		J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Total HxCDD	8290A	pg/g	6.5	140	B	J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Total HxCDF	8290A	pg/g	6.5	58		J	Quantitation

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111869-1	DW209SS	180-111869-9	10/03/20	Total PeCDD	8290A	pg/g	6.5	22	q	J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Total PeCDF	8290A	pg/g	6.5	15	q	J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Total TCDD	8290A	pg/g	1.3	6.6	q	J	Quantitation
180-111869-1	DW209SS	180-111869-9	10/03/20	Total TCDF	8290A	pg/g	1.3	9.5	q	J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Benzo[a]anthracene	8270E	ug/Kg	330	ND		UJ	FD DIFF
180-111870-1	BR500SS	180-111870-7	10/04/20	Benzo[b]fluoranthene	8270E	ug/Kg	330	180	J	J	FD DIFF; <RL
180-111870-1	BR500SS	180-111870-7	10/04/20	Benzo[g,h,i]perylene	8270E	ug/Kg	330	77	J	U	Did not meet identification criteria
180-111870-1	BR500SS	180-111870-7	10/04/20	Chrysene	8270E	ug/Kg	330	ND		UJ	FD DIFF
180-111870-1	BR500SS	180-111870-7	10/04/20	Fluoranthene	8270E	ug/Kg	330	98	J	J	FD DIFF; <RL
180-111870-1	BR500SS	180-111870-7	10/04/20	Pyrene	8270E	ug/Kg	330	130	J	J	FD DIFF; <RL
180-111870-1	BR500SS	180-111870-7	10/04/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.3	5.3	J	J	Detect < RL
180-111870-1	BR500SS	180-111870-7	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	5.4	J B	J	Detect < RL
180-111870-1	BR500SS	180-111870-7	10/04/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.3	5.9	J	J	Detect < RL
180-111870-1	BR500SS	180-111870-7	10/04/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	3	J	J	Detect < RL
180-111870-1	BR500SS	180-111870-7	10/04/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	4.6	J	J	Detect < RL
180-111870-1	BR500SS	180-111870-7	10/04/20	OCDD	8290A	pg/g	13	5200	E B	J	Exceeds calilbration
180-111870-1	BR500SS	180-111870-7	10/04/20	Total HpCDD	8290A	pg/g	6.3	980	B	J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total HpCDF	8290A	pg/g	6.3	260		J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total HxCDD	8290A	pg/g	6.3	130	B	J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total HxCDF	8290A	pg/g	6.3	110		J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total PeCDD	8290A	pg/g	6.3	20	q	J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total PeCDF	8290A	pg/g	6.3	48	q	J	Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total TCDD	8290A	pg/g	1.3	3.1	q	J	FD DIFF; Quantitation
180-111870-1	BR500SS	180-111870-7	10/04/20	Total TCDF	8290A	pg/g	1.3	25	q	J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Anthracene	8270E	ug/Kg	410	310	J	J	Detect < RL
180-111870-1	BR861SS	180-111870-8	10/04/20	Benzo[a]anthracene	8270E	ug/Kg	410	1100		J	FD DIFF
180-111870-1	BR861SS	180-111870-8	10/04/20	Benzo[b]fluoranthene	8270E	ug/Kg	410	1400		J	FD DIFF
180-111870-1	BR861SS	180-111870-8	10/04/20	Chrysene	8270E	ug/Kg	410	1700		J	FD DIFF
180-111870-1	BR861SS	180-111870-8	10/04/20	Fluoranthene	8270E	ug/Kg	410	1600		J	FD DIFF
180-111870-1	BR861SS	180-111870-8	10/04/20	Pyrene	8270E	ug/Kg	410	1700		J	FD DIFF
180-111870-1	BR861SS	180-111870-8	10/04/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.3	5.2	J	J	Detect < RL
180-111870-1	BR861SS	180-111870-8	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	5.6	J B	J	Detect < RL
180-111870-1	BR861SS	180-111870-8	10/04/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	4.8	J	J	Detect < RL
180-111870-1	BR861SS	180-111870-8	10/04/20	OCDD	8290A	pg/g	13	6300	E B	J	Exceeds calilbration
180-111870-1	BR861SS	180-111870-8	10/04/20	Total HpCDD	8290A	pg/g	6.3	1300	B	J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total HpCDF	8290A	pg/g	6.3	280		J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total HxCDD	8290A	pg/g	6.3	160	B	J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total HxCDF	8290A	pg/g	6.3	120		J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total PeCDD	8290A	pg/g	6.3	20	q	J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total PeCDF	8290A	pg/g	6.3	50	q	J	Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total TCDD	8290A	pg/g	1.3	6.7	q	J	FD DIFF; Quantitation
180-111870-1	BR861SS	180-111870-8	10/04/20	Total TCDF	8290A	pg/g	1.3	31	q	J	Quantitation
180-111870-2	BR233SS-EB	180-111870-9	10/04/20	OCDD	8290A	pg/L	97	35	J B	U	Present in the method blank
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Benzo[b]fluoranthene	8270E	ug/Kg	80	25	J	J	Detect < RL
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Pyrene	8270E	ug/Kg	80	21	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111870-3	BREPA21SS	180-111870-1	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.1	1.7	J	J	Detect < RL
180-111870-3	BREPA21SS	180-111870-1	10/04/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.1	1.3	J	J	Detect < RL
180-111870-3	BREPA21SS	180-111870-1	10/04/20	1,2,3,6,7,8-HxCDD	8290A	pg/g	6.1	3.8	J	J	Detect < RL
180-111870-3	BREPA21SS	180-111870-1	10/04/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.1	0.82	J	J	Detect < RL
180-111870-3	BREPA21SS	180-111870-1	10/04/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.1	3.4	J	J	Detect < RL
180-111870-3	BREPA21SS	180-111870-1	10/04/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.1	0.74	J q	EMPC	EMPC
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Total HpCDD	8290A	pg/g	6.1	330	B	J	Quantitation
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Total HpCDF	8290A	pg/g	6.1	65		J	Quantitation
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Total HxCDD	8290A	pg/g	6.1	40		J	Quantitation
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Total HxCDF	8290A	pg/g	6.1	16	q	J	Quantitation
180-111870-3	BREPA21SS	180-111870-1	10/04/20	Total PeCDD	8290A	pg/g	6.1	3.1	J	J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Acenaphthylene	8270E	ug/Kg	84	40	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	Anthracene	8270E	ug/Kg	84	35	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	Benzo[g,h,i]perylene	8270E	ug/Kg	84	79	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	Indeno[1,2,3-cd]pyrene	8270E	ug/Kg	84	74	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	Naphthalene	8270E	ug/Kg	84	21	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	Phenanthrene	8270E	ug/Kg	84	42	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.3	2.3	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.3	2.3	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.3	4.5	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.3	2.1	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,7,8,9-HxCDD	8290A	pg/g	6.3	5	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.3	0.95	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.3	0.76	J q	EMPC	EMPC
180-111870-3	BR373SS	180-111870-2	10/04/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.3	2.1	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	2,3,4,7,8-PeCDF	8290A	pg/g	6.3	1.3	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	2,3,7,8-TCDF	8290A	pg/g	1.3	0.93	J	J	Detect < RL
180-111870-3	BR373SS	180-111870-2	10/04/20	Total HpCDD	8290A	pg/g	6.3	460	B	J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total HpCDF	8290A	pg/g	6.3	120		J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total HxCDD	8290A	pg/g	6.3	61		J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total HxCDF	8290A	pg/g	6.3	39		J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total PeCDD	8290A	pg/g	6.3	4	J	J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total PeCDF	8290A	pg/g	6.3	11	q	J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total TCDD	8290A	pg/g	1.3	2.6	q	J	Quantitation
180-111870-3	BR373SS	180-111870-2	10/04/20	Total TCDF	8290A	pg/g	1.3	8.8	q	J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Benzo[b]fluoranthene	8270E	ug/Kg	83	56	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	Benzo[g,h,i]perylene	8270E	ug/Kg	83	21	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	Benzo[k]fluoranthene	8270E	ug/Kg	83	25	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	Chrysene	8270E	ug/Kg	83	51	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	Phenanthrene	8270E	ug/Kg	83	40	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	5.8	3.1	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	5.8	5.2	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	1,2,3,7,8-PeCDD	8290A	pg/g	5.8	1.3	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	1,2,3,7,8-PeCDF	8290A	pg/g	5.8	1.8	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	2,3,4,7,8-PeCDF	8290A	pg/g	5.8	4.2	J	J	Detect < RL

