

Attic Dust Wipe Sampling Report

**Neighborhood Near
Former Union Pacific Railroad
Houston Wood Preserving Works
4910 Liberty Road
Houston, TX 77026**

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1.0 INTRODUCTION

1.1 General Site Description

The former Union Pacific Railroad (UPRR) Houston Wood Preserving Works (HWPW) is located at 4910 Liberty Road and is an approximately 33-acre property located in a primarily industrial and residential area in Houston, Harris County, Texas near the intersections of Liberty Rd. with Lockwood Dr. and Liberty Rd. and Altoona St.

The facility is located within unoccupied industrial land and includes the Englewood Intermodal Yard, which is to the south of the former HWPW facilities. The site was first developed for creosoting operations in 1899 and operated various creosoting operations until 1984 when operations ceased, and all on-site building were dismantled in the early 1990s.

Several previous on-site and off-site investigations completed by UPRR revealed the presence of various chemicals of concern (COCs), however, none of those investigations focused on dioxins & furans as a potential COC. In September 2022, Epperson Environmental Group (EEG) conducted a surface soil investigation with dioxins and furans being one of the COCs under investigation. The report indicated elevated levels, above the Environmental Protection Agency's (EPA) noncarcinogenic child residential screening level (RSL), of dioxins and furans in surface soils at 11 sample locations surrounding the UPRR-HWPW site. The focus of this investigation was to determine the concentration of dioxins/furans in attic dust within residences and additional potential dioxins/furans soil sampling locations near the former UPRR-HWPW site.

1.2 Scope of Work

On October 18-19, 2022, EEG personnel conducted attic dust wipe sampling on residential properties located near the former UPRR-HWPW site to determine the concentration of dioxin/furans in accumulated attic dust within each residence.

1.3 Standard of Care

EEG's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. EEG makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that EEG does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as set forth in our proposal.

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Conditions may vary from those encountered at specific sample locations or during other surveys, tests, assessments,

investigations, or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.4 Reliance

This report has been prepared for the exclusive use of City of Houston Health Department and their successors, lenders and assigns, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of City of Houston Health Department and EEG.

2.0 DUST INVESTIGATION

On October 18-19, 2022, attic dust wipe samples were collected at 19 residences located near the former UPRR-HWPW site. **Figure 1** depicts the site boundaries and residential attic dust wipe sample locations. Photographs taken during the site investigation are depicted in **Appendix C**.

At each residence, EEG personnel located an area within the attic that appeared undisturbed and with visible dust accumulation. A single-use, disposable 100 cm² template, provided by ALS Laboratories, was placed on the attic surface to be sampled and EEG personnel used disposable, clean nitrile gloves to collect each attic dust wipe sample with a dedicated lab grade, hexane wipe. Each attic surface was swabbed with the wipe in one direction, then a second time in the perpendicular direction before placement into the laboratory-provided container. Each sample container was then placed on ice and picked up under chain-of-custody by ALS Environmental Laboratory for analyses within 24 hours of collection. The attic dust wipe samples were analyzed for dioxins/furans using EPA Method 1613B. Executed chain-of-custody forms and laboratory data packages for all samples are provided in **Appendix B**.

2.1 Dust Wipe Sample Results

Documentation of test results, analytical and QA/QC procedures provided by the laboratory, and the results of data validation are enclosed in the Data Usability Summary (DUS) located in **Appendix B**. The DUS describes specific issues encountered during laboratory QA/QC procedures. All data were of acceptable quality per method procedures and laboratory adherence to the National Environmental Laboratory Accreditation Program (NELAP).

Attic dust wipe sample results are summarized in **Table 1**.

Dioxins and Furans

All dioxin/furan dust attic dust sample concentrations were detected above their respective laboratory sample detection limits (see Figure 1). The two highest dioxin/furan TEQ values were detected in houses located closest to the UPRR-HWPW site at 2803 Kashmere Street (276 pg/100 cm² - Sample AS-11) and at 2902 Wipprecht Street (165 pg/100 cm² - Sample AS-09).

Figure 1 also depicts the locations and dioxin/furan sample results from the July 2022 soil boring investigation conducted by EEG in order to compare soil dioxin/furan concentrations with the attic dust wipe sample dioxin concentrations from this investigation.

3.0 CONCLUSIONS/RECOMMENDATIONS

Laboratory results indicate that the two highest dioxin/furan TEQ values were detected in houses that were among those located closest to the former UPRR-HWPW site. In addition, concentrations detected in attics located closest to the UPRR-HWPW site were higher than those located in attics further from the site. However, insufficient data has been collected to determine if the elevated dioxin/furan concentrations in the attic dust wipe samples are related to the elevated dioxin/furan concentrations previously found in surface soil samples collected near the UPRR-HWPW site. Additional soil investigation is recommended to determine the potential impact of dioxins and furans in the neighborhoods near the former UPRR-HWPW site.

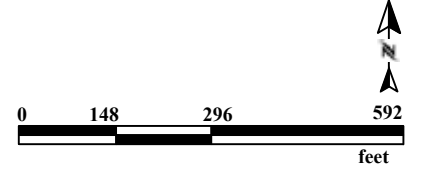
FIGURE & TABLE

APPENDIX A



Legend

- Soil Boring Sample Location - no exceedance (July 2022)
- Soil Boring Sample Location - exceedance of the EPA RSL non-carcinogenic (July 2022)
- ▲ Attic Dust Wipe Sample Location - below median dioxin/furan concentration of 10.8 pg/100 cm²
- ▲ Attic Dust Wipe Sample Location - at or above the median dioxin/furan concentration of 10.8 pg/100 cm²
- Approximate Site Boundary



Photograph: Google Earth Image 2018

Figure 1
Dioxins/Furans
Soil & Attic Dust
Sample Results
July & October 2022
Houston Health Dept.
Neighborhood Around Former
UPRR-Houston Wood Preserving
Works Site



Table 1 - Attic Dust Wipe Dioxins and Furans Analytical Results
City of Houston - Houston Health Department
Neighborhood Near Former UPRR-Houston Wood Preserving Works Site
October 2022

Attic Dust Wipe Sample Results				
Attic Dust Sample ID	Address	Collection Date	Dioxins & Furans Total TCDD TEQ Result (pg/100 cm ²)	Dioxins & Furans Total TCDD TEQ Result (µg/m ²)
AS-01	4519 Courtney St.	10/18/2022	17.6	0.00176
AS-02	4421 Quitman St.	10/18/2022	3.53	0.000353
AS-03	2618 Amboy St.	10/18/2022	11.6	0.00116
AS-04	2811 Amboy St.	10/18/2022	5.98	0.000598
AS-05	4502 Courtney St.	10/18/2022	50.1	0.00501
AS-06	2711 Wayne St.	10/18/2022	13.8	0.00138
AS-07	2708 Wayne St.	10/18/2022	20.5	0.00205
AS-08	2916 Wipprecht St.	10/18/2022	3.82	0.000382
AS-09	2902 Wipprecht St.	10/18/2022	165	0.0165
DUP-01			34.2	0.00342
AS-10	2906 Lavender St.	10/18/2022	1.39	0.000139
AS-11	2803 Kashmere St.	10/19/2022	276	0.0276
AS-12	4518 Courtney St.	10/20/2022	10.8	0.00108
AS-13	2815 Amboy St.	10/20/2022	1.83	0.000183
AS-14	4717 Lelia St.	10/20/2022	1.48	0.000148
AS-15	4715 Lelia St.	10/20/2022	1.14	0.000114
AS-16	4616 Wylie St.	10/20/2022	1.48	0.000148
AS-17	2938 Lavender St.	10/20/2022	46.6	0.00466
AS-18	2925 Lavender St.	10/20/2022	33.2	0.00332
AS-19	5211 Wylie St.	10/20/2022	0.848	0.0000848

Total TCDD TEQ at or above the median concentration of 10.8 pg/100 cm²

**DATA USABILITY SUMMARY
- LABORATORY
ANALYTICAL RESULTS AND
CHAIN OF CUSTODY

APPENDIX B**

DATA USABILITY SUMMARY

**Union Pacific
House Wipe Sampling
Houston, Texas
2022**

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Attachment D Reported data, Laboratory Review Checklists, and Exception Reports

Acronyms and Abbreviations

%R	Percent Recovery
ER	Exception Reports
LCS	Laboratory Control Sample
LRC	Laboratory Review Checklist
MQL	Method Quantitation Limit
mg/L	Milligrams per Liter
MS/MSD	Matrix Spike/Matrix Spike Duplicate
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
RDL	Reporting Detect Limit (same as the method quantitation limit)
RPD	Relative Percent Difference
SDG	Sample Delivery Group
SIM	Selected Ion Monitoring
SVOCs	Semi-volatile Organic Compounds
TCEQ	Texas Commission on Environmental Quality
TRRP	Texas Risk Reduction Program
VOCs	Volatile Organic Compounds

FOREWORD

This appendix contains the Data Usability Summary (DUS) report indicating the quality and usability of soil results for samples collected for analysis on 10/18/22. Data were reviewed for conformance to the requirements of the guidance document Review and Reporting of COC Concentration Data (RG-366/TRRP-13) and adherence to project objectives.

James Guin certifies that at the time the laboratory data were generated for the project, ALS Environmental conducted the analyses for the dust samples requested on the chain-of-custody documentation in adherence to the NELAP-approved quality assurance program of ALS Environmental.

A copy of the current NELAP certificate is included in Attachment A to this DUS.

Attachment B of this DUS provides analytical parameters for each sample and cross-references between laboratory and field sample identifications.

Attachment C presents final results, after data review, in tabular format.

Attachment D contains laboratory results with quality control analyses summarized on the reported data, Laboratory Review Checklists, and Exception Reports.

1.0 DATA USABILITY SUMMARY

This report presents the analytical data collected during sampling activities in the attics at houses adjacent and near the Union Pacific facility (“site”), in Houston, Texas, and the quality assurance/quality control (QA/QC) evaluation of those data. Data were evaluated independently from the laboratory to assess data quality. Samples discussed in this report were collected by Chuck Epperson, President of Epperson Environmental Group on 10/18/22. This data was submitted to Deanna Epperson, Principal Chemist, from Epperson Environmental Group for review of the data package reported for these samples. All data were reviewed for conformance to the requirements of the Texas Commission on Environmental Quality (TCEQ) guidance document *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13).

1.1 Intended Use of the Data

The use of the data is to provide current concentrations of chemicals of concern (COCs) in the attic dust of houses adjacent and near the site.

1.2 Requested Analysis

Analyses requested included:

1613B: Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS

1.3 Laboratory Submittals and Field Data Examined

Laboratory submittals and field data examined are as follows:

- Reportable data
- Laboratory review checklists (LRCs) and associated exception reports (ERs)
- Applicable field records, preservation, and handling procedures

Review of the reportable data includes the quality control (QC) parameters listed below, as required per TRRP-13:

- Data Completeness
- Chain-of-Custody Procedures
- Sample Condition - Holding Time, Preservation, and Containers
- Field Procedures

2.0 INTRODUCTION

EEG conducted dust wipe sampling on 10/18/22. The activity included the collection of twenty-one (21) wipe samples and one (1) duplicate. One laboratory package was reviewed.

Data Evaluation Criteria

Project Measurement Quality Objectives:

Organic Compounds

Recovery 70-130%

RPD < 25%

Field Duplicate Precision

Project Measurement Quality Objective:

Less than 30% RPD for aqueous, and less than 50% for soils

3.0 DATA REVIEW RESULTS

Samples discussed in this report were analyzed and reported as definitive data and QC summary information were submitted for data review. The data were reported by the laboratory in one sample delivery group (SDG). The samples collected and sample identification cross-references are summarized in Attachment B. When the QC parameters did not fall within the specific method or data review guidelines, the data evaluator annotated or “flagged” the corresponding compounds. Flags used during data review are as follows:

Data Review Qualifiers

- U** = **Not detected** - The analyte was analyzed but not detected or was found in a sample, but at a concentration less than 10 times the blank concentration for common organic constituents (methylene chloride, acetone, 2-butanone, and phthalate esters) or five times the blank concentration for other constituents.
- J** = **Estimated Value** - One or more QC parameters were outside control limits, or the concentration of the analyte was above the sample detection limit, but less than the method quantitation limit.
- UJ** = **Not detected and Estimated** - The analyte was analyzed but not detected and was estimated because at least one QC parameter was outside of control limits.
- R** = **Not Usable** - The analyte is not usable per TRRP-13 guidelines for extreme QC criteria exceedance outside of control limits.

3.1 Analytical Results

All results not detected are reported at less than the value of the sample detection. All values were estimated (J-flagged) by the laboratory when results were reported below the method quantitation (reporting) limit but above the method detection limit. Non-detected data are reported in the tables with a less-than annotation and the MDL. When the QC parameters did not fall within the specific method guidelines, the data evaluator annotated or “flagged” the corresponding compounds. Results were flagged as estimated may be high or low, but the data are usable for their intended purpose, according to TCEQ guidelines. Qualified data are included in Attachment C and the SDG packages with the LRCs and Exception reports are included in Attachment D.

3.2 Data Review Findings

The overall data quality for the sample results were evaluated based on method compliance, data usability, and scope-of-work satisfaction. LRC and submitted data evaluation for the samples included the following parameters:

- Sample receipt, preservation, and holding times
- Surrogate recoveries
- Laboratory control samples and duplicates (LCS/LCSDs)
- Matrix spike and matrix spike duplicates (MS/MSDs)
- Blank analysis (laboratory and trip)
- Field duplicate precision

All samples were received by the laboratory intact with the proper documentation. The following sections detail the data review findings and qualifications performed.

3.2.1 Sample Handling, Preservation, and Holding Times

All samples were received in the appropriate containers and in good condition with the proper completion of the C-O-C documentation and preservation. All coolers were received by the laboratory within 8 hours of collection and the chilling process had started, which met acceptance limits. The samplers personally transferred custody of the samples to laboratory personnel. All samples were analyzed within the method-recommended holding times.

3.2.2 Surrogate Recoveries

SDG Package: E2201020

Sample AS-01

All but two of the surrogates were below the control limits for their respective recoveries. There were several non-detections in this sample that correlated with these surrogates; therefore, these analytes were qualified as estimated at this detection limit and could have been detected at a higher concentration for this sample. The analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD), 2,3,7,8-Tetrachlorodibenzofuran (TCDF), and 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) are qualified as “UJ”.

Sample AS-02

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 28% which was below its limit range of 35-197%. No other surrogates were out in this sample and the analyte associated with this surrogate was not affected. No qualifications were necessary.

Sample AS-03

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 22% which was below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,6,7,8-Heptachlorodibenzofuran-C13 had the %R result of 26% which was marginally below its limit range of 28-143%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-C13 had the %R result of 29% which was marginally below its limit range of 32-141%. The analyte 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) result of 4.73 pg/100cm² is "UJ" qualified due to method blank contamination and ion abundance ratio issues making the identification of this analyte difficult.

Sample AS-04

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 29% which was below its limit range of 35-197%. No other surrogates were out in this sample and the analyte associated with this surrogate was not affected. No qualifications were necessary.

Sample AS-06

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 34% which was marginally below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzofuran-C13 had the %R result of 25% which was marginally below its limit range of 26-152%. No qualifications were necessary. The surrogate 1,2,3,4,7,8,9-Heptachlorodibenzofuran-C13 had the %R result of 24% which was marginally below its limit range of 26-138%. No qualifications were necessary.

Sample AS-07

All but two of the surrogates were below the control limits for their respective recoveries. There were several non-detections in this sample that correlated with these surrogates; therefore, these analytes were qualified as estimated at this detection limit and could have been detected at a higher concentration for this sample. The analytes 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), 2,3,7,8-Tetrachlorodibenzofuran (TCDF), Tetrachlorodibenzo-p-dioxins (TCDD), Total, Pentachlorodibenzo-p-dioxin (PeCDD), Total, and Tetrachlorodibenzofurans (TCDF), Total are qualified as "UJ".

Sample AS-08

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 29% which was marginally below its limit range of 35-197%. No qualifications were necessary. The surrogate Octachlorodibenzo-p-dioxin-C13 had the %R result of 11% which was below its limit range of 17-157%. No qualifications were necessary since the associated analyte was detected well above the MDL, well over nine times above. The surrogate 1,2,3,7,8,9-Hexachlorodibenzofuran-C13

had the %R result of 16% which was below its limit range of 29-147%. The associated analyte, 1,2,3,7,8,9-Heptachlorodibenzofuran (HxCDF) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,4,6,7,8-Heptachlorodibenzofuran-C13 had the %R result of 24% which was below its limit range of 28-143%. The associated analyte, 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,4,7,8,9-Heptachlorodibenzofuran-C13 had the %R result of 22% which was below its limit range of 26-138%. The associated analyte, 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) is non-detected in the sample and is qualified with a “UJ”.