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111870-3	BR351SS	180-111870-3	10/04/20	2,3,7,8-TCDF	8290A	pg/g	1.2	1.1	J	J	Detect < RL
180-111870-3	BR351SS	180-111870-3	10/04/20	Total HpCDD	8290A	pg/g	5.8	500	B	J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total HpCDF	8290A	pg/g	5.8	130		J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total HxCDD	8290A	pg/g	5.8	77	q	J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total HxCDF	8290A	pg/g	5.8	77		J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total PeCDD	8290A	pg/g	5.8	9.4		J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total PeCDF	8290A	pg/g	5.8	41		J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total TCDD	8290A	pg/g	1.2	0.76	J q	J	Quantitation
180-111870-3	BR351SS	180-111870-3	10/04/20	Total TCDF	8290A	pg/g	1.2	25	q	J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Acenaphthylene	8270E	ug/Kg	81	49	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	Anthracene	8270E	ug/Kg	81	46	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	Phenanthrene	8270E	ug/Kg	81	35	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6.2	5.9	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6.2	4.4	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.2	2	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	1,2,3,7,8-PeCDF	8290A	pg/g	6.2	4.2	J	J	Detect < RL
180-111870-3	BR315SS	180-111870-4	10/04/20	2,3,7,8-TCDF	8290A	pg/g	1.2	2.5	q	EMPC	EMPC
180-111870-3	BR315SS	180-111870-4	10/04/20	Total HpCDD	8290A	pg/g	6.6	1100	B G	J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total HpCDF	8290A	pg/g	6.2	350		J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total HxCDD	8290A	pg/g	6.2	130		J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total HxCDF	8290A	pg/g	6.2	170		J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total PeCDD	8290A	pg/g	6.2	23	q	J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total PeCDF	8290A	pg/g	6.2	95		J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total TCDD	8290A	pg/g	1.2	4.5	q	J	Quantitation
180-111870-3	BR315SS	180-111870-4	10/04/20	Total TCDF	8290A	pg/g	1.2	52	q	J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Acenaphthylene	8270E	ug/Kg	79	58	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	Anthracene	8270E	ug/Kg	79	48	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	Phenanthrene	8270E	ug/Kg	79	27	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,4,7,8,9-HpCDF	8290A	pg/g	6	4.9	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,4,7,8-HxCDD	8290A	pg/g	6	5.3	J q	EMPC	EMPC
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6	5.1	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6	5.6	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,7,8,9-HxCDF	8290A	pg/g	6	0.75	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,7,8-PeCDD	8290A	pg/g	6	2.2	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	1,2,3,7,8-PeCDF	8290A	pg/g	6	2.1	J q	EMPC	EMPC
180-111870-3	BR289SS	180-111870-5	10/04/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6	5.4	J	J	Detect < RL
180-111870-3	BR289SS	180-111870-5	10/04/20	2,3,4,7,8-PeCDF	8290A	pg/g	6	3.4	J q	EMPC	EMPC
180-111870-3	BR289SS	180-111870-5	10/04/20	OCDD	8290A	pg/g	19	8700	G E B	J	Exceeds calibration range
180-111870-3	BR289SS	180-111870-5	10/04/20	Total HpCDD	8290A	pg/g	6.7	1000	G B	J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Total HpCDF	8290A	pg/g	6	290		J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Total HxCDD	8290A	pg/g	6	160	q	J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Total HxCDF	8290A	pg/g	6	110		J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Total PeCDD	8290A	pg/g	6	26		J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Total PeCDF	8290A	pg/g	6	33	q	J	Quantitation
180-111870-3	BR289SS	180-111870-5	10/04/20	Total TCDD	8290A	pg/g	1.2	5.7	q	J	Quantitation

Table 6 Results Qualified During Valiidation

SDG	Sample ID	Lab Sample ID	Sample Date	Parameter	Method	Units	RL	Result	Lab Qualifier	Validator Qualifier	Reason for Qualifier
180-111870-3	BR289SS	180-111870-5	10/04/20	Total TCDF	8290A	pg/g	1.2	28		J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Acenaphthylene	8270E	ug/Kg	1200	470	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	Benzo[a]pyrene	8270E	ug/Kg	1200	540	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	Benzo[b]fluoranthene	8270E	ug/Kg	1200	800	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	Benzo[g,h,i]perylene	8270E	ug/Kg	1200	450	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	Fluoranthene	8270E	ug/Kg	1200	770	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	Phenanthrene	8270E	ug/Kg	1200	630	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	Pyrene	8270E	ug/Kg	1200	770	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	1,2,3,4,7,8-HxCDF	8290A	pg/g	6.1	5.5	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	1,2,3,6,7,8-HxCDF	8290A	pg/g	6.1	4.2	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	1,2,3,7,8-PeCDD	8290A	pg/g	6.1	2.3	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	2,3,4,6,7,8-HxCDF	8290A	pg/g	6.1	3.4	J	J	Detect < RL
180-111870-3	BR233SS	180-111870-6	10/04/20	OCDD	8290A	pg/g	17	7900	E B G	J	Exceeds calibration range
180-111870-3	BR233SS	180-111870-6	10/04/20	Total HpCDD	8290A	pg/g	7.9	1400	B G	J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total HpCDF	8290A	pg/g	6.1	380		J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total HxCDD	8290A	pg/g	6.1	180		J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total HxCDF	8290A	pg/g	6.1	110		J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total PeCDD	8290A	pg/g	6.1	25	q	J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total PeCDF	8290A	pg/g	6.1	30	q	J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total TCDD	8290A	pg/g	1.2	2		J	Quantitation
180-111870-3	BR233SS	180-111870-6	10/04/20	Total TCDF	8290A	pg/g	1.2	34	q	J	Quantitation

Table 7 Field Duplicate Summary

SDG	Parent Sample ID	Field Duplicate	Method	Analyte	Units	Parent Result	FD Result	RPD (%)	Difference	Criteria (2x RL or RPD)	Exceeds Criteria	Qualifier Applied
180-111697-1	KD010SS	KD860SS	8270E	Acenaphthene	ug/Kg	34	43	N/A	9	164	No	None
180-111697-1	KD010SS	KD860SS	8270E	Acenaphthylene	ug/Kg	490	480	2	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Anthracene	ug/Kg	650	640	2	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Benzo[a]anthracene	ug/Kg	920	1200	26	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Benzo[a]pyrene	ug/Kg	1100	990	11	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Benzo[b]fluoranthene	ug/Kg	2100	2200	5	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Benzo[g,h,i]perylene	ug/Kg	830	760	9	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Benzo[k]fluoranthene	ug/Kg	720	740	3	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Chrysene	ug/Kg	1200	1500	22	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Dibenz(a,h)anthracene	ug/Kg	310	280	N/A	30	164	No	None
180-111697-1	KD010SS	KD860SS	8270E	Fluoranthene	ug/Kg	1400	2000	35	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Fluorene	ug/Kg	56	44	N/A	12	164	No	None
180-111697-1	KD010SS	KD860SS	8270E	Indeno[1,2,3-cd]pyrene	ug/Kg	850	790	7	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Naphthalene	ug/Kg	490	480	2	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Phenanthrene	ug/Kg	710	660	7	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8270E	Pyrene	ug/Kg	1800	2600	36	N/A	40%	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,4,6,7,8-HpCDD	pg/g	660	1200	58	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,4,6,7,8-HpCDF	pg/g	120	210	55	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,4,7,8,9-HpCDF	pg/g	7.6	13	N/A	5.4	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,4,7,8-HxCDD	pg/g	7.6	14	N/A	6.4	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,4,7,8-HxCDF	pg/g	4.5	7.1	N/A	2.6	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,6,7,8-HxCDD	pg/g	20	37	N/A	17	11.6	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,6,7,8-HxCDF	pg/g	3.5	4.8	N/A	1.3	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,7,8,9-HxCDD	pg/g	14	25	N/A	11	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,7,8-PeCDD	pg/g	2.8	5.5	N/A	2.7	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	1,2,3,7,8-PeCDF	pg/g	0.75	1.3	N/A	0.55	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	2,3,4,6,7,8-HxCDF	pg/g	3.1	5.4	N/A	2.3	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	2,3,4,7,8-PeCDF	pg/g	0.94	1.2	N/A	0.26	11.6	No	None
180-111697-1	KD010SS	KD860SS	8290A	2,3,7,8-TCDF	pg/g	0.59	1.2	N/A	0.61	2.4	No	None
180-111697-1	KD010SS	KD860SS	8290A	OCDD	pg/g	6900	14000	68	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	OCDF	pg/g	490	840	53	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total HpCDD	pg/g	1600	2800	55	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total HpCDF	pg/g	410	710	54	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total HxCDD	pg/g	190	360	62	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total HxCDF	pg/g	100	190	62	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total PeCDD	pg/g	31	72	80	N/A	40%	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total PeCDF	pg/g	11	37	N/A	26	11.6	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total TCDD	pg/g	2.5	12	N/A	9.5	2.4	Yes	J
180-111697-1	KD010SS	KD860SS	8290A	Total TCDF	pg/g	6.2	14	77	N/A	40%	Yes	J