Sample AS-11

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 23% which was below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-C13 had the %R result of 24% which was below its limit range of 32-141%. The associated analyte result for 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) has an ion abundance ratio issue in this sample and is qualified with a “J”. The surrogate 1,2,3,6,7,8-Hexachlorodibenzofuran-C13 had the %R result of 24% which was below its limit range of 26-123%. The associated analyte result for 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) has an ion abundance ratio issue in this sample and is qualified with a “J”. The surrogate 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 had the %R result of 28% which was below its limit range of 29-147%. The associated analyte, 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,4,6,7,8-Heptachlorodibenzofuran-C13 had the %R result of 20% which was below its limit range of 28-143%. The associated analyte result for 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) was detected well above the MDL, well over a thousand times the concentration. The surrogate 1,2,3,4,7,8,9-Heptachlorodibenzofuran-C13 had the %R result of 22% which was marginally below its limit range of 26-138%. No qualifications were necessary since the associated analyte 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) was detected well above the MDL, well over twice the concentration.

Sample AS-12

The surrogate 1,2,3,4,7,8,9-Heptachlorodibenzofuran-C13 had the %R result of 25% which was below its limit range of 26-138%. The associated analyte result for 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) has an ion abundance ratio issue in this sample, plus this analyte was found in the method blank and is qualified with a “UJ”.

Sample AS-13

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 28% which was below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-C13 had the %R result of 25% which was below its limit range of 32-141%. The associated analyte result for 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) has an ion abundance ratio issue in this sample and is qualified with a “J”. The surrogate 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 had the %R result of 26% which was below its limit range of 29-147%. The associated analyte, 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,4,6,7,8-Heptachlorodibenzofuran-C13 had the %R result of 24% which was below its limit range of 28-143%. The associated analyte result for 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) was

detected in the method blank, but the concentration is over five times over the MDL. No qualification was necessary. The surrogate 1,2,3,4,7,8,9-Heptachlorodibenzofuran-C13 had the %R result of 25% which was marginally below its limit range of 26-138%. The associated analyte 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) is non-detected in the sample and is qualified with a “UJ”.

Sample AS-14

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 31% which was below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-C13 had the %R result of 29% which was below its limit range of 32-141%. The associated analyte result for 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) is non-detected in the sample and is qualified with a “UJ”.

Sample AS-19

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 25% which was below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-C13 had the %R result of 28% which was below its limit range of 32-141%. The associated analyte result for 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) is qualified with a “J”. The surrogate 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 had the %R result of 28% which was below its limit range of 29-147%. The associated analyte, 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,4,6,7,8-Heptachlorodibenzofuran-C13 had the %R result of 26% which was below its limit range of 28-143%. The associated analyte result for 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) is non-detected in the sample and is qualified with a “UJ”.

Sample FB-01

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 28% which was below its limit range of 35-197%. No qualifications were necessary. The surrogate 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin-C13 had the %R result of 29% which was below its limit range of 32-141%. The associated analyte result for 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,7,8,9-Hexachlorodibenzofuran-C13 had the %R result of 28% which was below its limit range of 29-147%. The associated analyte, 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) is non-detected in the sample and is qualified with a “UJ”. The surrogate 1,2,3,4,6,7,8-Heptachlorodibenzofuran-C13 had the %R result of 27% which was below its limit range of 28-143%. The associated analyte result for 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) has an ion abundance ratio issue in this sample, plus this analyte was found in the method blank and is qualified with a “UJ”.

QC Method Blank EQ2200508-01 Laboratory Control Sample

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 425% which was above its limit range of 35-197%. No qualifications were necessary to the data for this exceedance.

QC Batch EQ2200508 Laboratory Control Sample

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 358% which was above its limit range of 35-197%. No qualifications were necessary to the data for this exceedance.

QC Batch EQ2200509 Laboratory Control Sample

The surrogate 2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37 had the %R result of 549% which was above its limit range of 35-197%. No qualifications were necessary to the data for this exceedance.

3.2.3 Laboratory Control Sample/Laboratory Control Sample Duplicates (LCS/LCSD)

All laboratory control sample recoveries met the method measurement quality objectives for the data package reviewed for this sample event.

3.2.4 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

Duplicate Samples, Surrogates and Laboratory Control Samples were used to determine accuracy and precision.

3.2.5 Blank Analysis (Laboratory and Trip)

Several analytes were detected in the laboratory method blanks associated with these samples. If the associated analyte was detected in the sample at less than twice the blank concentration, the result was qualified with a "UJ".

AS-01

Analyte 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) is qualified "UJ" for method blank contamination issues. This analyte also had ion abundance identification issues.

AS-02

Analytes 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD), 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF), 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF), and 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) are qualified "UJ" for method blank contamination issues. The furans listed here also had ion abundance identification issues.

AS-03

Analytes 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF), 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF), and 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) are qualified "UJ" for method blank contamination issues.

AS-04

Analytes 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF), 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF), 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF), 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF), 1,2,3,7,8,9-Hexachlorodibenzofuran

(HxCDF), and 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) are qualified “UJ” for method blank contamination issues.

AS-06

Analytes 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) and 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) are qualified “UJ” for method blank contamination issues.

AS-07

Analyte 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) is qualified “UJ” for method blank contamination issues. This analyte also had ion abundance identification issues.

AS-08

Analytes 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD), and 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) are qualified “UJ” for method blank contamination issues.

DUP-01

Analyte 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) is qualified “UJ” for method blank contamination issues. This analyte also had ion abundance identification issues.

AS-10

Analytes 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD), 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF), 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF), 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF), and 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) are qualified “UJ” for method blank contamination issues. The furans listed here also had ion abundance identification issues.

AS-14

Analyte 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) is qualified “UJ” for method blank contamination issues. This analyte also had ion abundance identification issues.

AS-15

Analytes 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) and Octachlorodibenzofuran (OCDF) are qualified “UJ” for method blank contamination issues.

AS-18

Analyte 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) is qualified “UJ” for method blank contamination issues. This analyte also had ion abundance identification issues.

FB-01

Analyte 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) is qualified “UJ” for method blank contamination issues. This analyte also had ion abundance identification issues.

3.2.6 Calibration Data

Most all initial calibration and continuing calibration data met SW-846 method requirements for organic analyses. Sample AS-011 had OCDD outside the upper calibration limit and is estimated

for this issue with a “J” qualifier.

3.2.7 Field Duplicate Precision

Wipe samples were collected as grab samples using a dedicated template provided by the laboratory. All samples were placed on ice and delivered to the environmental laboratory for analysis within 24 hours of collection. One field duplicate was collected. The relative percent difference is determined through the absolute value calculation involving the subtraction of the duplicate sample concentration from the parent sample concentration and divided by the average of the two, times 100.

**Table 3-2
Field Duplicate Samples**

Field Sample and Lab ID		Duplicate Sample and Lab ID		Analyses
AS-09	E2201020-009	DUP-01	E2201020-010	1613B

SDG Package: 2201020

Samples AS-09, DUP-01

All of the analytes were considered estimated and qualified with a “J”. Not any results were less than 73% different. The quality objective of RPD is $\leq 50\%$ for solid samples that have detected results greater than 5X the MDL. This discrepancy is in part due to method blank contamination and ion abundance ratio issues making the identification of the dioxins/furans analytes difficult.

4.0 Completeness Review

Twenty-one samples were reviewed for completeness. No analytes were determined not usable. The completeness of this site investigation was 100%.

Attachment A
NELAC Certification

EntryID	Certificate#	LabIDNo	EPA Num	LabName	Address	EffectiveDate	RemoveDate	Status	Discipline	MatrixName	ProgramName	AnalyteName	MethodName	ApplicationType	ApprovedCFR	ApprovedState	MatrixProgram	AccreditationEnd
1792414	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	03-Aug-18		Certified		Drinking Water		2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23
1792415	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	02-Aug-17		Certified		Drinking Water		Copper	EPA 200.8	Amendment	FALSE	FALSE		30-Apr-23
1792416	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	02-Aug-17		Certified		Drinking Water		Lead	EPA 200.8	Amendment	FALSE	FALSE		30-Apr-23
1792417	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	07-Jul-09		Certified		Non-Potable Water		Ignitability	EPA 1010		FALSE	FALSE		30-Apr-23
1792418	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	07-Jul-09		Certified		Non-Potable Water		Conductivity	EPA 120.1		FALSE	FALSE		30-Apr-23
1792419	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	07-Jul-09		Certified		Non-Potable Water		TCLP	EPA 1311		FALSE	FALSE		30-Apr-23
1792420	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	07-Jul-09		Certified		Non-Potable Water		SPLP	EPA 1312		FALSE	FALSE		30-Apr-23
1792421	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	07-Jul-09		Certified		Non-Potable Water		Residue-volatile	EPA 160.4		FALSE	FALSE		30-Apr-23
1792422	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	13-May-16		Certified		Non-Potable Water		1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23
1792423	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	13-May-16		Certified		Non-Potable Water		Total Pentachlorodibenzofuran (Total PeCDF)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23
1792424	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	13-May-16		Certified		Non-Potable Water		2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23
1792425	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	13-May-16		Certified		Non-Potable Water		2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23
1792426	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	13-May-16		Certified		Non-Potable Water		1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23
1792427	T1047042 31-22-29	2321	TX02693	ALS Laboratory Group, Environmental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099-4338	13-May-16		Certified		Non-Potable Water		2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	EPA 1613	Amendment	FALSE	FALSE		30-Apr-23

1792428	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792429	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792430	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792431	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792432	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792433	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792434	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792435	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792436	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792437	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792438	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792439	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792440	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792441	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16

Certified		Non-Potable Water		Total Hexachlorodibenzofuran (Total HxCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,6,7,8-Heptachlorodibenzo-furan (1,2,3,4,6,7,8-HpCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Total Heptachlorodibenzo-furan (Total HpCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,4,7,8,9-Heptachlorodibenzo-furan (1,2,3,4,7,8,9-HpCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,6,7,8-HxCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23

1792442	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792443	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792444	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792445	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792446	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	13-May-16
1792447	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792448	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792449	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792450	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792451	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792452	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792453	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792454	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09
1792455	T1047042 31-22-29	2321	TX02693	ALS Laborator y Group, Environm ental Services Division (Houston, Texas)	10450 Stanciff Road, Suite 115 Houston, TX 77099- 4338	07-Jul-09

Certified		Non-Potable Water		Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Total Tetrachlorodibenzofuran (Total TCDF)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	EPA 1613	Amendment	FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		n-Hexane Extractable Material (HEM) (O&G)	EPA 1664		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Turbidity	EPA 180.1		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Antimony	EPA 200.8		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Copper	EPA 200.8		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Beryllium	EPA 200.8		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Silver	EPA 200.8		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Strontium	EPA 200.8		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Iron	EPA 200.8		FALSE	FALSE	30-Apr-23
Certified		Non-Potable Water		Thallium	EPA 200.8		FALSE	FALSE	30-Apr-23

Attachment B

Sample Identifications and Analytical Parameters

Sample	Lab Code	Method	Matrix
AS-01	E2201020-001	1613B	Wipe
AS-02	E2201020-002	1613B	Wipe
AS-03	E2201020-003	1613B	Wipe
AS-04	E2201020-004	1613B	Wipe
AS-05	E2201020-005	1613B	Wipe
AS-06	E2201020-006	1613B	Wipe
AS-07	E2201020-007	1613B	Wipe
AS-08	E2201020-008	1613B	Wipe
AS-09	E2201020-009	1613B	Wipe
DUP-01	E2201020-010	1613B	Wipe
AS-10	E2201020-011	1613B	Wipe
AS-11	E2201020-012	1613B	Wipe
AS-12	E2201020-013	1613B	Wipe
AS-13	E2201020-014	1613B	Wipe
AS-14	E2201020-015	1613B	Wipe
AS-15	E2201020-016	1613B	Wipe
AS-16	E2201020-017	1613B	Wipe
AS-17	E2201020-018	1613B	Wipe
AS-18	E2201020-019	1613B	Wipe
AS-19	E2201020-020	1613B	Wipe
FB-01	E2201020-021	1613B	Wipe

Attachment C

Final Results After Data Review

E2201020 Dioxin EDD Rev. 1

Sample	Lab Code	CAS Number	Component	Dilution	Reporting Limit	Detection Limit	Result	Result Notes	DATA REVIEW QUALIFIERS
AS-01	E2201020-001	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	9.39	9.39	ND	ND	UJ
AS-01	E2201020-001	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	2.85	ND	ND	UJ
AS-01	E2201020-001	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.54	3.64	=,BJK	J
AS-01	E2201020-001	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.34	19.4	=,JK	J
AS-01	E2201020-001	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.38	8.01	=,BJK	J
AS-01	E2201020-001	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	5.6	433	=	
AS-01	E2201020-001	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	2.07	3290	=	
AS-01	E2201020-001	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5.71	5.71	ND	ND	UJ
AS-01	E2201020-001	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.88	4.85	=,BJK	UJ
AS-01	E2201020-001	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	3	10.9	=,BJK	J
AS-01	E2201020-001	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	2.41	13.4	=,BJ	J
AS-01	E2201020-001	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	2.75	14.1	=,BJ	J
AS-01	E2201020-001	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	3.07	ND	ND	UJ
AS-01	E2201020-001	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	2.26	12.8	=,J	J
AS-01	E2201020-001	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	4.23	154	=,K	J
AS-01	E2201020-001	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	5.38	9.7	=,BJ	J
AS-01	E2201020-001	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	7.19	221	=,K	J
AS-01	E2201020-001	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	9.39	9.39	ND	ND	<SDL
AS-01	E2201020-001	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	2.85	17.6	=,J	J
AS-01	E2201020-001	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.41	67.6	=	
AS-01	E2201020-001	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	5.6	433	=	
AS-01	E2201020-001	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5.71	5.71	ND	ND	<SDL
AS-01	E2201020-001	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	13.9	=,J	J
AS-01	E2201020-001	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	2.6	132	=	
AS-01	E2201020-001	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.77	283	=	
AS-02	E2201020-002	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	3.19	ND	ND	<SDL
AS-02	E2201020-002	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.41	1.63	=,BJK	UJ
AS-02	E2201020-002	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.981	2.1	=,BJK	UJ
AS-02	E2201020-002	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.902	2.81	=,BJK	J
AS-02	E2201020-002	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.903	ND	ND	<SDL
AS-02	E2201020-002	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	0.877	48.1	=	
AS-02	E2201020-002	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	1.15	256	=	
AS-02	E2201020-002	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.95	ND	ND	<SDL
AS-02	E2201020-002	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.772	ND	ND	<SDL
AS-02	E2201020-002	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.832	ND	ND	<SDL
AS-02	E2201020-002	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.519	1.41	=,BJK	UJ
AS-02	E2201020-002	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.563	1.28	=,BJK	UJ
AS-02	E2201020-002	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	0.622	1.83	=,BJK	UJ
AS-02	E2201020-002	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.466	2.48	=,BJ	J
AS-02	E2201020-002	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	0.709	12	=,BJK	J
AS-02	E2201020-002	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	0.953	2.75	=,BJ	J
AS-02	E2201020-002	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	2.87	17.7	=,BJ	J
AS-02	E2201020-002	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	3.19	ND	ND	<SDL
AS-02	E2201020-002	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.41	ND	ND	<SDL
AS-02	E2201020-002	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.926	6.08	=,J	J
AS-02	E2201020-002	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	0.877	98	=	
AS-02	E2201020-002	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.95	ND	ND	<SDL
AS-02	E2201020-002	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.801	ND	ND	<SDL
AS-02	E2201020-002	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	0.538	12.1	=,J	J
AS-02	E2201020-002	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	0.82	18.1	=,J	J
AS-03	E2201020-003	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	6.92	6.92	ND	ND	<SDL
AS-03	E2201020-003	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.66	ND	ND	<SDL
AS-03	E2201020-003	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.39	4.73	=,BJK	UJ
AS-03	E2201020-003	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.25	7.56	=,BJK	J
AS-03	E2201020-003	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.26	8.54	=,BJK	J
AS-03	E2201020-003	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	3.99	419	=	
AS-03	E2201020-003	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	1.53	5740	=	
AS-03	E2201020-003	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	3.46	ND	ND	<SDL
AS-03	E2201020-003	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.72	ND	ND	<SDL
AS-03	E2201020-003	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.85	2.42	=,BJK	J
AS-03	E2201020-003	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.99	4.38	=,BJK	J
AS-03	E2201020-003	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.11	1.72	=,BJK	UJ
AS-03	E2201020-003	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.28	3.7	=,BJ	UJ
AS-03	E2201020-003	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.94	6.41	=,J	J
AS-03	E2201020-003	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	2.42	110	=	
AS-03	E2201020-003	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	2.67	5.87	=,BJ	UJ
AS-03	E2201020-003	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	5.91	189	=	
AS-03	E2201020-003	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	6.92	6.92	ND	ND	<SDL

AS-03	E2201020-003	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.66	ND	ND	<SDL
AS-03	E2201020-003	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.3	76.8	=	
AS-03	E2201020-003	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	3.99	1270	=	
AS-03	E2201020-003	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	3.46	ND	ND	<SDL
AS-03	E2201020-003	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.78	6.83	=,J	J
AS-03	E2201020-003	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.07	37.1	=	
AS-03	E2201020-003	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	2.54	257	=	
AS-04	E2201020-004	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5.21	5.21	ND	ND	<SDL
AS-04	E2201020-004	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.16	ND	ND	<SDL
AS-04	E2201020-004	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.73	2.29	=,BJ	UJ
AS-04	E2201020-004	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.639	6.64	=,BJK	J
AS-04	E2201020-004	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.655	3.56	=,BJK	J
AS-04	E2201020-004	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	1.18	218	=	
AS-04	E2201020-004	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	1.34	2640	=	
AS-04	E2201020-004	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	2.68	ND	ND	<SDL
AS-04	E2201020-004	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.938	1.23	=,BJK	UJ
AS-04	E2201020-004	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.991	2.14	=,BJK	UJ
AS-04	E2201020-004	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.568	3.12	=,BJK	UJ
AS-04	E2201020-004	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.68	1.91	=,BJK	UJ
AS-04	E2201020-004	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	0.82	1.22	=,BJK	UJ
AS-04	E2201020-004	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.581	1.27	=,BJK	J
AS-04	E2201020-004	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	0.935	25.4	=,BK	J
AS-04	E2201020-004	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	1.09	3.66	=,BJ	UJ
AS-04	E2201020-004	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	4.7	119	=	
AS-04	E2201020-004	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5.21	5.21	ND	ND	<SDL
AS-04	E2201020-004	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.16	ND	ND	<SDL
AS-04	E2201020-004	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.672	38.1	=	
AS-04	E2201020-004	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	1.18	531	=	
AS-04	E2201020-004	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	2.68	ND	ND	<SDL
AS-04	E2201020-004	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.963	ND	ND	<SDL
AS-04	E2201020-004	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	0.652	9.16	=,J	J
AS-04	E2201020-004	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	1.01	3.66	=,J	J
AS-05	E2201020-005	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	3.72	ND	ND	<SDL
AS-05	E2201020-005	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.43	4.24	=,BJK	J
AS-05	E2201020-005	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.7	12.6	=,BJ	J
AS-05	E2201020-005	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.648	38.7	=	
AS-05	E2201020-005	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.647	20.6	=,BJK	J
AS-05	E2201020-005	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	4.12	1750	=	
AS-05	E2201020-005	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	3.45	26000	=	
AS-05	E2201020-005	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	2.81	3.49	=,JK	J
AS-05	E2201020-005	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.509	8.41	=,BJK	J
AS-05	E2201020-005	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.559	7.14	=,BJK	J
AS-05	E2201020-005	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.39	20.3	=,JK	J
AS-05	E2201020-005	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.61	14.8	=,BJK	J
AS-05	E2201020-005	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.78	8.29	=,BJ	J
AS-05	E2201020-005	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.47	20.5	=,J	J
AS-05	E2201020-005	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	4.48	373	=	
AS-05	E2201020-005	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	5.65	24	=,BJ	J
AS-05	E2201020-005	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	2.42	1030	=	
AS-05	E2201020-005	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	3.72	ND	ND	<SDL
AS-05	E2201020-005	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.43	22.7	=,J	J
AS-05	E2201020-005	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.664	377	=	
AS-05	E2201020-005	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	4.12	5190	=	
AS-05	E2201020-005	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	2.81	ND	ND	<SDL
AS-05	E2201020-005	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	127	=	
AS-05	E2201020-005	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.55	201	=	
AS-05	E2201020-005	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	5.01	1100	=	
AS-06	E2201020-006	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	3.54	ND	ND	<SDL
AS-06	E2201020-006	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.12	1.59	=,BJK	UJ
AS-06	E2201020-006	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.766	4.91	=,BJK	UJ
AS-06	E2201020-006	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.676	9.32	=,JK	J
AS-06	E2201020-006	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.69	3.67	=,BJK	J
AS-06	E2201020-006	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	2.54	178	=	
AS-06	E2201020-006	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	4.9	1630	=	
AS-06	E2201020-006	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.29	5.14	=,K	J
AS-06	E2201020-006	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.925	4.51	=,BJK	J
AS-06	E2201020-006	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.01	13.6	=,BJ	J
AS-06	E2201020-006	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.83	9.26	=,BJ	J
AS-06	E2201020-006	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.06	6.2	=,BJK	J
AS-06	E2201020-006	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.35	ND	ND	<SDL
AS-06	E2201020-006	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.909	9.96	=,J	J

AS-06	E2201020-006	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	3.46	88.7	=		
AS-06	E2201020-006	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	5.65	ND	ND	<SDL	
AS-06	E2201020-006	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	9.34	106	=,K	J	
AS-06	E2201020-006	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	3.54	ND	ND	<SDL	
AS-06	E2201020-006	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.12	6.06	=,J	J	
AS-06	E2201020-006	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.708	80.9	=		
AS-06	E2201020-006	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	2.54	268	=		
AS-06	E2201020-006	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.29	29.1	=		
AS-06	E2201020-006	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	52.9	=		
AS-06	E2201020-006	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.2	93.8	=		
AS-06	E2201020-006	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.3	88.7	=		
AS-07	E2201020-007	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	6.04	6.04	ND	ND	UJ	
AS-07	E2201020-007	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	2.68	2.73	=,BJK	UJ	
AS-07	E2201020-007	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.97	12.7	=,BJK	J	
AS-07	E2201020-007	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.69	15.5	=,JK	J	
AS-07	E2201020-007	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.74	9.81	=,BJK	J	
AS-07	E2201020-007	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	5.09	408	=		
AS-07	E2201020-007	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	3.7	4780	=		
AS-07	E2201020-007	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5.23	5.23	ND	ND	UJ	
AS-07	E2201020-007	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.26	6.16	=,BJ	J	
AS-07	E2201020-007	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.43	7.77	=,BJK	J	
AS-07	E2201020-007	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.27	8.39	=,BJK	J	
AS-07	E2201020-007	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.44	10.7	=,BJK	J	
AS-07	E2201020-007	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.41	23.3	=,BJ	J	
AS-07	E2201020-007	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.29	5.93	=,BJK	J	
AS-07	E2201020-007	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	2.44	87.8	=,K	J	
AS-07	E2201020-007	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	1.92	14	=,BJ	J	
AS-07	E2201020-007	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	10.4	221	=,K	J	
AS-07	E2201020-007	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	6.04	6.04	ND	ND	UJ	
AS-07	E2201020-007	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	2.68	ND	ND	UJ	
AS-07	E2201020-007	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.79	44.4	=		
AS-07	E2201020-007	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	5.09	1050	=		
AS-07	E2201020-007	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5.23	5.23	ND	ND	UJ	
AS-07	E2201020-007	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.34	10.5	=,J	J	
AS-07	E2201020-007	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.35	102	=		
AS-07	E2201020-007	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	2.15	135	=		
AS-08	E2201020-008	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	2.15	ND	ND	<SDL	
AS-08	E2201020-008	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	2.15	ND	ND	<SDL	
AS-08	E2201020-008	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.61	4.68	=,BJK	UJ	
AS-08	E2201020-008	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.48	2.93	=,BJK	J	
AS-08	E2201020-008	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.48	4.34	=,BJK	UJ	
AS-08	E2201020-008	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	2.46	124	=		
AS-08	E2201020-008	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	11.6	2130	=		
AS-08	E2201020-008	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	2.23	ND	ND	<SDL	
AS-08	E2201020-008	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.04	ND	ND	<SDL	
AS-08	E2201020-008	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.29	ND	ND	<SDL	
AS-08	E2201020-008	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.882	3.6	=,BJ	J	
AS-08	E2201020-008	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.96	3.53	=,BJ	UJ	
AS-08	E2201020-008	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	3.4	ND	ND	UJ	
AS-08	E2201020-008	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	2.47	ND	ND	<SDL	
AS-08	E2201020-008	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	15.1	ND	ND	UJ	
AS-08	E2201020-008	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	8.42	ND	ND	UJ	
AS-08	E2201020-008	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	12.9	115	=		
AS-08	E2201020-008	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	2.15	ND	ND	<SDL	
AS-08	E2201020-008	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	2.15	ND	ND	<SDL	
AS-08	E2201020-008	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.52	7.94	=,J	J	
AS-08	E2201020-008	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25		124	=		
AS-08	E2201020-008	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	2.23	ND	ND	<SDL	
AS-08	E2201020-008	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.16	ND	ND	<SDL	
AS-08	E2201020-008	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.66	19.7	=,J	J	
AS-08	E2201020-008	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	12.2	85.8	=		
AS-09	E2201020-009	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	3.04	ND	ND	<SDL	
AS-09	E2201020-009	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	2.16	22	=,JK	J	
AS-09	E2201020-009	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.513	59.6	=	J	
AS-09	E2201020-009	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.451	225	=	J	
AS-09	E2201020-009	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.461	126	=	J	
AS-09	E2201020-009	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	9.18	3390	=	J	
AS-09	E2201020-009	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	1.64	13000	=	J	
AS-09	E2201020-009	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	0.883	1.84	=,JK	J	
AS-09	E2201020-009	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	3.9	13.2	=,BJ	J	
AS-09	E2201020-009	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	4.48	58.2	=	J	

AS-09	E2201020-009	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	3.18	94	=	J
AS-09	E2201020-009	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	3.67	94.6	=	J
AS-09	E2201020-009	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	3.43	59.1	=	J
AS-09	E2201020-009	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	3.07	115	=	J
AS-09	E2201020-009	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	4.55	809	=	J
AS-09	E2201020-009	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	4.03	99.4	=	J
AS-09	E2201020-009	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	4.55	735	=	J
AS-09	E2201020-009	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	3.04	28.2	=	J
AS-09	E2201020-009	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	2.16	617	=	J
AS-09	E2201020-009	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.473	2470	=	J
AS-09	E2201020-009	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	9.18	6070	=	J
AS-09	E2201020-009	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	0.883	65.7	=	J
AS-09	E2201020-009	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	4.17	270	=	J
AS-09	E2201020-009	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	3.33	815	=	J
AS-09	E2201020-009	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.26	1190	=	J
DUP-01	E2201020-010	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	3.26	ND	ND	<SDL
DUP-01	E2201020-010	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	0.367	3.77	=,BJK	J
DUP-01	E2201020-010	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.742	11.7	=,BJ	J
DUP-01	E2201020-010	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.69	45.7	=	J
DUP-01	E2201020-010	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.687	29.7	=	J
DUP-01	E2201020-010	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	4.84	841	=	J
DUP-01	E2201020-010	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	2.82	5910	=	J
DUP-01	E2201020-010	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.24	ND	ND	<SDL
DUP-01	E2201020-010	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.43	2.01	=,BJK	UJ
DUP-01	E2201020-010	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.49	7.24	=,BJK	J
DUP-01	E2201020-010	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.884	19.7	=,JK	J
DUP-01	E2201020-010	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.911	16.5	=,BJK	J
DUP-01	E2201020-010	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.04	10.2	=,BJ	J
DUP-01	E2201020-010	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.88	19.5	=,J	J
DUP-01	E2201020-010	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	2.19	242	=	J
DUP-01	E2201020-010	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	1.92	18.1	=,BJK	J
DUP-01	E2201020-010	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	2.48	288	=	J
DUP-01	E2201020-010	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	3.26	ND	ND	<SDL
DUP-01	E2201020-010	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	0.367	40.8	=	J
DUP-01	E2201020-010	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.705	466	=	J
DUP-01	E2201020-010	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	4.84	1800	=	J
DUP-01	E2201020-010	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.24	ND	ND	<SDL
DUP-01	E2201020-010	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	25.9	=	J
DUP-01	E2201020-010	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	0.924	126	=	J
DUP-01	E2201020-010	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	2.04	551	=	J
AS-10	E2201020-011	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	4.55	ND	ND	<SDL
AS-10	E2201020-011	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	0.951	ND	ND	<SDL
AS-10	E2201020-011	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.561	1.32	=,BJ	UJ
AS-10	E2201020-011	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.479	2.53	=,BJK	J
AS-10	E2201020-011	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.496	1.89	=,BJ	UJ
AS-10	E2201020-011	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	0.839	32.9	=,BK	J
AS-10	E2201020-011	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	3.46	243	=	
AS-10	E2201020-011	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	2.48	ND	ND	<SDL
AS-10	E2201020-011	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.993	ND	ND	<SDL
AS-10	E2201020-011	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.1	ND	ND	<SDL
AS-10	E2201020-011	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.369	0.982	=,BJK	UJ
AS-10	E2201020-011	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.409	0.62	=,BJK	UJ
AS-10	E2201020-011	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	0.435	0.792	=,BJK	UJ
AS-10	E2201020-011	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.352	0.587	=,BJK	UJ
AS-10	E2201020-011	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	0.842	10.9	=,BJ	J
AS-10	E2201020-011	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	0.825	ND	ND	<SDL
AS-10	E2201020-011	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	4.28	13	=,BJK	J
AS-10	E2201020-011	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	4.55	ND	ND	<SDL
AS-10	E2201020-011	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	0.951	ND	ND	<SDL
AS-10	E2201020-011	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.509	11.6	=,J	J
AS-10	E2201020-011	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	0.839	51.3	=	
AS-10	E2201020-011	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	2.48	ND	ND	<SDL
AS-10	E2201020-011	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.05	ND	ND	<SDL
AS-10	E2201020-011	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	0.39	ND	ND	<SDL
AS-10	E2201020-011	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	0.832	26.3	=	
AS-11	E2201020-012	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	6.47	6.47	ND	ND	<SDL
AS-11	E2201020-012	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	3.76	5.02	=,JK	J
AS-11	E2201020-012	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	2.28	8.83	=,JK	J
AS-11	E2201020-012	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.99	245	=	
AS-11	E2201020-012	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	2.04	55.1	=	
AS-11	E2201020-012	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	14.2	14400	=	

AS-11	E2201020-012	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	5.57	179000	=,E	J
AS-11	E2201020-012	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	2.63	7.88	=,K	J
AS-11	E2201020-012	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.37	5.89	=,JK	J
AS-11	E2201020-012	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.56	24.4	=,J	J
AS-11	E2201020-012	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	3.22	52.6	=,K	J
AS-11	E2201020-012	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	3.46	16.4	=,JK	J
AS-11	E2201020-012	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	3.39	ND	ND	UU
AS-11	E2201020-012	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	3.02	21.8	=,J	J
AS-11	E2201020-012	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	17.2	2380	=	
AS-11	E2201020-012	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	19.7	52	=	
AS-11	E2201020-012	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	10.5	1860	=	
AS-11	E2201020-012	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	6.47	6.47	ND	ND	<SDL
AS-11	E2201020-012	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	3.76	24.5	=,J	J
AS-11	E2201020-012	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	2.1	1520	=	
AS-11	E2201020-012	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	14.2	30900	=	
AS-11	E2201020-012	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	2.63	ND	ND	<SDL
AS-11	E2201020-012	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	105	=	
AS-11	E2201020-012	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	13.7	1760	=	
AS-11	E2201020-012	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	18.4	6210	=	
AS-12	E2201020-013	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	0.906	ND	ND	<SDL
AS-12	E2201020-013	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	0.398	2.73	=,J	J
AS-12	E2201020-013	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.443	3.79	=,JK	J
AS-12	E2201020-013	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.396	8.96	=,J	J
AS-12	E2201020-013	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.401	4.9	=,JK	J
AS-12	E2201020-013	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	1.7	269	=	
AS-12	E2201020-013	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	1.5	3990	=	
AS-12	E2201020-013	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	0.394	1.22	=,JK	J
AS-12	E2201020-013	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.435	1.57	=,JK	J
AS-12	E2201020-013	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	0.466	2.65	=,J	J
AS-12	E2201020-013	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.01	3.03	=,JK	J
AS-12	E2201020-013	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.17	2.21	=,J	J
AS-12	E2201020-013	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.59	1.77	=,J	J
AS-12	E2201020-013	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.02	2.48	=,JK	J
AS-12	E2201020-013	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	1.83	42.3	=,B	J
AS-12	E2201020-013	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	3.34	6.73	=,BJK	UU
AS-12	E2201020-013	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	2.46	127	=,B	J
AS-12	E2201020-013	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	0.906	ND	ND	<SDL
AS-12	E2201020-013	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	0.398	8.57	=,J	J
AS-12	E2201020-013	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.412	51	=	
AS-12	E2201020-013	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	1.7	777	=	
AS-12	E2201020-013	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	0.394	3.94	=,J	J
AS-12	E2201020-013	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	11.4	=,J	J
AS-12	E2201020-013	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.16	58.8	=	
AS-12	E2201020-013	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	2.44	169	=	
AS-13	E2201020-014	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5.22	5.22	ND	ND	<SDL
AS-13	E2201020-014	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	3.53	ND	ND	<SDL
AS-13	E2201020-014	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.99	2.04	=,JK	J
AS-13	E2201020-014	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.77	ND	ND	<SDL
AS-13	E2201020-014	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.87	3.6	=,J	J
AS-13	E2201020-014	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	3.86	40.8	=	
AS-13	E2201020-014	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	8.79	524	=	
AS-13	E2201020-014	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	4.92	ND	ND	<SDL
AS-13	E2201020-014	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.53	ND	ND	<SDL
AS-13	E2201020-014	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.67	ND	ND	<SDL
AS-13	E2201020-014	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.63	1.87	=,JK	J
AS-13	E2201020-014	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.86	2.63	=,J	J
AS-13	E2201020-014	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	2.49	ND	ND	UU
AS-13	E2201020-014	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.75	ND	ND	<SDL
AS-13	E2201020-014	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	3.72	23	=,BJ	J
AS-13	E2201020-014	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	4.63	ND	ND	UU
AS-13	E2201020-014	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	9.36	62.1	=,B	J
AS-13	E2201020-014	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5.22	5.22	ND	ND	<SDL
AS-13	E2201020-014	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	3.53	ND	ND	<SDL
AS-13	E2201020-014	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.87	14.3	=,J	J
AS-13	E2201020-014	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	3.86	110	=	
AS-13	E2201020-014	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	4.92	ND	ND	<SDL
AS-13	E2201020-014	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	2.59	ND	ND	<SDL
AS-13	E2201020-014	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.89	2.63	=,J	J
AS-13	E2201020-014	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.14	23	=,J	J
AS-14	E2201020-015	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	3.87	ND	ND	<SDL
AS-14	E2201020-015	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.72	ND	ND	<SDL