Table 7 Field Duplicate Summary

SDG	Parent Sample ID	Field Duplicate	Method	Analyte	Units	Parent Result	FD Result	RPD (%)	Difference	Criteria (2x RL or RPD)	Exceeds Criteria	Qualifier Applied
180-111870-1	BR500SS	BR861SS	8270E	Acenaphthylene	ug/Kg	330 U	420	N/A	90	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Anthracene	ug/Kg	330 U	310	N/A	20	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Benzo[a]anthracene	ug/Kg	330 U	1100	N/A	770	660	Yes	UJ, J
180-111870-1	BR500SS	BR861SS	8270E	Benzo[a]pyrene	ug/Kg	330 U	840	N/A	510	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Benzo[b]fluoranthene	ug/Kg	180	1400	N/A	1220	660	Yes	J
180-111870-1	BR500SS	BR861SS	8270E	Benzo[g,h,i]perylene	ug/Kg	77	560	N/A	483	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Benzo[k]fluoranthene	ug/Kg	330 U	730	N/A	400	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Chrysene	ug/Kg	330 U	1700	N/A	1370	660	Yes	UJ, J
180-111870-1	BR500SS	BR861SS	8270E	Dibenz(a,h)anthracene	ug/Kg	330 U	490	N/A	160	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Fluoranthene	ug/Kg	98	1600	N/A	1502	660	Yes	J
180-111870-1	BR500SS	BR861SS	8270E	Indeno[1,2,3-cd]pyrene	ug/Kg	330 U	570	N/A	240	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Phenanthrene	ug/Kg	330 U	510	N/A	180	660	No	None
180-111870-1	BR500SS	BR861SS	8270E	Pyrene	ug/Kg	130	1700	N/A	1570	660	Yes	J
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,4,6,7,8-HpCDD	pg/g	390	570	38	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,4,6,7,8-HpCDF	pg/g	100	120	18	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,4,7,8,9-HpCDF	pg/g	5.3	5.2	N/A	0.1	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,4,7,8-HxCDD	pg/g	5.4	5.6	N/A	0.2	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,4,7,8-HxCDF	pg/g	10	11	N/A	1	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,6,7,8-HxCDD	pg/g	15	18	N/A	3	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,6,7,8-HxCDF	pg/g	5.9	6.9	N/A	1	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,7,8,9-HxCDD	pg/g	8.3	10	N/A	1.7	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	1,2,3,7,8-PeCDF	pg/g	3	6.3 U	N/A	3.3	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	2,3,4,6,7,8-HxCDF	pg/g	9.4	9.8	N/A	0.4	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	2,3,4,7,8-PeCDF	pg/g	4.6	4.8	N/A	0.2	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	2,3,7,8-TCDF	pg/g	1.6	1.7	N/A	0.1	2.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	OCDD	pg/g	5200	6300	19	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	OCDF	pg/g	270	280	4	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total HpCDD	pg/g	980	1300	28	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total HpCDF	pg/g	260	280	7	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total HxCDD	pg/g	130	160	21	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total HxCDF	pg/g	110	120	9	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total PeCDD	pg/g	20	20	N/A	0	12.6	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total PeCDF	pg/g	48	50	4	N/A	40%	No	None
180-111870-1	BR500SS	BR861SS	8290A	Total TCDD	pg/g	3.1	6.7	N/A	3.6	2.6	Yes	J
180-111870-1	BR500SS	BR861SS	8290A	Total TCDF	pg/g	25	31	21	N/A	40%	No	None

Attachment A

Validation Checklists

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111697-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	12	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport	X		No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	KD106SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, Total HpCDD, and Total HpCDF "U". KD280SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 2,3,7,8-TCDF, and Total TCDF "U".
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples	X		Yes	KD280SS-EB and KD106SS-EB: Qualify 2,3,4,6,7,8-HxCDF "J" or "UJ".
11. Field Duplicates	X		Yes	KD010SS and KD860SS: Qualify 13 analytes "J".
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify OCDD "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
KD302SS	180-111697-1	9/28/2020	2.7 °C/0.9 °C	10/06/2020	10/17/2020
KD280SS	180-111697-2	9/28/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD280SS-EB	180-111697-3	9/28/2020	2.7 °C/0.9 °C	10/07/2020	10/10/2020
KD248SS	180-111697-4	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD216SS	180-111697-5	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD132SS	180-111697-6	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KDEPA9SS	180-111697-7	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020; 10/22/2020
KD106SS-EB	180-111697-8	9/29/2020	2.7 °C/0.9 °C	10/07/2020	10/10/2020
KD106SS	180-111697-9	9/29/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020; 10/22/2020
KD080SS	180-111697-10	9/30/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020
KD010SS	180-111697-11	9/30/2020	2.7 °C/0.9 °C	10/06/2020	10/18/2020; 10/22/2020
KD860SS	180-111697-12	9/30/2020	2.7 °C/0.9 °C	10/06/2020	10/20/2020; 10/22/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes
Notes: The sample receipt at the West Sacramento lab states that corrected temperature at receipt was 6.9 °C. The writing on the COC looks like 0.9 °C.	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	Yes
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
WDM for ICAL on Instrument 3D5 analyzed on 9/23/2020. The standards were analyzed on 10/5/2020. Level III package does not provide all information.	

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
There is an ICAL sheet (page 579) that says RT and S/N ratio were good for soil ICAL, as were ion ratios. Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
In MB 320-419261/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD,OCDF, Total HpCDD, and Total HxCDD. In MB 320-419525/1-A (water), the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 2,3,7,8-TCDF, OCDD, Total HpCDD, Total HpCDF, and Total TCDF. In KD106SS-EB, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, OCDD, Total HpCDD, and Total HpCDF were detected. In KD280SS-EB, twenty-one analytes were detected.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	No
RPD of the LCS 320-419525/LCSD 320-419525 exceeded control limits for 2,3,4,6,7,8-HxCDF.	