AS-14	E2201020-015	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.89	ND	ND	UJ
AS-14	E2201020-015	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.66	2.98	=,JK	J
AS-14	E2201020-015	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.77	ND	ND	<SDL
AS-14	E2201020-015	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	2	52	=	
AS-14	E2201020-015	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	5.96	529	=	
AS-14	E2201020-015	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	2.96	ND	ND	<SDL
AS-14	E2201020-015	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.84	ND	ND	<SDL
AS-14	E2201020-015	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.97	ND	ND	<SDL
AS-14	E2201020-015	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.22	1.68	=,JK	J
AS-14	E2201020-015	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.42	ND	ND	<SDL
AS-14	E2201020-015	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.79	2.07	=,J	J
AS-14	E2201020-015	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.21	ND	ND	<SDL
AS-14	E2201020-015	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	4.13	10.8	=,BJK	UJ
AS-14	E2201020-015	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	5.11	ND	ND	<SDL
AS-14	E2201020-015	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	5.06	52.3	=,B	J
AS-14	E2201020-015	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	3.87	ND	ND	<SDL
AS-14	E2201020-015	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.72	ND	ND	<SDL
AS-14	E2201020-015	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.76	5.97	=,J	J
AS-14	E2201020-015	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	2	123	=	
AS-14	E2201020-015	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	2.96	ND	ND	<SDL
AS-14	E2201020-015	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.9	ND	ND	<SDL
AS-14	E2201020-015	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.38	2.07	=,J	J
AS-14	E2201020-015	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.59	14.6	=,J	J
AS-15	E2201020-016	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	2.19	ND	ND	<SDL
AS-15	E2201020-016	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.43	ND	ND	<SDL
AS-15	E2201020-016	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.553	1.13	=,JK	J
AS-15	E2201020-016	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.483	0.937	=,JK	J
AS-15	E2201020-016	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.516	0.886	=,JK	J
AS-15	E2201020-016	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	0.924	16.5	=,JK	J
AS-15	E2201020-016	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	5.58	202	=	
AS-15	E2201020-016	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.58	ND	ND	<SDL
AS-15	E2201020-016	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.29	ND	ND	<SDL
AS-15	E2201020-016	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.32	ND	ND	<SDL
AS-15	E2201020-016	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.484	1.48	=,J	J
AS-15	E2201020-016	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.611	0.659	=,JK	J
AS-15	E2201020-016	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	0.829	2.42	=,J	J
AS-15	E2201020-016	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.546	0.72	=,JK	J
AS-15	E2201020-016	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	1.54	8.83	=,BJ	UJ
AS-15	E2201020-016	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	1.84	ND	ND	<SDL
AS-15	E2201020-016	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	2.63	25.6	=,BJ	UJ
AS-15	E2201020-016	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	2.19	ND	ND	<SDL
AS-15	E2201020-016	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.43	ND	ND	<SDL
AS-15	E2201020-016	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.515	2.28	=,J	J
AS-15	E2201020-016	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	0.924	30.6	=	
AS-15	E2201020-016	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.58	ND	ND	<SDL
AS-15	E2201020-016	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.3	ND	ND	<SDL
AS-15	E2201020-016	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	0.6	5.58	=,J	J
AS-15	E2201020-016	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	1.69	8.83	=,J	J
AS-16	E2201020-017	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	2.57	ND	ND	<SDL
AS-16	E2201020-017	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.67	ND	ND	<SDL
AS-16	E2201020-017	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.225	2.38	=,JK	J
AS-16	E2201020-017	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.197	1.71	=,J	J
AS-16	E2201020-017	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.21	0.539	=,JK	J
AS-16	E2201020-017	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	1.86	45.4	=	
AS-16	E2201020-017	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	9.09	712	=	
AS-16	E2201020-017	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.25	ND	ND	<SDL
AS-16	E2201020-017	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.82	ND	ND	<SDL
AS-16	E2201020-017	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.88	ND	ND	<SDL
AS-16	E2201020-017	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.34	ND	ND	<SDL
AS-16	E2201020-017	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.56	ND	ND	<SDL
AS-16	E2201020-017	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	2.14	ND	ND	<SDL
AS-16	E2201020-017	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.42	ND	ND	<SDL
AS-16	E2201020-017	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	4.28	33	=,BK	J
AS-16	E2201020-017	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	5.31	ND	ND	<SDL
AS-16	E2201020-017	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	4.12	68.7	=,B	J
AS-16	E2201020-017	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	2.57	ND	ND	<SDL
AS-16	E2201020-017	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.67	ND	ND	<SDL
AS-16	E2201020-017	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.21	5.08	=,J	J
AS-16	E2201020-017	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	1.86	138	=	
AS-16	E2201020-017	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.25	ND	ND	<SDL
AS-16	E2201020-017	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.85	ND	ND	<SDL

AS-16	E2201020-017	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.57	6.82	=,J	J
AS-16	E2201020-017	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.77	ND	ND	<SDL
AS-17	E2201020-018	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	1.59	ND	ND	<SDL
AS-17	E2201020-018	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	0.945	7.2	=,J	J
AS-17	E2201020-018	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.44	12.9	=,J	J
AS-17	E2201020-018	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.35	34.9	=	
AS-17	E2201020-018	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.39	24.1	=,J	J
AS-17	E2201020-018	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	7.26	1070	=	
AS-17	E2201020-018	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	25	13400	=	
AS-17	E2201020-018	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	0.979	9.64	=,K	J
AS-17	E2201020-018	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.76	10.2	=,J	J
AS-17	E2201020-018	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.85	23.5	=,J	J
AS-17	E2201020-018	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	4.79	25	=	
AS-17	E2201020-018	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	5.67	17.3	=,J	J
AS-17	E2201020-018	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	6.15	ND	ND	<SDL
AS-17	E2201020-018	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	4.72	17.4	=,JK	J
AS-17	E2201020-018	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	4.16	281	=	
AS-17	E2201020-018	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	4.86	18.6	=,BJK	J
AS-17	E2201020-018	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	6.99	717	=	
AS-17	E2201020-018	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	1.59	4.99	=,J	J
AS-17	E2201020-018	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	0.945	72.4	=	
AS-17	E2201020-018	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	1.39	375	=	
AS-17	E2201020-018	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	7.26	3100	=	
AS-17	E2201020-018	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	0.979	26.3	=	
AS-17	E2201020-018	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	141	=	
AS-17	E2201020-018	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	5.28	226	=	
AS-17	E2201020-018	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	4.49	703	=	
AS-18	E2201020-019	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	1.56	ND	ND	<SDL
AS-18	E2201020-019	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.34	2.26	=,JK	J
AS-18	E2201020-019	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.738	8.44	=,J	J
AS-18	E2201020-019	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.662	38.2	=	
AS-18	E2201020-019	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.699	10.3	=,J	J
AS-18	E2201020-019	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	2.43	1290	=	
AS-18	E2201020-019	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	61.9	61.9	16000	=	
AS-18	E2201020-019	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.55	ND	ND	<SDL
AS-18	E2201020-019	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	3.07	ND	ND	<SDL
AS-18	E2201020-019	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	3.07	6.83	=,JK	J
AS-18	E2201020-019	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.87	9.48	=,J	J
AS-18	E2201020-019	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	2.27	7.23	=,JK	J
AS-18	E2201020-019	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	2.82	ND	ND	
AS-18	E2201020-019	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.98	7.31	=,JK	J
AS-18	E2201020-019	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	6.78	275	=	
AS-18	E2201020-019	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	7.7	10.7	=,BJK	UJ
AS-18	E2201020-019	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	8.34	875	=	
AS-18	E2201020-019	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	1.56	ND	ND	<SDL
AS-18	E2201020-019	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.34	ND	ND	<SDL
AS-18	E2201020-019	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.699	206	=	
AS-18	E2201020-019	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	2.43	2460	=	
AS-18	E2201020-019	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.55	3.35	=,J	J
AS-18	E2201020-019	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	0.626	24.8	=,J	J
AS-18	E2201020-019	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	2.19	263	=	
AS-18	E2201020-019	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	7.22	1000	=	
AS-19	E2201020-020	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	2.56	ND	ND	<SDL
AS-19	E2201020-020	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	2.12	ND	ND	<SDL
AS-19	E2201020-020	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.125	3.56	=,J	J
AS-19	E2201020-020	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.112	0.51	=,JK	J
AS-19	E2201020-020	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.118	0.918	=,JK	J
AS-19	E2201020-020	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	0.919	24.5	=,JK	J
AS-19	E2201020-020	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	6.75	308	=	
AS-19	E2201020-020	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.54	ND	ND	<SDL
AS-19	E2201020-020	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.02	ND	ND	<SDL
AS-19	E2201020-020	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	2.06	ND	ND	<SDL
AS-19	E2201020-020	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.01	ND	ND	<SDL
AS-19	E2201020-020	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.21	ND	ND	<SDL
AS-19	E2201020-020	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.5	ND	ND	UJ
AS-19	E2201020-020	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.999	ND	ND	<SDL
AS-19	E2201020-020	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	12.8	ND	ND	UJ
AS-19	E2201020-020	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	15.5	ND	ND	<SDL
AS-19	E2201020-020	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	3.34	38.3	=,BJ	J
AS-19	E2201020-020	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	2.56	ND	ND	<SDL
AS-19	E2201020-020	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	2.12	ND	ND	<SDL

AS-19	E2201020-020	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.118	4.48	=,J	J
AS-19	E2201020-020	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	0.919	32.5	=	
AS-19	E2201020-020	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.54	ND	ND	<SDL
AS-19	E2201020-020	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	2.04	ND	ND	<SDL
AS-19	E2201020-020	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.16	1.83	=,J	J
AS-19	E2201020-020	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	14.1	ND	ND	<SDL
FB-01	E2201020-021	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1	5	2.51	ND	ND	<SDL
FB-01	E2201020-021	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	1	25	1.74	ND	ND	<SDL
FB-01	E2201020-021	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	1.04	ND	ND	UJ
FB-01	E2201020-021	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.945	1.73	=,JK	J
FB-01	E2201020-021	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1	25	0.991	ND	ND	<SDL
FB-01	E2201020-021	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	1	25	0.172	6.72	=,JK	J
FB-01	E2201020-021	3268-87-9	Octachlorodibenzo-p-dioxin (OCDD)	1	50	5.33	73.7	=,B	J
FB-01	E2201020-021	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	1	5	1.79	ND	ND	<SDL
FB-01	E2201020-021	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.55	ND	ND	<SDL
FB-01	E2201020-021	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1	25	1.5	ND	ND	<SDL
FB-01	E2201020-021	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.924	ND	ND	<SDL
FB-01	E2201020-021	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	1.05	ND	ND	<SDL
FB-01	E2201020-021	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	1	25	1.3	ND	ND	UJ
FB-01	E2201020-021	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1	25	0.912	1.6	=,J	J
FB-01	E2201020-021	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	1	25	1.09	6.57	=,BJK	UJ
FB-01	E2201020-021	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1	25	1.36	ND	ND	<SDL
FB-01	E2201020-021	39001-02-0	Octachlorodibenzofuran (OCDF)	1	50	3.78	39.1	=,BJ	J
FB-01	E2201020-021	41903-57-5	Tetrachlorodibenzo-p-dioxins (TCDD), Total	1	5	2.51	ND	ND	<SDL
FB-01	E2201020-021	36088-22-9	Pentachlorodibenzo-p-dioxin (PeCDD), Total	1	25	1.74	ND	ND	<SDL
FB-01	E2201020-021	34465-46-8	Hexachlorodibenzo-p-dioxins (HxCDD), Total	1	25	0.989	ND	ND	<SDL
FB-01	E2201020-021	37871-00-4	Heptachlorodibenzo-p-dioxins (HpCDD), Total	1	25	0.172	ND	ND	<SDL
FB-01	E2201020-021	30402-14-3	Tetrachlorodibenzofurans (TCDF), Total	1	5	1.79	ND	ND	<SDL
FB-01	E2201020-021	30402-15-4	Pentachlorodibenzofurans (PeCDF), Total	1	25	1.53	ND	ND	<SDL
FB-01	E2201020-021	55684-94-1	Hexachlorodibenzofurans (HxCDF), Total	1	25	1.03	1.6	=,J	J
FB-01	E2201020-021	38998-75-3	Heptachlorodibenzofurans (HpCDF), Total	1	25	1.21	ND	ND	<SDL

Attachment D

Reported Data, Laboratory Review Checklists, and Exception Reports



November 28, 2022

Service Request No:E2201020

Loren Hopkins
Houston Health Department
8000 N Stadium Dr
Houston, TX 77054

Laboratory Results for: UPRR House Wipe Sampling

Dear Loren,

Enclosed are the results of the sample(s) submitted to our laboratory October 21, 2022
For your reference, these analyses have been assigned our service request number **E2201020**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety and ALS Environmental is not responsible for use of less than the complete final report. Results apply only to the items submitted to the laboratory, as received for analysis. In accordance with the current TNI Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2188. You may also contact me via email at James.Guin@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

James Guin

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ALS Group USA, Corp.
dba ALS Environmental



Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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ALS Environmental

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request No.: E2201020
Date Received: 10/21/22

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test. Report revised 11/29/22 to correct units from pg to pg/100cm².

Sample Receipt

Twenty-one samples were received for analysis at ALS Environmental in Houston on 10/21/22.

The samples were received in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2200508 & EQ2200509: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch.

B flags – Method Blanks

The Method Blanks EQ2200508-01 & EQ2200509-01 contained low levels of target compounds below the Method Reporting Limit (MRL). The associated compounds in the samples are flagged with 'B' flags where the sample result is less than ten times the level detected in the method blank.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Y flags – Cleanup Standard

The recoveries for the cleanup standard, 37Cl-2,3,7,8-TCDD are below control limits. The sample results are not affected since this labeled standard is provided as a means of demonstrating that both the sample extraction and subsequent cleanup steps performed as expected and is not used in quantitation of target analytes. EQ2200508-02 (LCS) Cleanup standard is above our upper control limit; The EQ2200508-03 (DLCS) passed for all standards. EQ2200509-02 (LCS) Cleanup standard is above our upper control limit; The EQ2200509-03 (DLCS) passed for all standards.

Y flags – Labeled Standards

Quantification of the native 2,3,7,8-substituted congeners is based on isotopic dilution, which automatically corrects for variation in extraction efficiency and provides accurate values even with poor recovery. Samples that had recoveries of labeled standards outside the acceptance limits are qualified with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1 and detection limits were below the Method Reporting Limits.