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	No
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	No
Notes: REG/FD pair: KD010SS and KD860SS	

12. Internal Standards and Recovery Standards	
Were samples spiked with internal standards and recovery standards?	Yes
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/02/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270D/8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111697-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	12	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates		X	No	None
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270D/8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
KD302SS	180-111697-1	9/28/2020	2.7 ºC	10/08/2020	10/11/2020
KD280SS	180-111697-2	9/28/2020	2.7 ºC	10/08/2020	10/11/2020
KD280SS-EB	180-111697-3	9/28/2020	2.7 ºC	10/02/2020	10/12/2020
KD248SS	180-111697-4	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD216SS	180-111697-5	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD132SS	180-111697-6	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KDEPA9SS	180-111697-7	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD106SS-EB	180-111697-8	9/29/2020	2.7 ºC	10/05/2020	10/16/2020
KD106SS	180-111697-9	9/29/2020	2.7 ºC	10/08/2020	10/11/2020
KD080SS	180-111697-10	9/30/2020	2.7 ºC	10/14/2020	10/16/2020
KD010SS	180-111697-11	9/30/2020	2.7 ºC	10/14/2020	10/16/2020
KD860SS	180-111697-12	9/30/2020	2.7 ºC	10/14/2020	10/16/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes
Were qualifications required based on this information?	No

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	No

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	Yes
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	Yes
Notes: One pair was analyzed: KD010SS and KD860SS. All results agreed.	

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/21/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111805-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	15 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	KD010SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, OCDD, Total HpCDD, and Total TCDF "U". KD225WSS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, OCDD, and Total HpCDD "U". KD297SS-EB: Qualify 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, OCDD, Total HpCDD, and Total TCDF "U".
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples	X		Yes	KD010SS-EB, KD297SS-EB, and KD225WSS-EB: Qualify 2,3,4,6,7,8-HxCDF "UJ".
11. Field Duplicates	---	---	---	---
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify OCDD "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
KD029SS	180-111805-1	9/30/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD045SS	180-111805-2	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD123SS	180-111805-3	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020
KD149SS	180-111805-4	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD225ESS	180-111805-5	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020
KD225WSS	180-111805-6	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
DW201SS	180-111805-7	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD251SS	180-111805-8	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020
KD275SS	180-111805-9	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD297SS	180-111805-10	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD297SS-MS	180-111805-10 MS	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD297SS-MSD	180-111805-10 MSD	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/08/2020	10/20/2020; 10/23/2020
KD010SS-EB	180-111805-11	9/30/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/07/2020	10/10/2020
KD297SS-EB	180-111805-12	10/02/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/07/2020	10/10/2020
KD225WSS-EB	180-111805-13	10/01/2020	1.8 ºC/3.0 ºC/3.6 ºC	10/07/2020	10/10/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 ºC?	Yes
Were samples received in proper condition?	Yes
Notes:	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: There is no “relinquished by” time listed on one of the two COCs.	

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	Yes
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
Notes: WDM for ICAL on Instrument 3D5 analyzed on 9/23/2020. The standards were analyzed on 10/5/2020.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
Notes: Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? (Forms 6A/6B) Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-419758/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDF, OCDD, OCDF, and Total HpCDF. In MB 320-419525/1-A (water), the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, 2,3,7,8-TCDF, OCDD, Total HpCDD, Total HpCDF, and Total TCDF. In KD010SS-EB, 1,2,3,4,6,7,8-HpCDD, 2,3,7,8-TCDF, OCDD, OCDF, Total HpCDD, and Total TCDF were detected. In KD225WSS-EB, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD, Total HpCDD, and Total HxCDD were detected. In KD297SS-EB, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, 2,3,7,8-TCDD, 2,3,7,8-TCDF, OCDD, OCDF, Total HpCDD, Total HxCDD, Total TCDD, and Total TCDF were detected..	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	Yes
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within laboratory established limits?	No
Were field blanks used for the MS/MSD samples?	No
Notes: OCDD recovery was high in the MSD of KD297SS. The concentration in the parent sample was > 4x the amount spiked, so recovery criteria do not apply. No qualification.	

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	No
Notes: RPD of the LCS 320-419525/LCSD 320-419525 exceeded control limits for 2,3,4,6,7,8-HxCDF.	

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards?	N/A
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/03/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111805-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	15 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
KD029SS	180-111805-1	9/30/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD045SS	180-111805-2	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD123SS	180-111805-3	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD149SS	180-111805-4	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD225ESS	180-111805-5	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD225WSS	180-111805-6	10/01/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
DW201SS	180-111805-7	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD251SS	180-111805-8	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD275SS	180-111805-9	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD297SS	180-111805-10	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD297SS-MS	180-111805-10 MS	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/16/2020
KD297SS-MSD	180-111805-10 MSD	10/02/2020	1.8 ºC/3.6 ºC	10/14/2020	10/17/2020
KD010SS-EB	180-111805-11	9/30/2020	1.8 ºC/3.6 ºC	10/07/2020	10/16/2020
KD297SS-EB	180-111805-12	10/02/2020	1.8 ºC/3.6 ºC	10/07/2020	10/16/2020
KD225WSS-EB	180-111805-13	10/01/2020	1.8 ºC/3.6 ºC	10/07/2020	10/16/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
There is no “relinquished by” time listed on one out of two COCs.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes
Were qualifications required based on this information?	No

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within the laboratory limits?	No
Were field blanks used for the MS/MSD samples?	No
Notes: Benzo[g,h,i]perylene RPD was high between the MS and MSD of KD297SS. The parent is non-detect, so no qualification is required.	