E flags

When OCDD exceeds the upper method calibration limit (MCL), we use an 'E' flag on the Sample Analytical Report results page when the detector is not saturated. Sample E2201020-012 is reported with an 'E' flag to denote that they had concentration greater than the highest calibration point. The process of dilution is counter to the isotopic dilution technique that the laboratory uses to determine recovery and produces variability in the final value. The laboratory only dilutes when detector saturation occurs.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Houston Health Department
Project: UPRR House Wipe Sampling

Service Request:E2201020

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E2201020-001	AS-01	10/18/2022	1345
E2201020-002	AS-02	10/18/2022	1355
E2201020-003	AS-03	10/18/2022	1420
E2201020-004	AS-04	10/18/2022	1440
E2201020-005	AS-05	10/18/2022	1445
E2201020-006	AS-06	10/18/2022	1510
E2201020-007	AS-07	10/18/2022	1525
E2201020-008	AS-08	10/18/2022	1540
E2201020-009	AS-09	10/18/2022	1550
E2201020-010	DUP-01	10/18/2022	1550
E2201020-011	AS-10	10/18/2022	1610
E2201020-012	AS-11	10/19/2022	0910
E2201020-013	AS-12	10/10/2022	1440
E2201020-014	AS-13	10/10/2022	1455
E2201020-015	AS-14	10/10/2022	1515
E2201020-016	AS-15	10/10/2022	1525
E2201020-017	AS-16	10/10/2022	1540
E2201020-018	AS-17	10/10/2022	1555
E2201020-019	AS-18	10/10/2022	1605
E2201020-020	AS-19	10/10/2022	1620
E2201020-021	FB-01	10/10/2022	1720

Service Request Summary

Folder #: E2201020
Client Name: Houston Health Department
Project Name: UPRR House Wipe Sampling
Project Number:

Report To: Loren Hopkins
Houston Health Department
8000 N Stadium Dr
Houston, TX 77054
USA

Phone Number: 716-417-1896

Cell Number:

Fax Number:

E-mail: loren.hopkins@houstontx.gov

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/21/22
Internal Due Date: 11/25/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: BASIC_WQC_CASNo

21 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: EHRMS-WIC 5B

Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON Dioxins Furans/1613B
E2201020-001	AS-01	Wipe	10/18/22 1345	
E2201020-002	AS-02	Wipe	10/18/22 1355	
E2201020-003	AS-03	Wipe	10/18/22 1420	
E2201020-004	AS-04	Wipe	10/18/22 1440	
E2201020-005	AS-05	Wipe	10/18/22 1445	
E2201020-006	AS-06	Wipe	10/18/22 1510	
E2201020-007	AS-07	Wipe	10/18/22 1525	
E2201020-008	AS-08	Wipe	10/18/22 1540	
E2201020-009	AS-09	Wipe	10/18/22 1550	
E2201020-010	DUP-01	Wipe	10/18/22 1550	
E2201020-011	AS-10	Wipe	10/18/22 1610	
E2201020-012	AS-11	Wipe	10/19/22 0910	
E2201020-013	AS-12	Wipe	10/10/22 1440	
E2201020-014	AS-13	Wipe	10/10/22 1455	
E2201020-015	AS-14	Wipe	10/10/22 1515	
E2201020-016	AS-15	Wipe	10/10/22 1525	

Service Request Summary

Folder #: E2201020
Client Name: Houston Health Department
Project Name: UPRR House Wipe Sampling
Project Number:

Report To: Loren Hopkins
 Houston Health Department
 8000 N Stadium Dr
 Houston, TX 77054
 USA

Phone Number: 716-417-1896

Cell Number:

Fax Number:

E-mail: loren.hopkins@houstontx.gov

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/21/22
Internal Due Date: 11/25/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: BASIC_WQC_CASNo

21 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: EHRMS-WIC 5B

Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON Dioxins Furans/1613B
E2201020-017	AS-16	Wipe	10/10/22 1540	II
E2201020-018	AS-17	Wipe	10/10/22 1555	II
E2201020-019	AS-18	Wipe	10/10/22 1605	II
E2201020-020	AS-19	Wipe	10/10/22 1620	II
E2201020-021	FB-01	Wipe	10/10/22 1720	II

Service Request Summary

Folder #: E2201020
Client Name: Houston Health Department
Project Name: UPRR House Wipe Sampling
Project Number:

Report To: Loren Hopkins
Houston Health Department
8000 N Stadium Dr
Houston, TX 77054
USA

Phone Number: 716-417-1896

Cell Number:

Fax Number:

E-mail: loren.hopkins@houstontx.gov

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/21/22
Internal Due Date: 11/25/2022
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: BASIC_WQC_CASNo

21 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: EHRMS-WIC 5B

Pressure Gas:

Data Qualifiers

HRMS Qualifier Set

- B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
- E Estimated value. The reported concentration is above the calibration range of the instrument.
- H Sample extracted and/or analyzed out of suggested holding time.
- J Estimated value. The reported concentration is below the MRL.
- K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. The concentration of this analyte should be considered as an estimate.
- P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
- Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
- S Signal saturated detector. Result reported from dilution.
- U Compound was analyzed for, but was not detected (ND).
- X See Case Narrative.
- Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
- i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCEntration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient



State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793	5/27/2023
Arkansas Department of Environmental Quality	22-041-0	3/27/2023
California Department of Health Services	2919-2023	4/30/2023
Department of Defense	L22-90	3/31/2024
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Florida Department of Health	E87611-36	6/30/2023
Hawaii Department of Health	2022	4/30/2023
Illinois Environmental Protection Agency	2000322022-9	5/9/2023
Kansas Department of Health and Environment	E-10352 2022-2023	7/31/2023
Louisiana Department of Environmental Quality	03087-2022	6/30/2023
Louisiana Department of Health and Hospitals	LA028	12/31/2022
Maine Department of Health and Human Services	2022017	6/5/2024
Maryland Department of the Environment	343	6/30/2023
Michigan Department of Environmental Quality	9971-2022	4/30/2023
Minnesota Department of Health	2368363	12/31/2023
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2023
Nevada Department of Conservation and Natural Resources	TX026932023-1	7/31/2023
New Hampshire Environmental Laboratory Accreditation Program	209422	4/24/2023
New Jersey Department of Environmental Protection	TX008-2023	6/30/2023
New York Department of Health	11707	3/31/2023
Oklahoma Department of Environmental Quality	2022-141	8/31/2023
Oregon Environmental Laboratory Accreditation Program	TX200002	5/15/2023
Pennsylvania Department of Environmental Protection	68-03441-016	6/30/2023
Perry Johnson Laboratory Accreditation	L22-91	3/31/2024
Tennessee Department of Environment and Conservation	04016-2022	4/30/2023
Texas Commission on Environmental Quality	T104704231-22-29	4/30/2023
Utah Department of Health Environmental Laboratory Certification	TX026932022-13	7/31/2023
Washington Department of Ecology	C819-22	11/14/2023

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

DB-5MSUI

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
11/23/22	LKL	001-006

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
11/23/22	SL	001-006

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

DB-5MSUI

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
11/28/22	IKL	007-012

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
11/28/22	SL	007-012

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

DB-5MSUI

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
11/28/22	LKL	013

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
11/28/22	SL	013

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID 52201020

DB-5MSUI

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
11/21/22	LKL	014 - 021

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
11/21/22	SL	014, 015, 016, 017, 018, 019, 020, 021



Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
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Page 1 of 3

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Salt Lake City, UT
+1 801 266 7700

York, PA
+1 717 505 5280

COC ID: **282228**

ALS Project Manager:		ALS Work Order #:	
Customer Information		Project Information	
Purchase Order	Project Name	A SUB_DIOXINS/FURANS	
Work Order	Project Number	B	
Company Name	Bill To Company	C Houston Health Dept	
Send Report To	Invoice Attn	D	
Address	Address	E 8000 N Stadium Dr	
		F	
City/State/Zip	City/State/Zip	G Houston TX 77054	
Phone	Phone	H (713) 417-1896	
Fax	Fax	I	
e-Mail Address	e-Mail Address	J Loren.Hopkins@houstontx.gov	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	AS-01	10/18/22	1345	Dust	Hexane	1	X										
2	AS-02	10/18/22	1355	Dust	Hexane	1	X										
3	AS-03	10/18/22	1420	Dust	Hexane	1	X										
4	AS-04	10/18/22	1440	Dust	Hexane	1	X										
5	AS-05	10/18/22	1445	Dust	Hexane	1	X										
6	AS-06	10/18/22	1510	Dust	Hexane	1	X										
7	AS-07	10/18/22	1525	Dust	Hexane	1	X										
8	AS-08	10/18/22	1540	Dust	Hexane	1	X										
9	AS-09	10/18/22	1550	Dust	Hexane	1	X										
10	DWP-01	10/18/22		Dust	Hexane	1	X										

Sampler(s) Please Print & Sign <i>Chuck Epperson</i>		Shipment Method		Required Turnaround Time: (Check Box)				Results Due Date:	
Relinquished by: <i>Chuck Epperson</i>		Date: 10/21/22	Time: 1105	Received by: <i>[Signature]</i>		Notes: 105		<input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour	
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID: 47271	Cooler Temp.: 18.31	QC Package: (Check One Box Below)	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		-0.26	<input type="checkbox"/> Level II Std OC <input type="checkbox"/> Level III Std OC/Row Date <input checked="" type="checkbox"/> Level IV SWB48/CLP <input type="checkbox"/> TRRP Checklist <input checked="" type="checkbox"/> TRRP Level IV		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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Chain of Custody Form

Page 2 of 3

COC ID: **282229**

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information		Project Information					Parameter/Method Request for Analysis											
Purchase Order		Project Name	UPRR House Wipe Sampling			A	SUB_DIOXINS/FURANS											
Work Order		Project Number				B												
Company Name	Houston Health Dept	Bill To Company	Houston Health Dept			C												
Send Report To	Loren P. Hopkins	Invoice Attn				D												
Address	8000 N Stadium Dr	Address	8000 N Stadium Dr			E												
						F												
City/State/Zip	Houston, TX 77054	City/State/Zip	Houston TX 77054			G												
Phone	(713) 417-1896	Phone	(713) 417-1896			H												
Fax		Fax				I												
e-Mail Address	Loren.Hopkins@houston.tx.gov	e-Mail Address				J												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	AS-10	10/18/22	1610	Dust	Hexme	1	X											
2	AS-11	10/19/22	0910	Dust	Hexme	1	X											
3	AS-12	10/20/22	1440	Dust	Hexme	1	X											
4	AS-13	10/20/22	1455	Dust	Hexme	1	X											
5	AS-14	10/20/22	1515	Dust	Hexme	1	X											
6	AS-15	10/20/22	1525	Dust	Hexme	1	X											
7	AS-16	10/20/22	1540	Dust	Hexme	1	X											
8	AS-17	10/20/22	1555	Dust	Hexme	1	X											
9	AS-18	10/20/22	1605	Dust	Hexme	1	X											
10	AS-19	10/20/22	1620	Dust	Hexme	1	X											
Sampler(s) Please Print & Sign <i>Chuck Epperson</i>		Shipment Method		Required Turnaround Time: (Check Box)			<input checked="" type="checkbox"/> Other		Results Due Date:									
Relinquished by: <i>Chuck Epperson</i>		Date: 10/21/22	Time: 1105	Received by: <i>[Signature]</i>		<input checked="" type="checkbox"/> STD 10 Wk Days		<input type="checkbox"/> 5 Wk Days	<input type="checkbox"/> 2 Wk Days	<input type="checkbox"/> 24 Hour	Notes:							
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)										
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		47271	1231 5.762 -0.26	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035								<input type="checkbox"/> Level III Std QC/Raw Data	<input checked="" type="checkbox"/> TRRP Level IV									
								<input type="checkbox"/> Level IV SW648/CLP										
								<input type="checkbox"/> Other										

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Chain of Custody Form

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Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Page 3 of 3

COC ID: **282230**

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name		A	SUB_DIOXINS/FURANS											
Work Order		Project Number		B												
Company Name	Houston Health Dept	Bill To Company	Houston Health Dept	C												
Send Report To	Loren P. Hopkins	Invoice Attn		D												
Address	8000 N Stadium Dr	Address	8000 N Stadium Dr	E												
				F												
City/State/Zip	Houston, TX 77054	City/State/Zip	Houston TX 77054	G												
Phone	(713) 417-1896	Phone	(713) 417-1896	H												
Fax		Fax		I												
e-Mail Address	Loren.Hopkins@houston.tx.gov	e-Mail Address		J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	FB-01	10/20/22	1720	Dust	Hexane	1	X										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Chuck Epperson</i>		Shipment Method		Required Turnaround Time: (Check Box)				Results Due Date:	
<i>Chuck Epperson</i>				<input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour					
Relinquished by:	Date:	Time:	Received by:	Notes:					
<i>Chuck Epperson</i>	10/21/22	1105	<i>[Signature]</i>	10/21/2022 1105					
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)			
				47271	1231 5.7W -0.2C	<input type="checkbox"/> Level II Std OC <input type="checkbox"/> Level III Std OC/Raw Date <input type="checkbox"/> Level IV SVS45/CLP	<input type="checkbox"/> TRRP Checklist <input checked="" type="checkbox"/> TRRP Level IV		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	Other: _____					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₅ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Cooler Receipt Form

Project Chemist J6

Client/Project Houston Health Depart.

Thermometer ID IR 21

Date/Time Received: 10/21/22 1105

Initials: J6

Date/Time Logged in: 10/24/22 1110

Initials J6.

1. Method of delivery: US Mail Fed Ex UPS DHL Courier Client

2. Samples received in: Cooler Box Envelope Other

3. Were custody seals on coolers? Yes No
 Were they intact? Yes No N/A
 Were they signed and dated? Yes No N/A

If yes, how many and where?

4. Packing Material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Sleeves Other

5. Foreign or Regulated Soil? Yes No Location of Sampling: _____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
		10/21/22	1105	CE	2.6	<input checked="" type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>

- 6. Were custody papers properly filled out (ink, signed, dated, etc)? Yes No
- 7. Did all bottles arrive in good condition (not broken, no signs of leakage)? Yes No
- 8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? Yes No
- 9. Were appropriate bottles/containers and volumes received for the requested tests? Yes No
- 10. Did sample labels and tags agree with custody documents? Yes No

Notes, Discrepancies, & Resolutions:

Service request Label:



10450 Stancliff Rd., Suite 210
Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample. The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report



Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 409497
Team: Semivoa GCMS/TWOODS

Prep WorkFlow: OrgExtS(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/5/22 10:47

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201020-001	AS-01	.01	1613B/Dioxins Furans			Wipe	1each	
2	E2201020-002	AS-02	.01	1613B/Dioxins Furans			Wipe	1each	
3	E2201020-003	AS-03	.01	1613B/Dioxins Furans			Wipe	1each	
4	E2201020-004	AS-04	.01	1613B/Dioxins Furans			Wipe	1each	
5	E2201020-005	AS-05	.01	1613B/Dioxins Furans			Wipe	1each	
6	E2201020-006	AS-06	.01	1613B/Dioxins Furans			Wipe	1each	
7	E2201020-007	AS-07	.01	1613B/Dioxins Furans			Wipe	1each	
8	E2201020-008	AS-08	.01	1613B/Dioxins Furans			Wipe	1each	
9	E2201020-009	AS-09	.01	1613B/Dioxins Furans			Wipe	1each	
10	E2201020-010	DUP-01	.01	1613B/Dioxins Furans			Wipe	1each	
11	E2201020-011	AS-10	.01	1613B/Dioxins Furans			Wipe	1each	
12	EQ2200508-01	MB		1613B/Dioxins Furans			Wipes	1each	
13	EQ2200508-02	LCS		1613B/Dioxins Furans			Wipes	1each	
14	EQ2200508-03	DLCS		1613B/Dioxins Furans			Wipes	1each	

Spiking Solutions

Name: 1613B Matrix Working Standard	Inventory ID 225864	Logbook Ref: NB 11/03/2022	Expires On: 05/02/2023
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EQ2200508-02 100.00µL EQ2200508-03 100.00µL

Name: 1613B Labeled Working Standard	Inventory ID 225903	Logbook Ref: tw 11/5/22	Expires On: 04/10/2023
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E2201020-001 1,000.00µL E2201020-002 1,000.00µL E2201020-003 1,000.00µL E2201020-004 1,000.00µL E2201020-005 1,000.00µL E2201020-006 1,000.00µL
 E2201020-007 1,000.00µL E2201020-008 1,000.00µL E2201020-009 1,000.00µL E2201020-010 1,000.00µL E2201020-011 1,000.00µL EQ2200508-01 1,000.00µL
 EQ2200508-02 1,000.00µL EQ2200508-03 1,000.00µL

Name: 8290/1613B Cleanup Working Standard	Inventory ID 225904	Logbook Ref: tw 11/3/22 225904	Expires On: 02/28/2023
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E2201020-001 100.00µL E2201020-002 100.00µL E2201020-003 100.00µL E2201020-004 100.00µL E2201020-005 100.00µL E2201020-006 100.00µL
 E2201020-007 100.00µL E2201020-008 100.00µL E2201020-009 100.00µL E2201020-010 100.00µL E2201020-011 100.00µL EQ2200508-01 100.00µL
 EQ2200508-02 100.00µL EQ2200508-03 100.00µL

Preparation Information Benchsheet

Prep Run#: 409497
Team: Semivoa GCMS/TWOODS

Prep Workflow: OrgExtS(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/5/22 10:47

Preparation Steps

Step: Extraction	Step: Acid Clean	Step: Silica Gel Clean	Step: Final Volume
Started: 11/5/22 10:47	Started: 11/9/22 10:00	Started: 11/9/22 12:00	Started: 11/10/22 13:00
Finished: 11/5/22 12:00	Finished: 11/9/22 11:00	Finished: 11/9/22 15:00	Finished: 11/10/22 16:00
By: TWOODS	By: TWOODS	By: TWOODS	By: TWOODS
Comments	Comments	Comments	Comments

Comments: _____

Reviewed By: TW Date: 11/05/22

Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u>
Received By: _____	Date: _____	Yes No

Preparation Information Benchsheet

Prep Run#: 409498
Team: Semivoa GCMS/TWOODS

Prep Workflow: OrgExtS(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/5/22 10:52

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2201020-012	AS-11	.01	1613B/Dioxins Furans			Wipe	1each	
2	E2201020-013	AS-12	.01	1613B/Dioxins Furans			Wipe	1each	
3	E2201020-014	AS-13	.01	1613B/Dioxins Furans			Wipe	1each	
4	E2201020-015	AS-14	.01	1613B/Dioxins Furans			Wipe	1each	
5	E2201020-016	AS-15	.01	1613B/Dioxins Furans			Wipe	1each	
6	E2201020-017	AS-16	.01	1613B/Dioxins Furans			Wipe	1each	
7	E2201020-018	AS-17	.01	1613B/Dioxins Furans			Wipe	1each	
8	E2201020-019	AS-18	.01	1613B/Dioxins Furans			Wipe	1each	
9	E2201020-020	AS-19	.01	1613B/Dioxins Furans			Wipe	1each	
10	E2201020-021	FB-01	.01	1613B/Dioxins Furans			Wipe	1each	
11	EQ2200509-01	MB		1613B/Dioxins Furans			Wipes	1each	
12	EQ2200509-02	LCS		1613B/Dioxins Furans			Wipes	1each	
13	EQ2200509-03	DLCS		1613B/Dioxins Furans			Wipes	1each	

Spiking Solutions

Name:	1613B Matrix Working Standard	Inventory ID	225864	Logbook Ref:	NB 11/03/2022	Expires On:	05/02/2023
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EQ2200509-02 100.00µL EQ2200509-03 100.00µL

Name:	1613B Labeled Working Standard	Inventory ID	225903	Logbook Ref:	tw 11/5/22	Expires On:	04/10/2023
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E2201020-012 1,000.00µL E2201020-013 1,000.00µL E2201020-014 1,000.00µL E2201020-015 1,000.00µL E2201020-016 1,000.00µL E2201020-017 1,000.00µL
 E2201020-018 1,000.00µL E2201020-019 1,000.00µL E2201020-020 1,000.00µL E2201020-021 1,000.00µL EQ2200509-01 1,000.00µL EQ2200509-02 1,000.00µL
 EQ2200509-03 1,000.00µL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	225904	Logbook Ref:	tw 11/3/22 225904	Expires On:	02/28/2023
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E2201020-012 100.00µL E2201020-013 100.00µL E2201020-014 100.00µL E2201020-015 100.00µL E2201020-016 100.00µL E2201020-017 100.00µL
 E2201020-018 100.00µL E2201020-019 100.00µL E2201020-020 100.00µL E2201020-021 100.00µL EQ2200509-01 100.00µL EQ2200509-02 100.00µL
 EQ2200509-03 100.00µL

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	11/5/22 10:52	Started:	11/9/22 11:00	Started:	11/9/22 13:00	Started:	11/10/22 10:00
Finished:	11/6/22 09:00	Finished:	11/9/22 12:00	Finished:	11/9/22 16:00	Finished:	11/10/22 13:00
By:	TWOODS	By:	TWOODS	By:	TWOODS	By:	TWOODS
Comments		Comments		Comments		Comments	

Preparation Information Benchsheet

Prep Run#: 409498
Team: Semivoa GCMS/TWOODS

Prep WorkFlow: OrgExtS(365)
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/5/22 10:52

Comments: _____

Reviewed By: TW Date: 11/05/22

Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u>
Received By: _____	Date: _____	Yes No



Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 13:45
Date Received: 10/21/22 11:05

Sample Name: AS-01
Lab Code: E2201020-001

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/18/22 17:57
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633162
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	9.39	9.39			1
1,2,3,7,8-PeCDD	ND	U	2.85	25.0			1
1,2,3,4,7,8-HxCDD	3.64	BJK	1.54	25.0	0.74	1.000	1
1,2,3,6,7,8-HxCDD	19.4	JK	1.34	25.0	0.90	1.000	1
1,2,3,7,8,9-HxCDD	8.01	BJK	1.38	25.0	0.81	1.007	1
1,2,3,4,6,7,8-HpCDD	433		5.60	25.0	1.04	1.000	1
OCDD	3290		2.07	50.0	0.86	1.000	1
2,3,7,8-TCDF	ND	U	5.71	5.71			1
1,2,3,7,8-PeCDF	4.85	BJK	2.88	25.0	1.17	1.001	1
2,3,4,7,8-PeCDF	10.9	BJK	3.00	25.0	1.99	1.000	1
1,2,3,4,7,8-HxCDF	13.4	BJ	2.41	25.0	1.40	1.000	1
1,2,3,6,7,8-HxCDF	14.1	BJ	2.75	25.0	1.21	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	3.07	25.0			1
2,3,4,6,7,8-HxCDF	12.8	J	2.26	25.0	1.08	1.000	1
1,2,3,4,6,7,8-HpCDF	154	K	4.23	25.0	1.40	1.000	1
1,2,3,4,7,8,9-HpCDF	9.70	BJ	5.38	25.0	0.97	1.000	1
OCDF	221	K	7.19	50.0	0.69	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-01
Lab Code: E2201020-001

Service Request: E2201020
Date Collected: 10/18/22 13:45
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633162
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 17:57
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	9.39	9.39			1
Total Penta-Dioxins	17.6J		2.85	25.0	1.60		1
Total Hexa-Dioxins	67.6		1.41	25.0	1.34		1
Total Hepta-Dioxins	433		5.60	25.0	1.04		1
Total Tetra-Furans	ND	U	5.71	5.71			1
Total Penta-Furans	13.9J		0.626	25.0	1.35		1
Total Hexa-Furans	132		2.60	25.0	1.21		1
Total Hepta-Furans	283		4.77	25.0	1.15		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 13:45
Date Received: 10/21/22 11:05

Sample Name: AS-01
Lab Code: E2201020-001

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633162
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 17:57
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	338.100	17	Y	25-164	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	411.267	21	Y	25-181	1.57	1.175
13C-1,2,3,4,7,8-HxCDD	2000	424.530	21	Y	32-141	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	505.384	25	Y	28-130	1.19	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	484.351	24		23-140	1.06	1.066
13C-OCDD	4000	855.951	21		17-157	0.85	1.142
13C-2,3,7,8-TCDF	2000	296.342	15	Y	24-169	0.74	0.994
13C-1,2,3,7,8-PeCDF	2000	408.656	20	Y	24-185	1.62	1.134
13C-2,3,4,7,8-PeCDF	2000	369.098	18	Y	21-178	1.60	1.165
13C-1,2,3,4,7,8-HxCDF	2000	458.064	23	Y	26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	387.814	19	Y	26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	408.020	20	Y	29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	474.635	24	Y	28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	403.485	20	Y	28-143	0.41	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	441.733	22	Y	26-138	0.41	1.079
37Cl-2,3,7,8-TCDD	800	96.048	12	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-01
Lab Code: E2201020-001

Service Request: E2201020
Date Collected: 10/18/22 13:45
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	9.39	9.39	1	1	
1,2,3,7,8-PeCDD	ND	2.85	25.0	1	1	
1,2,3,4,7,8-HxCDD	3.64	1.54	25.0	1	0.1	0.364
1,2,3,6,7,8-HxCDD	19.4	1.34	25.0	1	0.1	1.94
1,2,3,7,8,9-HxCDD	8.01	1.38	25.0	1	0.1	0.801
1,2,3,4,6,7,8-HpCDD	433	5.60	25.0	1	0.01	4.33
OCDD	3290	2.07	50.0	1	0.0003	0.987
2,3,7,8-TCDF	ND	5.71	5.71	1	0.1	
1,2,3,7,8-PeCDF	4.85	2.88	25.0	1	0.03	0.146
2,3,4,7,8-PeCDF	10.9	3.00	25.0	1	0.3	3.27
1,2,3,4,7,8-HxCDF	13.4	2.41	25.0	1	0.1	1.34
1,2,3,6,7,8-HxCDF	14.1	2.75	25.0	1	0.1	1.41
1,2,3,7,8,9-HxCDF	ND	3.07	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	12.8	2.26	25.0	1	0.1	1.28
1,2,3,4,6,7,8-HpCDF	154	4.23	25.0	1	0.01	1.54
1,2,3,4,7,8,9-HpCDF	9.70	5.38	25.0	1	0.01	0.0970
OCDF	221	7.19	50.0	1	0.0003	0.0663
Total TEQ						17.6

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-02
Lab Code: E2201020-002

Service Request: E2201020
Date Collected: 10/18/22 13:55
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each
Data File Name: P633163
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 18:47
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.19	5.00			1
1,2,3,7,8-PeCDD	1.63	BJK	1.41	25.0	1.11	1.001	1
1,2,3,4,7,8-HxCDD	2.10	BJK	0.981	25.0	1.94	1.000	1
1,2,3,6,7,8-HxCDD	2.81	BJK	0.902	25.0	1.04	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.903	25.0			1
1,2,3,4,6,7,8-HpCDD	48.1		0.877	25.0	0.90	1.000	1
OCDD	256		1.15	50.0	0.84	1.000	1
2,3,7,8-TCDF	ND	U	1.95	5.00			1
1,2,3,7,8-PeCDF	ND	U	0.772	25.0			1
2,3,4,7,8-PeCDF	ND	U	0.832	25.0			1
1,2,3,4,7,8-HxCDF	1.41	BJK	0.519	25.0	0.58	1.000	1
1,2,3,6,7,8-HxCDF	1.28	BJK	0.563	25.0	2.18	1.000	1
1,2,3,7,8,9-HxCDF	1.83	BJK	0.622	25.0	0.95	1.000	1
2,3,4,6,7,8-HxCDF	2.48	BJ	0.466	25.0	1.21	1.000	1
1,2,3,4,6,7,8-HpCDF	12.0	BJK	0.709	25.0	0.69	1.000	1
1,2,3,4,7,8,9-HpCDF	2.75	BJ	0.953	25.0	0.96	1.000	1
OCDF	17.7	BJ	2.87	50.0	0.94	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 13:55
Date Received: 10/21/22 11:05

Sample Name: AS-02
Lab Code: E2201020-002

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 18:47
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633163
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	3.19	5.00			1
Total Penta-Dioxins	ND	U	1.41	25.0			1
Total Hexa-Dioxins	6.08J		0.926	25.0	1.17		1
Total Hepta-Dioxins	98.0		0.877	25.0	1.03		1
Total Tetra-Furans	ND	U	1.95	5.00			1
Total Penta-Furans	ND	U	0.801	25.0			1
Total Hexa-Furans	12.1J		0.538	25.0	1.19		1
Total Hepta-Furans	18.1J		0.820	25.0	0.92		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 13:55
Date Received: 10/21/22 11:05

Sample Name: AS-02
Lab Code: E2201020-002

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 18:47
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633163
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	877.940	44		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	862.629	43		25-181	1.66	1.174
13C-1,2,3,4,7,8-HxCDD	2000	834.503	42		32-141	1.24	0.992
13C-1,2,3,6,7,8-HxCDD	2000	929.585	46		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	925.448	46		23-140	1.07	1.066
13C-OCDD	4000	1625.405	41		17-157	0.90	1.142
13C-2,3,7,8-TCDF	2000	789.654	39		24-169	0.76	0.994
13C-1,2,3,7,8-PeCDF	2000	873.352	44		24-185	1.53	1.134
13C-2,3,4,7,8-PeCDF	2000	810.408	41		21-178	1.58	1.165
13C-1,2,3,4,7,8-HxCDF	2000	850.266	43		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	757.205	38		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	815.021	41		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	949.638	47		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	718.480	36		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	721.407	36		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	225.012	28	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-02
Lab Code: E2201020-002

Service Request: E2201020
Date Collected: 10/18/22 13:55
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.19	5.00	1	1	
1,2,3,7,8-PeCDD	1.63	1.41	25.0	1	1	1.63
1,2,3,4,7,8-HxCDD	2.10	0.981	25.0	1	0.1	0.210
1,2,3,6,7,8-HxCDD	2.81	0.902	25.0	1	0.1	0.281
1,2,3,7,8,9-HxCDD	ND	0.903	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDD	48.1	0.877	25.0	1	0.01	0.481
OCDD	256	1.15	50.0	1	0.0003	0.0768
2,3,7,8-TCDF	ND	1.95	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	0.772	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	0.832	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	1.41	0.519	25.0	1	0.1	0.141
1,2,3,6,7,8-HxCDF	1.28	0.563	25.0	1	0.1	0.128
1,2,3,7,8,9-HxCDF	1.83	0.622	25.0	1	0.1	0.183
2,3,4,6,7,8-HxCDF	2.48	0.466	25.0	1	0.1	0.248
1,2,3,4,6,7,8-HpCDF	12.0	0.709	25.0	1	0.01	0.120
1,2,3,4,7,8,9-HpCDF	2.75	0.953	25.0	1	0.01	0.0275
OCDF	17.7	2.87	50.0	1	0.0003	0.00531
Total TEQ						3.53

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 14:20
Date Received: 10/21/22 11:05

Sample Name: AS-03
Lab Code: E2201020-003

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/18/22 19:37
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633164
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	6.92	6.92			1
1,2,3,7,8-PeCDD	ND	U	1.66	25.0			1
1,2,3,4,7,8-HxCDD	4.73	BJK	1.39	25.0	2.99	1.000	1
1,2,3,6,7,8-HxCDD	7.56	BJK	1.25	25.0	2.37	1.000	1
1,2,3,7,8,9-HxCDD	8.54	BJK	1.26	25.0	2.09	1.007	1
1,2,3,4,6,7,8-HpCDD	419		3.99	25.0	0.93	1.000	1
OCDD	5740		1.53	50.0	0.85	1.000	1
2,3,7,8-TCDF	ND	U	3.46	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.72	25.0			1
2,3,4,7,8-PeCDF	2.42	BJK	1.85	25.0	4.33	1.000	1
1,2,3,4,7,8-HxCDF	4.38	BJK	0.990	25.0	1.00	1.000	1
1,2,3,6,7,8-HxCDF	1.72	BJK	1.11	25.0	0.53	1.000	1
1,2,3,7,8,9-HxCDF	3.70	BJ	1.28	25.0	1.37	1.000	1
2,3,4,6,7,8-HxCDF	6.41	J	0.940	25.0	1.09	1.000	1
1,2,3,4,6,7,8-HpCDF	110		2.42	25.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	5.87	BJ	2.67	25.0	0.95	1.000	1
OCDF	189		5.91	50.0	0.82	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-03
Lab Code: E2201020-003

Service Request: E2201020
Date Collected: 10/18/22 14:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633164
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 19:37
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	6.92	6.92			1
Total Penta-Dioxins	ND	U	1.66	25.0			1
Total Hexa-Dioxins	76.8		1.30	25.0	1.19		1
Total Hepta-Dioxins	1270		3.99	25.0	1.05		1
Total Tetra-Furans	ND	U	3.46	5.00			1
Total Penta-Furans	6.83J		1.78	25.0	1.71		1
Total Hexa-Furans	37.1		1.07	25.0	1.37		1
Total Hepta-Furans	257		2.54	25.0	1.05		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 14:20
Date Received: 10/21/22 11:05

Sample Name: AS-03
Lab Code: E2201020-003

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633164
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 19:37
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	644.464	32		25-164	0.76	1.019
13C-1,2,3,7,8-PeCDD	2000	618.789	31		25-181	1.59	1.174
13C-1,2,3,4,7,8-HxCDD	2000	581.642	29	Y	32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	681.146	34		28-130	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	624.206	31		23-140	1.06	1.066
13C-OCDD	4000	1103.882	28		17-157	0.83	1.142
13C-2,3,7,8-TCDF	2000	601.272	30		24-169	0.73	0.994
13C-1,2,3,7,8-PeCDF	2000	618.744	31		24-185	1.59	1.134
13C-2,3,4,7,8-PeCDF	2000	556.363	28		21-178	1.60	1.165
13C-1,2,3,4,7,8-HxCDF	2000	648.989	32		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	577.377	29		26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	583.937	29		29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	688.693	34		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	512.444	26	Y	28-143	0.42	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	603.734	30		26-138	0.42	1.079
37Cl-2,3,7,8-TCDD	800	178.690	22	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-03
Lab Code: E2201020-003

Service Request: E2201020
Date Collected: 10/18/22 14:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	6.92	6.92	1	1	
1,2,3,7,8-PeCDD	ND	1.66	25.0	1	1	
1,2,3,4,7,8-HxCDD	4.73	1.39	25.0	1	0.1	0.473
1,2,3,6,7,8-HxCDD	7.56	1.25	25.0	1	0.1	0.756
1,2,3,7,8,9-HxCDD	8.54	1.26	25.0	1	0.1	0.854
1,2,3,4,6,7,8-HpCDD	419	3.99	25.0	1	0.01	4.19
OCDD	5740	1.53	50.0	1	0.0003	1.72
2,3,7,8-TCDF	ND	3.46	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	1.72	25.0	1	0.03	
2,3,4,7,8-PeCDF	2.42	1.85	25.0	1	0.3	0.726
1,2,3,4,7,8-HxCDF	4.38	0.990	25.0	1	0.1	0.438
1,2,3,6,7,8-HxCDF	1.72	1.11	25.0	1	0.1	0.172
1,2,3,7,8,9-HxCDF	3.70	1.28	25.0	1	0.1	0.370
2,3,4,6,7,8-HxCDF	6.41	0.940	25.0	1	0.1	0.641
1,2,3,4,6,7,8-HpCDF	110	2.42	25.0	1	0.01	1.10
1,2,3,4,7,8,9-HpCDF	5.87	2.67	25.0	1	0.01	0.0587
OCDF	189	5.91	50.0	1	0.0003	0.0567
Total TEQ						11.6