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/23/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111869-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	13 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	DW210SS-EB: Qualify OCDD "U".
8. Isotope Dilution Analytes		X	No	
9. Matrix Spike/Matrix Spike Duplicate	X		Yes	DW202SS: Qualify 1,2,3,7,8,9-HxCDD “J”.
10. Laboratory Control Samples		X	No	
11. Field Duplicates	---	---	---	---
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected “Total” isomers “J”, where applicable. Qualify all compounds detected below the RL “J”. Qualify applicable compounds “EMPC”. Qualify 1,2,3,4,6,7,8-HpCDD, OCDD, and OCDF “J” where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
DW202SS	180-111869-1	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW202SS-MS	180-111869-1 MS	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW202SS-MSD	180-111869-1 MSD	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW203SS	180-111869-2	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/19/2020
DW204SS	180-111869-3	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW205SS	180-111869-4	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW206SS	180-111869-5	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/19/2020
DW207SS	180-111869-6	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
KD321SS	180-111869-7	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/19/2020
DW208SS	180-111869-8	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW209SS	180-111869-9	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW210SS	180-111869-10	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/15/2020; 10/19/2020
DW210SS-EB	180-111869-11	10/03/2020	1.4 °C/2.2 °C	10/09/2020	10/20/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes
Were qualifications required based on this information?	No
Notes:	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: There is no “relinquished by” time listed on the COC.	

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	No
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
Notes: WDM on Instrument 10D5, analyzed on 10/20/2020 @ 00:34, was analyzed after the CCV.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
Notes: Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? (Forms 6A/6B) Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-420127/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD, OCDF, Total HpCDD, and Total HxCDD. In MB 320-420196/1-A (water), the following analytes were detected: 1,2,3,4,7,8-HxCDD, OCDD, and Total HxCDD. In DW210SS-EB, OCDD was detected.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	Yes
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within laboratory established limits?	No
Were field blanks used for the MS/MSD samples?	No
Notes: OCDD and 1,2,3,4,6,7,8-HpCD, 1,2,3,4,6,7,8-HpCDF OCDF recoveries were high in the MS and/or MSD of DW202SS. The concentrations in the parent sample were > 4x the amount spiked, so recovery criteria do not apply. No qualification. 1,2,3,7,8,9-HxCDD recovery was high in the MS of DW202SS.	

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards and recovery standards?	N/A
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/04/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111869-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	13 with MS/MSD	Matrix:	Soil/Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody	X		No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds	X		No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
DW202SS	180-111869-1	10/03/2020	1.4 °C	10/14/2020	10/16/2020
DW202SS-MS	180-111869-1 MS	10/03/2020	1.4 °C	10/14/2020	10/16/2020
DW202SS-MSD	180-111869-1 MSD	10/03/2020	1.4 °C	10/14/2020	10/16/2020
DW203SS	180-111869-2	10/03/2020	1.4 °C	10/13/2020	10/14/2020
DW204SS	180-111869-3	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW205SS	180-111869-4	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW206SS	180-111869-5	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW207SS	180-111869-6	10/03/2020	1.4 °C	10/13/2020	10/15/2020
KD321SS	180-111869-7	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW208SS	180-111869-8	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW209SS	180-111869-9	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW210SS	180-111869-10	10/03/2020	1.4 °C	10/13/2020	10/15/2020
DW210SS-EB	180-111869-11	10/03/2020	1.4 °C	10/08/2020	10/14/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 °C?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: There is no "relinquished by" time listed on the COC.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes
Were qualifications required based on this information?	No

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	No
Notes: No surrogates were detected in DW206SS because of sample dilution. No qualification is needed. Tribromophenol (TBF) recovery was low in DW202SS. The target compounds are all base-neutrals. TBF is an acid compound. No qualification is needed.	

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	Yes
Were MS/MSD recoveries and RPDs within the laboratory limits?	Yes
Were field blanks used for the MS/MSD samples?	No

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/24/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-1
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	2	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		No	None
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	X		Yes	BR500SS and BR861SS: Qualify Total TCDD "J".
12. Internal Standards and Recovery Standards		X	No	None
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify 1,2,3,4,6,7,8-HpCDD, OCDD, and OCDF "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)		X	No	None
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
BR500SS	180-111870-7	10/04/2020	1.5 °C/2.2 °C	10/09/2020	10/13/2020; 10/13/2020
BR861SS	180-111870-8	10/04/2020	1.4 °C/2.2 °C	10/09/2020	10/13/2020; 10/13/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	Yes
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series? (Raw QC Data; Tune Data)	Yes
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the ion abundance ratios within established limits?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes
Notes:	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-420127/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,7,8-HxCDD, OCDD, OCDF, Total HpCDD, and Total HxCDD. In BR233SS-EB (in SDG 180-111870-2), OCDD was detected.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	Yes
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	No
Notes: REG/FD pair: BR500SS and BR861SS	

12. Internal Standards	
Were samples spiked with internal standards? 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD	Yes
Were ion abundance ratios within established limits?	Yes
Were retention times within established limits?	Yes

13. Compound Identification and Quantitation	
Were the retention times within established limits? (-1 to +3 seconds from the respective isotope dilution analyte or internal standard signal)	No
Were ion abundance ratios within established limits?	No
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	Yes
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J".	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/08/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-1
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	2	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	X		Yes	BR500SS and BR861SS: Qualify benzo[a]anthracene, benzo[b]fluoranthene, chrysene, fluoranthene, and pyrene "J" or "UJ".
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	X		Yes	BR500SS: Qualify benzo[g,h,i]perylene "U".
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
BR500SS	180-111870-7	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR861SS	180-111870-8	10/04/2020	1.5 °C	10/14/2020	10/17/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in other data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	Yes
Was DDT % breakdown less than 20%?	Yes

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	Yes
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	No
Notes: REG/FD pair: BR500SS and BR861SS	