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-04
Lab Code: E2201020-004

Service Request: E2201020
Date Collected: 10/18/22 14:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each
Data File Name: P633165
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 20:27
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	5.21	5.21			1
1,2,3,7,8-PeCDD	ND	U	1.16	25.0			1
1,2,3,4,7,8-HxCDD	2.29	BJ	0.730	25.0	1.29	1.000	1
1,2,3,6,7,8-HxCDD	6.64	BJK	0.639	25.0	1.51	1.000	1
1,2,3,7,8,9-HxCDD	3.56	BJK	0.655	25.0	1.47	1.006	1
1,2,3,4,6,7,8-HpCDD	218		1.18	25.0	0.90	1.000	1
OCDD	2640		1.34	50.0	0.86	1.000	1
2,3,7,8-TCDF	ND	U	2.68	5.00			1
1,2,3,7,8-PeCDF	1.23	BJK	0.938	25.0	0.79	1.000	1
2,3,4,7,8-PeCDF	2.14	BJK	0.991	25.0	0.52	1.001	1
1,2,3,4,7,8-HxCDF	3.12	BJK	0.568	25.0	0.86	1.000	1
1,2,3,6,7,8-HxCDF	1.91	BJK	0.680	25.0	1.98	1.000	1
1,2,3,7,8,9-HxCDF	1.22	BJK	0.820	25.0	5.44	1.000	1
2,3,4,6,7,8-HxCDF	1.27	BJK	0.581	25.0	2.68	1.000	1
1,2,3,4,6,7,8-HpCDF	25.4	BK	0.935	25.0	1.22	1.000	1
1,2,3,4,7,8,9-HpCDF	3.66	BJ	1.09	25.0	1.19	1.000	1
OCDF	119		4.70	50.0	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-04
Lab Code: E2201020-004

Service Request: E2201020
Date Collected: 10/18/22 14:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633165
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 20:27
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	5.21	5.21			1
Total Penta-Dioxins	ND	U	1.16	25.0			1
Total Hexa-Dioxins	38.1		0.672	25.0	1.20		1
Total Hepta-Dioxins	531		1.18	25.0	1.12		1
Total Tetra-Furans	ND	U	2.68	5.00			1
Total Penta-Furans	ND	U	0.963	25.0			1
Total Hexa-Furans	9.16J		0.652	25.0	1.21		1
Total Hepta-Furans	3.66J		1.01	25.0	1.19		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 14:40
Date Received: 10/21/22 11:05

Sample Name: AS-04
Lab Code: E2201020-004

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 20:27
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633165
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	697.062	35		25-164	0.73	1.019
13C-1,2,3,7,8-PeCDD	2000	675.403	34		25-181	1.63	1.174
13C-1,2,3,4,7,8-HxCDD	2000	665.903	33		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	769.625	38		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	710.957	36		23-140	1.02	1.066
13C-OCDD	4000	1232.474	31		17-157	0.90	1.142
13C-2,3,7,8-TCDF	2000	633.221	32		24-169	0.75	0.994
13C-1,2,3,7,8-PeCDF	2000	686.499	34		24-185	1.56	1.134
13C-2,3,4,7,8-PeCDF	2000	620.041	31		21-178	1.62	1.165
13C-1,2,3,4,7,8-HxCDF	2000	774.167	39		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	642.663	32		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	640.569	32		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	759.148	38		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	595.203	30		28-143	0.41	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	657.972	33		26-138	0.41	1.079
37Cl-2,3,7,8-TCDD	800	234.274	29	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-04
Lab Code: E2201020-004

Service Request: E2201020
Date Collected: 10/18/22 14:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.21	5.21	1	1	
1,2,3,7,8-PeCDD	ND	1.16	25.0	1	1	
1,2,3,4,7,8-HxCDD	2.29	0.730	25.0	1	0.1	0.229
1,2,3,6,7,8-HxCDD	6.64	0.639	25.0	1	0.1	0.664
1,2,3,7,8,9-HxCDD	3.56	0.655	25.0	1	0.1	0.356
1,2,3,4,6,7,8-HpCDD	218	1.18	25.0	1	0.01	2.18
OCDD	2640	1.34	50.0	1	0.0003	0.792
2,3,7,8-TCDF	ND	2.68	5.00	1	0.1	
1,2,3,7,8-PeCDF	1.23	0.938	25.0	1	0.03	0.0369
2,3,4,7,8-PeCDF	2.14	0.991	25.0	1	0.3	0.642
1,2,3,4,7,8-HxCDF	3.12	0.568	25.0	1	0.1	0.312
1,2,3,6,7,8-HxCDF	1.91	0.680	25.0	1	0.1	0.191
1,2,3,7,8,9-HxCDF	1.22	0.820	25.0	1	0.1	0.122
2,3,4,6,7,8-HxCDF	1.27	0.581	25.0	1	0.1	0.127
1,2,3,4,6,7,8-HpCDF	25.4	0.935	25.0	1	0.01	0.254
1,2,3,4,7,8,9-HpCDF	3.66	1.09	25.0	1	0.01	0.0366
OCDF	119	4.70	50.0	1	0.0003	0.0357
Total TEQ						5.98

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 14:45
Date Received: 10/21/22 11:05

Sample Name: AS-05
Lab Code: E2201020-005

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Data File Name: P633166
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 21:17
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.72	5.00			1
1,2,3,7,8-PeCDD	4.24	BJK	1.43	25.0	2.24	1.000	1
1,2,3,4,7,8-HxCDD	12.6	BJ	0.700	25.0	1.24	1.000	1
1,2,3,6,7,8-HxCDD	38.7		0.648	25.0	1.26	1.000	1
1,2,3,7,8,9-HxCDD	20.6	BJK	0.647	25.0	0.89	1.007	1
1,2,3,4,6,7,8-HpCDD	1750		4.12	25.0	1.03	1.000	1
OCDD	26000		3.45	50.0	0.88	1.000	1
2,3,7,8-TCDF	3.49	JK	2.81	5.00	0.37	1.000	1
1,2,3,7,8-PeCDF	8.41	BJK	0.509	25.0	1.07	1.001	1
2,3,4,7,8-PeCDF	7.14	BJK	0.559	25.0	4.07	1.001	1
1,2,3,4,7,8-HxCDF	20.3	JK	1.39	25.0	1.04	1.000	1
1,2,3,6,7,8-HxCDF	14.8	BJK	1.61	25.0	0.93	1.000	1
1,2,3,7,8,9-HxCDF	8.29	BJ	1.78	25.0	1.26	1.001	1
2,3,4,6,7,8-HxCDF	20.5	J	1.47	25.0	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	373		4.48	25.0	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	24.0	BJ	5.65	25.0	0.91	1.000	1
OCDF	1030		2.42	50.0	0.87	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 14:45
Date Received: 10/21/22 11:05

Sample Name: AS-05
Lab Code: E2201020-005

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633166
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 21:17
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	3.72	5.00			1
Total Penta-Dioxins	22.7J		1.43	25.0	1.64		1
Total Hexa-Dioxins	377		0.664	25.0	1.42		1
Total Hepta-Dioxins	5190		4.12	25.0	1.01		1
Total Tetra-Furans	ND	U	2.81	5.00			1
Total Penta-Furans	127		0.626	25.0	1.57		1
Total Hexa-Furans	201		1.55	25.0	1.39		1
Total Hepta-Furans	1100		5.01	25.0	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 14:45
Date Received: 10/21/22 11:05

Sample Name: AS-05
Lab Code: E2201020-005

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633166
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 21:17
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1131.033	57		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	1029.335	51		25-181	1.58	1.174
13C-1,2,3,4,7,8-HxCDD	2000	1009.821	50		32-141	1.21	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1078.534	54		28-130	1.22	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1007.272	50		23-140	1.03	1.066
13C-OCDD	4000	1560.723	39		17-157	0.89	1.142
13C-2,3,7,8-TCDF	2000	1018.078	51		24-169	0.75	0.994
13C-1,2,3,7,8-PeCDF	2000	1087.582	54		24-185	1.57	1.134
13C-2,3,4,7,8-PeCDF	2000	980.715	49		21-178	1.57	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1052.363	53		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	904.355	45		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	973.020	49		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1078.138	54		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	800.709	40		28-143	0.42	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	809.209	40		26-138	0.41	1.079
37Cl-2,3,7,8-TCDD	800	387.736	48		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-05
Lab Code: E2201020-005

Service Request: E2201020
Date Collected: 10/18/22 14:45
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.72	5.00	1	1	
1,2,3,7,8-PeCDD	4.24	1.43	25.0	1	1	4.24
1,2,3,4,7,8-HxCDD	12.6	0.700	25.0	1	0.1	1.26
1,2,3,6,7,8-HxCDD	38.7	0.648	25.0	1	0.1	3.87
1,2,3,7,8,9-HxCDD	20.6	0.647	25.0	1	0.1	2.06
1,2,3,4,6,7,8-HpCDD	1750	4.12	25.0	1	0.01	17.5
OCDD	26000	3.45	50.0	1	0.0003	7.80
2,3,7,8-TCDF	3.49	2.81	5.00	1	0.1	0.349
1,2,3,7,8-PeCDF	8.41	0.509	25.0	1	0.03	0.252
2,3,4,7,8-PeCDF	7.14	0.559	25.0	1	0.3	2.14
1,2,3,4,7,8-HxCDF	20.3	1.39	25.0	1	0.1	2.03
1,2,3,6,7,8-HxCDF	14.8	1.61	25.0	1	0.1	1.48
1,2,3,7,8,9-HxCDF	8.29	1.78	25.0	1	0.1	0.829
2,3,4,6,7,8-HxCDF	20.5	1.47	25.0	1	0.1	2.05
1,2,3,4,6,7,8-HpCDF	373	4.48	25.0	1	0.01	3.73
1,2,3,4,7,8,9-HpCDF	24.0	5.65	25.0	1	0.01	0.240
OCDF	1030	2.42	50.0	1	0.0003	0.309
Total TEQ						50.1

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:10
Date Received: 10/21/22 11:05

Sample Name: AS-06
Lab Code: E2201020-006

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/18/22 22:07
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633167
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.54	5.00			1
1,2,3,7,8-PeCDD	1.59	BJK	1.12	25.0	1.30	1.000	1
1,2,3,4,7,8-HxCDD	4.91	BJK	0.766	25.0	0.99	1.000	1
1,2,3,6,7,8-HxCDD	9.32	JK	0.676	25.0	1.49	1.000	1
1,2,3,7,8,9-HxCDD	3.67	BJK	0.690	25.0	0.58	1.007	1
1,2,3,4,6,7,8-HpCDD	178		2.54	25.0	1.15	1.000	1
OCDD	1630		4.90	50.0	0.84	1.000	1
2,3,7,8-TCDF	5.14	K	1.29	5.00	0.58	1.002	1
1,2,3,7,8-PeCDF	4.51	BJK	0.925	25.0	1.24	1.001	1
2,3,4,7,8-PeCDF	13.6	BJ	1.01	25.0	1.53	1.000	1
1,2,3,4,7,8-HxCDF	9.26	BJ	1.83	25.0	1.39	1.001	1
1,2,3,6,7,8-HxCDF	6.20	BJK	1.06	25.0	1.80	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	1.35	25.0			1
2,3,4,6,7,8-HxCDF	9.96	J	0.909	25.0	1.40	1.000	1
1,2,3,4,6,7,8-HpCDF	88.7		3.46	25.0	0.96	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	5.65	25.0			1
OCDF	106	K	9.34	50.0	0.70	1.006	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-06
Lab Code: E2201020-006

Service Request: E2201020
Date Collected: 10/18/22 15:10
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633167
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 22:07
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	3.54	5.00			1
Total Penta-Dioxins	6.06J		1.12	25.0	1.68		1
Total Hexa-Dioxins	80.9		0.708	25.0	1.14		1
Total Hepta-Dioxins	268		2.54	25.0	0.91		1
Total Tetra-Furans	29.1		1.29	5.00	0.68		1
Total Penta-Furans	52.9		0.626	25.0	1.61		1
Total Hexa-Furans	93.8		1.20	25.0	1.06		1
Total Hepta-Furans	88.7		4.30	25.0	0.96		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:10
Date Received: 10/21/22 11:05

Sample Name: AS-06
Lab Code: E2201020-006

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 22:07
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633167
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1073.239	54		25-164	0.77	1.019
13C-1,2,3,7,8-PeCDD	2000	1021.955	51		25-181	1.58	1.174
13C-1,2,3,4,7,8-HxCDD	2000	869.036	43		32-141	1.30	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1001.014	50		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	755.254	38		23-140	1.09	1.067
13C-OCDD	4000	1016.960	25		17-157	0.91	1.145
13C-2,3,7,8-TCDF	2000	999.723	50		24-169	0.77	0.993
13C-1,2,3,7,8-PeCDF	2000	1064.498	53		24-185	1.61	1.134
13C-2,3,4,7,8-PeCDF	2000	943.981	47		21-178	1.57	1.165
13C-1,2,3,4,7,8-HxCDF	2000	502.651	25	Y	26-152	0.53	0.971
13C-1,2,3,6,7,8-HxCDF	2000	831.185	42		26-123	0.49	0.975
13C-1,2,3,7,8,9-HxCDF	2000	771.448	39		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	990.719	50		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	651.569	33		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	488.502	24	Y	26-138	0.43	1.081
37Cl-2,3,7,8-TCDD	800	269.886	34	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:10
Date Received: 10/21/22 11:05

Sample Name: AS-06
Lab Code: E2201020-006

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.54	5.00	1	1	
1,2,3,7,8-PeCDD	1.59	1.12	25.0	1	1	1.59
1,2,3,4,7,8-HxCDD	4.91	0.766	25.0	1	0.1	0.491
1,2,3,6,7,8-HxCDD	9.32	0.676	25.0	1	0.1	0.932
1,2,3,7,8,9-HxCDD	3.67	0.690	25.0	1	0.1	0.367
1,2,3,4,6,7,8-HpCDD	178	2.54	25.0	1	0.01	1.78
OCDD	1630	4.90	50.0	1	0.0003	0.489
2,3,7,8-TCDF	5.14	1.29	5.00	1	0.1	0.514
1,2,3,7,8-PeCDF	4.51	0.925	25.0	1	0.03	0.135
2,3,4,7,8-PeCDF	13.6	1.01	25.0	1	0.3	4.08
1,2,3,4,7,8-HxCDF	9.26	1.83	25.0	1	0.1	0.926
1,2,3,6,7,8-HxCDF	6.20	1.06	25.0	1	0.1	0.620
1,2,3,7,8,9-HxCDF	ND	1.35	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	9.96	0.909	25.0	1	0.1	0.996
1,2,3,4,6,7,8-HpCDF	88.7	3.46	25.0	1	0.01	0.887
1,2,3,4,7,8,9-HpCDF	ND	5.65	25.0	1	0.01	
OCDF	106	9.34	50.0	1	0.0003	0.0318
Total TEQ						13.8

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:25
Date Received: 10/21/22 11:05

Sample Name: AS-07
Lab Code: E2201020-007

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/19/22 05:01
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633175
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	6.04	6.04			1
1,2,3,7,8-PeCDD	2.73	BJK	2.68	25.0	5.36	1.000	1
1,2,3,4,7,8-HxCDD	12.7	BJK	1.97	25.0	1.00	1.000	1
1,2,3,6,7,8-HxCDD	15.5	JK	1.69	25.0	1.76	1.000	1
1,2,3,7,8,9-HxCDD	9.81	BJK	1.74	25.0	0.62	1.007	1
1,2,3,4,6,7,8-HpCDD	408		5.09	25.0	0.95	1.000	1
OCDD	4780		3.70	50.0	0.87	1.000	1
2,3,7,8-TCDF	ND	U	5.23	5.23			1
1,2,3,7,8-PeCDF	6.16	BJ	1.26	25.0	1.74	1.000	1
2,3,4,7,8-PeCDF	7.77	BJK	1.43	25.0	2.53	1.000	1
1,2,3,4,7,8-HxCDF	8.39	BJK	1.27	25.0	0.70	1.000	1
1,2,3,6,7,8-HxCDF	10.7	BJK	1.44	25.0	1.03	1.000	1
1,2,3,7,8,9-HxCDF	23.3	BJ	1.41	25.0	1.11	1.001	1
2,3,4,6,7,8-HxCDF	5.93	BJK	1.29	25.0	0.93	1.000	1
1,2,3,4,6,7,8-HpCDF	87.8	K	2.44	25.0	1.40	1.000	1
1,2,3,4,7,8,9-HpCDF	14.0	BJ	1.92	25.0	1.09	1.000	1
OCDF	221	K	10.4	50.0	0.73	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-07
Lab Code: E2201020-007

Service Request: E2201020
Date Collected: 10/18/22 15:25
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633175
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 05:01
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	6.04	6.04			1
Total Penta-Dioxins	ND	U	2.68	25.0			1
Total Hexa-Dioxins	44.4		1.79	25.0	1.35		1
Total Hepta-Dioxins	1050		5.09	25.0	0.98		1
Total Tetra-Furans	ND	U	5.23	5.23			1
Total Penta-Furans	10.5J		1.34	25.0	1.74		1
Total Hexa-Furans	102		1.35	25.0	1.07		1
Total Hepta-Furans	135		2.15	25.0	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:25
Date Received: 10/21/22 11:05