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	Yes
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	No
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	Yes
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes
Notes: Benzo[g,h,i]perylene spectrum in BR500SS did not have all the ions of the reference spectrum	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/07/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-2
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	1	Matrix:	Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		Yes	BR233SS-EB: Qualify OCDD "U".
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	No	None
14. Calculations and Raw Data (Stage 4 only)		X	No	None
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
BR233SS-EB	180-111870-9	10/04/2020	1.5 °C/2.2 °C	10/09/2020	10/19/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 °C?	Yes
Were samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in different data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	No
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series? (Raw QC Data; Tune Data)	Yes
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
Notes: WDM 320-423518/43 was analyzed after the CCV, but before sample.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the ion abundance ratios within established limits?	Yes
Were retention time criteria met? (Quant sheet: Δ Sec between -1 and +3)	Yes
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	Yes

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: In MB 320-420193/1-A, the following analytes were detected: 1,2,3,4,7,8-HxCDD, OCDD, OCDF, and Total HxCDD. OCDD was detected in BR233SS-EB.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards? 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD	Yes
Were ion abundance ratios within established limits?	Yes
Were retention times within established limits?	Yes

13. Compound Identification and Quantitation	
Were the retention times within established limits? (-1 to +3 seconds from the respective isotope dilution analyte or internal standard signal)	Yes
Were ion abundance ratios within established limits?	Yes
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	No
Were the isomers characterized by a response with an S/N of at least 2.5?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/10/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-2
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	1	Matrix:	Water

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	No	None
14. Calculations and Raw Data (Stage 4 only)		X	No	None
Verification and Validation Label	Stage_4_Validation_Manual			
Verification and Validation Label Code	S4VM			

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
BR233SS-EB	180-111870-9	10/04/2020	1.5 °C	10/08/2020	10/14/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 ºC?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in other data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	Yes
Was DDT % breakdown less than 20%?	Yes

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	Yes
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes
Notes: There were no target compound detections in the sample. RRTs of surrogates were acceptable.	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	Yes

Validated by: Maureen McMyler 12/08/2020

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-3
Project Site:	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	6	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance	X		No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)	X		No	None
8. Isotope Dilution Analytes		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards	---	---	---	---
13. Compound Identification and Quantitation	X		Yes	Qualify detected "Total" isomers "J", where applicable. Qualify all compounds detected below the RL "J". Qualify applicable compounds "EMPC". Qualify OCDD "J" where the calibration range was exceeded.
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polychlorinated Dioxins and Furans by 8290A

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date Analyzed
BREPA21SS	180-111870-1	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020
BR373SS	180-111870-2	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	11/05/2020; 11/06/2020
BR351SS	180-111870-3	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020
BR315SS	180-111870-4	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020
BR289SS	180-111870-5	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020
BR233SS	180-111870-6	10/04/2020	0.0 ºC/1.5 ºC	10/28/2020	10/29/2020; 10/30/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were sample temperatures kept ≤ 6 ºC?	Yes
Were samples received in proper condition?	Yes
Notes:	

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes

3. Holding Times	
Were samples extracted within acceptable holding times (30 days)?	Yes
Were samples analyzed within acceptable holding times (45 days after extraction)?	Yes

4. Instrument Performance	
Was perflurokerosene (PFK) analyzed before sample analysis? (in calibration sections)	Yes
Was mass spectrometer resolution set to ≥10,000? (Apparent for 2 of 3 instruments)	Yes
Was a Window Defining Mixture (WDM) analyzed before calibration and within 12 hours of sample analysis?	No
Were switching times optimized properly, demonstrated by complete elution of the first and last isomers in each homologous series?	N/A
Was the chromatographic peak separation between the 2,3,7,8-TCDD peak and the 1,2,3,8-TCDD peak resolved with a valley of ≤25%.	Yes
WDM on instrument 4D5 analyzed on 10/29/2020 was analyzed after the CCV. Level III package does not provide all information.	

5. Initial Calibration (RRF Summary)	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were retention time criteria met?	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions?	N/A
Notes: Level III package does not provide all ICAL information.	

6. Continuing Calibration Verification (CCV)	
Were calibrations compared to the correct initial calibrations? Form VII shows ICAL date	Yes
Were Percent Differences (%Ds) of the Response Factors (RFs) < 20% for unlabeled and < 30% for labeled RFs?	Yes
Were the relative ion abundances for CDDs/CDFs met? Not shown in Level III	N/A
Were retention time criteria met? Not shown in Level III	N/A
Was signal-to-noise ratio ≥ 10 for all reported analyte ions? Not shown in Level III	N/A
Notes: Level III package does not provide all CCV information.	

7. Blanks (Method and/or Field QC)	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the method blanks?	Yes
Notes: MB 320-426110/1-A (solids) the following analytes were detected: 1,2,3,4,6,7,8-HpCDD, OCDD, and Total HpCDD. Concentrations in samples were >10x the amount in the MB. In BR233SS-EB (in SDG 180-111870-2), OCDD was detected. No qualification.	

8. Isotope Dilution Analytes	
Were samples spiked with the correct analytes?	Yes
Were isotope dilution recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair extracted and analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within laboratory established limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	Yes

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Were samples spiked with internal standards?	N/A
Were recoveries within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Were retention times within established limits?	N/A

13. Compound Identification and Quantitation	
Were the retention times within established limits?	N/A
Were ion abundance ratios within established limits?	N/A
Was an estimated maximum possible concentration (EMPC) calculated and reported for 2,3,7,8-substituted isomers?	Yes
Were the isomers characterized by a response with an S/N of at least 2.5?	N/A
Notes: Total PCDD/PCDFs concentrations were determined from detected calibrated compounds and non-calibrated compounds and are considered estimated. They were qualified "J". EMPCs were calculated by the lab for 2,3,7,8-substituted isomers that had a signal to noise ratio of ≥ 2.5 for quantitation ions and met all the identification criteria in the method except the ion abundance ratio. They were qualified "EMPC". Analytes that exceeded the calibration range were qualified "J". Several analytes exhibited elevated noise or matrix interferences and have elevated EDLs and RLs. They were qualified by the lab, but do not need validation qualification.	

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 12/10/2020

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Client Name:	Beazer East, Inc.	SDG/Report No.:	180-111870-3
Project Site	Grenada, Mississippi	Lab ID:	Eurofins TestAmerica
No. of Samples:	6	Matrix:	Soil

Area Reviewed	Anomalies		Qualification Required	Action Required
	Yes	No	Yes or No	
1. Sample Preservation, Handling, and Transport		X	No	None
2. Chain-of-Custody		X	No	None
3. Holding Times		X	No	None
4. Instrument Performance		X	No	None
5. Initial Calibration		X	No	None
6. Continuing Calibration Verification		X	No	None
7. Blanks (Method and/or Field QC)		X	No	None
8. Surrogates/Monitoring Compounds		X	No	None
9. Matrix Spike/Matrix Spike Duplicate	X		No	None
10. Laboratory Control Samples		X	No	None
11. Field Duplicates	---	---	---	---
12. Internal Standards		X	No	None
13. Compound Identification and Quantitation		X	Yes	Qualify results detected between the MDL and RL "J".
14. Calculations and Raw Data (Stage 4 only)	---	---	---	---
Verification and Validation Label	Stage_2B_Validation_Manual			
Verification and Validation Label Code	S2BVM			

Data Validation Checklist – Polynuclear Aromatic Hydrocarbons by 8270E

Sample Information:

Field Sample Number	Lab Sample ID	Date Collected	Cooler Temperature(s)	Date Prepared	Date(s) Analyzed
BREPA21SS	180-111870-1	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR373SS	180-111870-2	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR351SS	180-111870-3	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR315SS	180-111870-4	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR289SS	180-111870-5	10/04/2020	1.5 °C	10/14/2020	10/17/2020
BR233SS	180-111870-6	10/04/2020	1.5 °C	10/14/2020	10/17/2020

The following section is intended to specify areas evaluated and to provide an explanation (where applicable) for the areas where problems were identified during review.

1. Sample Preservation, Handling, and Transport	
Were all samples preserved correctly?	Yes
Were sample temperatures kept ≤ 6 °C?	Yes
Were semivolatile samples received in proper condition?	Yes

2. Chain-of-Custody (COC)	
Were samples recorded on the COCs?	Yes
Were correct analyses performed on the samples?	Yes
Notes: Some samples on the COC were reported in other data packages.	

3. Holding Times	
Were samples extracted within acceptable holding times (7 days for water/14 days for soil)?	Yes
Were samples analyzed within acceptable holding times (40 days after extraction)?	Yes

4. Instrument Performance	
Was DFTPP analyzed before and within 12 hours of calibration or sample analysis?	Yes
Were mass assignments correct and normalized to m/z 198?	Yes
Were ion abundance criteria met?	Yes
Were benzidine and pentachlorophenol peak tailing factors less than 2%?	N/A
Was DDT % breakdown less than 20%?	N/A

5. Initial Calibration	
Were at least 5 standards injected to establish the calibration curve for each compound?	Yes
Were Percent Relative Standard Deviations (%RSDs) of the Response Factors (RFs) ≤ the method or Coefficient of Correlation (r) ≥0.995 or r2 ≥ 0.99?	Yes
Were Relative Response Factors (RRFs) and average RRFs ≥ method requirements?	Yes
Were initial calibration verifications (ICVs) percent differences (%D) ≤ 30%, per method.	Yes

6. Continuing Calibration Verification (CCV)	
Were CCVs analyzed before and within 12 hours of sample analysis?	Yes
Were calibrations compared to the correct initial calibrations?	Yes
Were Percent Differences (%D) or % drift ≤ method requirements?	Yes
Were RRFs ≥ method requirements?	Yes

7. Blanks	
Does data package include a summary of method blank results?	Yes
Was a method blank extracted and analyzed for each prep batch?	Yes
Were target analytes reported in the equipment, field, and/or method blanks?	No

8. Surrogates/Monitoring Compounds	
Were samples spiked with the correct surrogate compounds?	Yes
Were surrogate recoveries reported on data forms?	Yes
Were recoveries within laboratory limits?	Yes

9. Matrix Spike/Matrix Spike Duplicate	
Was one MS/MSD pair analyzed for each batch of 20 samples?	No
Were MS/MSD recoveries and RPDs reported correctly on data forms?	N/A
Were MS/MSD recoveries and RPDs within the laboratory limits?	N/A
Were field blanks used for the MS/MSD samples?	N/A

10. Laboratory Control Samples (LCS)	
Was an LCS sample analyzed with each analytical batch?	Yes
Were LCS recoveries within laboratory limits?	Yes
Were LCS/LCSD RPDs within laboratory limits?	N/A

11. Field Duplicates	
Were any field duplicate pairs analyzed in this work order?	No
For REG/FD results > 5x the RL, were RPDs between the two values ≤ 40% for soil/20% for water?	N/A
For results < 5x the RL, were differences between the two values ≤ 2x RL for soil/RL for water?	N/A

12. Internal Standards	
Is an Internal Standard (IS) Summary form present?	Yes
Were ISs added to each sample in the run, including calibrations, samples, and QC samples?	Yes
Were IS area counts for all samples and blanks within 50% and 200% of its response in the CCV?	Yes
Was the Retention Time (RT) of the IS within ±30 seconds from the RT of the IS in the associated CCV or mid-point standard from ICAL?	Yes

13. Compound Identification and Quantitation	
Are the Relative Retention Times (RRTs) within ±0.06 RRT units of the standard RRT? (Stage 4)	N/A
Are all ions that are present in the standard mass spectrum at a relative intensity greater than 10% present in the sample spectrum? (Stage 4)	N/A
Do the relative intensities of ions agree within ±20% between the standard and sample spectra? (Stage 4)	N/A
Were quantitation limits (RLs) adjusted to reflect dilutions, cleanup, and other factors?	Yes

14. Calculations and Raw Data	
Did calculated results and raw data match the reported data? (Stage 4)	N/A

Validated by: Maureen McMyler 11/25/2020