Sample Name: AS-07
Lab Code: E2201020-007

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 05:01
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633175
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	475.079	24	Y	25-164	0.77	1.020
13C-1,2,3,7,8-PeCDD	2000	433.106	22	Y	25-181	1.50	1.175
13C-1,2,3,4,7,8-HxCDD	2000	382.971	19	Y	32-141	1.29	0.992
13C-1,2,3,6,7,8-HxCDD	2000	462.625	23	Y	28-130	1.33	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	409.033	20	Y	23-140	1.05	1.066
13C-OCDD	4000	719.971	18		17-157	0.90	1.142
13C-2,3,7,8-TCDF	2000	423.120	21	Y	24-169	0.70	0.994
13C-1,2,3,7,8-PeCDF	2000	468.629	23	Y	24-185	1.60	1.135
13C-2,3,4,7,8-PeCDF	2000	395.945	20	Y	21-178	1.64	1.165
13C-1,2,3,4,7,8-HxCDF	2000	452.358	23	Y	26-152	0.48	0.972
13C-1,2,3,6,7,8-HxCDF	2000	383.297	19	Y	26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	455.257	23	Y	29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	453.673	23	Y	28-136	0.49	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	355.091	18	Y	28-143	0.40	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	536.767	27		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	158.555	20	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-07
Lab Code: E2201020-007

Service Request: E2201020
Date Collected: 10/18/22 15:25
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	6.04	6.04	1	1	
1,2,3,7,8-PeCDD	2.73	2.68	25.0	1	1	2.73
1,2,3,4,7,8-HxCDD	12.7	1.97	25.0	1	0.1	1.27
1,2,3,6,7,8-HxCDD	15.5	1.69	25.0	1	0.1	1.55
1,2,3,7,8,9-HxCDD	9.81	1.74	25.0	1	0.1	0.981
1,2,3,4,6,7,8-HpCDD	408	5.09	25.0	1	0.01	4.08
OCDD	4780	3.70	50.0	1	0.0003	1.43
2,3,7,8-TCDF	ND	5.23	5.23	1	0.1	
1,2,3,7,8-PeCDF	6.16	1.26	25.0	1	0.03	0.185
2,3,4,7,8-PeCDF	7.77	1.43	25.0	1	0.3	2.33
1,2,3,4,7,8-HxCDF	8.39	1.27	25.0	1	0.1	0.839
1,2,3,6,7,8-HxCDF	10.7	1.44	25.0	1	0.1	1.07
1,2,3,7,8,9-HxCDF	23.3	1.41	25.0	1	0.1	2.33
2,3,4,6,7,8-HxCDF	5.93	1.29	25.0	1	0.1	0.593
1,2,3,4,6,7,8-HpCDF	87.8	2.44	25.0	1	0.01	0.878
1,2,3,4,7,8,9-HpCDF	14.0	1.92	25.0	1	0.01	0.140
OCDF	221	10.4	50.0	1	0.0003	0.0663
Total TEQ						20.5

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-08
Lab Code: E2201020-008

Service Request: E2201020
Date Collected: 10/18/22 15:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633176
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 05:51
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.15	5.00			1
1,2,3,7,8-PeCDD	ND	U	2.15	25.0			1
1,2,3,4,7,8-HxCDD	4.68	BJK	1.61	25.0	1.68	1.000	1
1,2,3,6,7,8-HxCDD	2.93	BJK	1.48	25.0	2.45	1.000	1
1,2,3,7,8,9-HxCDD	4.34	BJK	1.48	25.0	0.80	1.007	1
1,2,3,4,6,7,8-HpCDD	124		2.46	25.0	1.16	1.000	1
OCDD	2130		11.6	50.0	0.90	1.000	1
2,3,7,8-TCDF	ND	U	2.23	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.04	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.29	25.0			1
1,2,3,4,7,8-HxCDF	3.60	BJ	0.882	25.0	1.07	1.000	1
1,2,3,6,7,8-HxCDF	3.53	BJ	0.960	25.0	1.06	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	3.40	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	2.47	25.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	15.1	25.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	8.42	25.0			1
OCDF	115		12.9	50.0	0.93	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-08
Lab Code: E2201020-008

Service Request: E2201020
Date Collected: 10/18/22 15:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633176
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 05:51
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	2.15	5.00			1
Total Penta-Dioxins	ND	U	2.15	25.0			1
Total Hexa-Dioxins	7.94J		1.52	25.0	1.24		1
Total Hepta-Dioxins	124		-	25.0	1.13		1
Total Tetra-Furans	ND	U	2.23	5.00			1
Total Penta-Furans	ND	U	1.16	25.0			1
Total Hexa-Furans	19.7J		1.66	25.0	1.32		1
Total Hepta-Furans	85.8		12.2	25.0	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:40
Date Received: 10/21/22 11:05

Sample Name: AS-08
Lab Code: E2201020-008

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633176
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 05:51
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	869.159	43		25-164	0.77	1.020
13C-1,2,3,7,8-PeCDD	2000	909.326	45		25-181	1.57	1.175
13C-1,2,3,4,7,8-HxCDD	2000	690.646	35		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	920.942	46		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	546.897	27		23-140	0.98	1.070
13C-OCDD	4000	449.536	11	Y	17-157	0.89	1.143
13C-2,3,7,8-TCDF	2000	728.997	36		24-169	0.74	0.994
13C-1,2,3,7,8-PeCDF	2000	892.364	45		24-185	1.52	1.134
13C-2,3,4,7,8-PeCDF	2000	825.426	41		21-178	1.62	1.166
13C-1,2,3,4,7,8-HxCDF	2000	764.851	38		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	687.839	34		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	323.185	16	Y	29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	739.139	37		28-136	0.49	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	482.719	24	Y	28-143	0.44	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	444.824	22	Y	26-138	0.40	1.082
37Cl-2,3,7,8-TCDD	800	229.473	29	Y	35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-08
Lab Code: E2201020-008

Service Request: E2201020
Date Collected: 10/18/22 15:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.15	5.00	1	1	
1,2,3,7,8-PeCDD	ND	2.15	25.0	1	1	
1,2,3,4,7,8-HxCDD	4.68	1.61	25.0	1	0.1	0.468
1,2,3,6,7,8-HxCDD	2.93	1.48	25.0	1	0.1	0.293
1,2,3,7,8,9-HxCDD	4.34	1.48	25.0	1	0.1	0.434
1,2,3,4,6,7,8-HpCDD	124	2.46	25.0	1	0.01	1.24
OCDD	2130	11.6	50.0	1	0.0003	0.639
2,3,7,8-TCDF	ND	2.23	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	1.04	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.29	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	3.60	0.882	25.0	1	0.1	0.360
1,2,3,6,7,8-HxCDF	3.53	0.960	25.0	1	0.1	0.353
1,2,3,7,8,9-HxCDF	ND	3.40	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	ND	2.47	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	15.1	25.0	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	8.42	25.0	1	0.01	
OCDF	115	12.9	50.0	1	0.0003	0.0345
Total TEQ						3.82

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: AS-09
Lab Code: E2201020-009

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/19/22 06:41
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633177
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.04	5.00			1
1,2,3,7,8-PeCDD	22.0 JK		2.16	25.0	2.42	1.000	1
1,2,3,4,7,8-HxCDD	59.6		0.513	25.0	1.06	1.000	1
1,2,3,6,7,8-HxCDD	225		0.451	25.0	1.20	1.000	1
1,2,3,7,8,9-HxCDD	126		0.461	25.0	1.26	1.006	1
1,2,3,4,6,7,8-HpCDD	3390		9.18	25.0	1.01	1.000	1
OCDD	13000		1.64	50.0	0.86	1.000	1
2,3,7,8-TCDF	1.84 JK		0.883	5.00	0.20	1.001	1
1,2,3,7,8-PeCDF	13.2 BJ		3.90	25.0	1.59	1.001	1
2,3,4,7,8-PeCDF	58.2		4.48	25.0	1.73	1.000	1
1,2,3,4,7,8-HxCDF	94.0		3.18	25.0	1.24	1.000	1
1,2,3,6,7,8-HxCDF	94.6		3.67	25.0	1.27	1.000	1
1,2,3,7,8,9-HxCDF	59.1		3.43	25.0	1.22	1.001	1
2,3,4,6,7,8-HxCDF	115		3.07	25.0	1.39	1.000	1
1,2,3,4,6,7,8-HpCDF	809		4.55	25.0	1.10	1.000	1
1,2,3,4,7,8,9-HpCDF	99.4		4.03	25.0	1.14	1.000	1
OCDF	735		4.55	50.0	0.80	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: AS-09
Lab Code: E2201020-009

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 06:41
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633177
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	28.2		3.04	5.00	0.73		1
Total Penta-Dioxins	617		2.16	25.0	1.54		1
Total Hexa-Dioxins	2470		0.473	25.0	1.26		1
Total Hepta-Dioxins	6070		9.18	25.0	1.00		1
Total Tetra-Furans	65.7		0.883	5.00	0.70		1
Total Penta-Furans	270		4.17	25.0	1.52		1
Total Hexa-Furans	815		3.33	25.0	1.35		1
Total Hepta-Furans	1190		4.26	25.0	1.10		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: AS-09
Lab Code: E2201020-009

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 06:41
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633177
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	858.272	43		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	789.062	39		25-181	1.61	1.174
13C-1,2,3,4,7,8-HxCDD	2000	777.660	39		32-141	1.29	0.992
13C-1,2,3,6,7,8-HxCDD	2000	904.456	45		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	840.687	42		23-140	1.02	1.066
13C-OCDD	4000	1222.714	31		17-157	0.88	1.142
13C-2,3,7,8-TCDF	2000	794.202	40		24-169	0.77	0.994
13C-1,2,3,7,8-PeCDF	2000	833.491	42		24-185	1.59	1.134
13C-2,3,4,7,8-PeCDF	2000	738.774	37		21-178	1.61	1.165
13C-1,2,3,4,7,8-HxCDF	2000	853.416	43		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	728.986	36		26-123	0.49	0.975
13C-1,2,3,7,8,9-HxCDF	2000	916.502	46		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	910.572	46		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	710.537	36		28-143	0.42	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	988.781	49		26-138	0.42	1.079
37Cl-2,3,7,8-TCDD	800	284.959	36		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-09
Lab Code: E2201020-009

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.04	5.00	1	1	
1,2,3,7,8-PeCDD	22.0	2.16	25.0	1	1	22.0
1,2,3,4,7,8-HxCDD	59.6	0.513	25.0	1	0.1	5.96
1,2,3,6,7,8-HxCDD	225	0.451	25.0	1	0.1	22.5
1,2,3,7,8,9-HxCDD	126	0.461	25.0	1	0.1	12.6
1,2,3,4,6,7,8-HpCDD	3390	9.18	25.0	1	0.01	33.9
OCDD	13000	1.64	50.0	1	0.0003	3.90
2,3,7,8-TCDF	1.84	0.883	5.00	1	0.1	0.184
1,2,3,7,8-PeCDF	13.2	3.90	25.0	1	0.03	0.396
2,3,4,7,8-PeCDF	58.2	4.48	25.0	1	0.3	17.5
1,2,3,4,7,8-HxCDF	94.0	3.18	25.0	1	0.1	9.40
1,2,3,6,7,8-HxCDF	94.6	3.67	25.0	1	0.1	9.46
1,2,3,7,8,9-HxCDF	59.1	3.43	25.0	1	0.1	5.91
2,3,4,6,7,8-HxCDF	115	3.07	25.0	1	0.1	11.5
1,2,3,4,6,7,8-HpCDF	809	4.55	25.0	1	0.01	8.09
1,2,3,4,7,8,9-HpCDF	99.4	4.03	25.0	1	0.01	0.994
OCDF	735	4.55	50.0	1	0.0003	0.221
Total TEQ						165

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: DUP-01
Lab Code: E2201020-010

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Data File Name: P633178
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 07:31
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.26	5.00			1
1,2,3,7,8-PeCDD	3.77	BJK	0.367	25.0	2.74	1.001	1
1,2,3,4,7,8-HxCDD	11.7	BJ	0.742	25.0	1.28	1.000	1
1,2,3,6,7,8-HxCDD	45.7		0.690	25.0	1.18	1.000	1
1,2,3,7,8,9-HxCDD	29.7		0.687	25.0	1.14	1.007	1
1,2,3,4,6,7,8-HpCDD	841		4.84	25.0	0.97	1.000	1
OCDD	5910		2.82	50.0	0.86	1.000	1
2,3,7,8-TCDF	ND	U	1.24	5.00			1
1,2,3,7,8-PeCDF	2.01	BJK	1.43	25.0	0.62	1.000	1
2,3,4,7,8-PeCDF	7.24	BJK	1.49	25.0	2.58	1.001	1
1,2,3,4,7,8-HxCDF	19.7	JK	0.884	25.0	1.44	1.000	1
1,2,3,6,7,8-HxCDF	16.5	BJK	0.911	25.0	1.44	1.000	1
1,2,3,7,8,9-HxCDF	10.2	BJ	1.04	25.0	1.37	1.000	1
2,3,4,6,7,8-HxCDF	19.5	J	0.880	25.0	1.27	1.000	1
1,2,3,4,6,7,8-HpCDF	242		2.19	25.0	0.98	1.000	1
1,2,3,4,7,8,9-HpCDF	18.1	BJK	1.92	25.0	1.42	1.000	1
OCDF	288		2.48	50.0	0.83	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: DUP-01
Lab Code: E2201020-010

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633178
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 07:31
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	3.26	5.00			1
Total Penta-Dioxins	40.8		0.367	25.0	1.75		1
Total Hexa-Dioxins	466		0.705	25.0	1.16		1
Total Hepta-Dioxins	1800		4.84	25.0	1.04		1
Total Tetra-Furans	ND	U	1.24	5.00			1
Total Penta-Furans	25.9		0.626	25.0	1.32		1
Total Hexa-Furans	126		0.924	25.0	1.14		1
Total Hepta-Furans	551		2.04	25.0	0.98		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: DUP-01
Lab Code: E2201020-010

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633178
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 07:31
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1121.644	56		25-164	0.80	1.020
13C-1,2,3,7,8-PeCDD	2000	1221.450	61		25-181	1.68	1.174
13C-1,2,3,4,7,8-HxCDD	2000	1022.077	51		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1190.784	60		28-130	1.23	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	994.881	50		23-140	1.02	1.066
13C-OCDD	4000	1281.273	32		17-157	0.91	1.142
13C-2,3,7,8-TCDF	2000	1056.266	53		24-169	0.76	0.994
13C-1,2,3,7,8-PeCDF	2000	1217.951	61		24-185	1.59	1.134
13C-2,3,4,7,8-PeCDF	2000	1132.492	57		21-178	1.61	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1136.517	57		26-152	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1064.110	53		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1097.965	55		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1178.746	59		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	849.970	42		28-143	0.42	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1196.432	60		26-138	0.42	1.079
37Cl-2,3,7,8-TCDD	800	340.925	43		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 15:50
Date Received: 10/21/22 11:05

Sample Name: DUP-01
Lab Code: E2201020-010

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.26	5.00	1	1	
1,2,3,7,8-PeCDD	3.77	0.367	25.0	1	1	3.77
1,2,3,4,7,8-HxCDD	11.7	0.742	25.0	1	0.1	1.17
1,2,3,6,7,8-HxCDD	45.7	0.690	25.0	1	0.1	4.57
1,2,3,7,8,9-HxCDD	29.7	0.687	25.0	1	0.1	2.97
1,2,3,4,6,7,8-HpCDD	841	4.84	25.0	1	0.01	8.41
OCDD	5910	2.82	50.0	1	0.0003	1.77
2,3,7,8-TCDF	ND	1.24	5.00	1	0.1	
1,2,3,7,8-PeCDF	2.01	1.43	25.0	1	0.03	0.0603
2,3,4,7,8-PeCDF	7.24	1.49	25.0	1	0.3	2.17
1,2,3,4,7,8-HxCDF	19.7	0.884	25.0	1	0.1	1.97
1,2,3,6,7,8-HxCDF	16.5	0.911	25.0	1	0.1	1.65
1,2,3,7,8,9-HxCDF	10.2	1.04	25.0	1	0.1	1.02
2,3,4,6,7,8-HxCDF	19.5	0.880	25.0	1	0.1	1.95
1,2,3,4,6,7,8-HpCDF	242	2.19	25.0	1	0.01	2.42
1,2,3,4,7,8,9-HpCDF	18.1	1.92	25.0	1	0.01	0.181
OCDF	288	2.48	50.0	1	0.0003	0.0864
Total TEQ						34.2

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 16:10
Date Received: 10/21/22 11:05

Sample Name: AS-10
Lab Code: E2201020-011

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/19/22 08:42
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633179
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	4.55	5.00			1
1,2,3,7,8-PeCDD	ND	U	0.951	25.0			1
1,2,3,4,7,8-HxCDD	1.32	BJ	0.561	25.0	1.09	1.000	1
1,2,3,6,7,8-HxCDD	2.53	BJK	0.479	25.0	0.76	1.000	1
1,2,3,7,8,9-HxCDD	1.89	BJ	0.496	25.0	1.40	1.005	1
1,2,3,4,6,7,8-HpCDD	32.9	BK	0.839	25.0	1.24	1.000	1
OCDD	243		3.46	50.0	0.94	1.000	1
2,3,7,8-TCDF	ND	U	2.48	5.00			1
1,2,3,7,8-PeCDF	ND	U	0.993	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.10	25.0			1
1,2,3,4,7,8-HxCDF	0.982	BJK	0.369	25.0	0.44	1.000	1
1,2,3,6,7,8-HxCDF	0.620	BJK	0.409	25.0	0.72	1.000	1
1,2,3,7,8,9-HxCDF	0.792	BJK	0.435	25.0	0.70	1.000	1
2,3,4,6,7,8-HxCDF	0.587	BJK	0.352	25.0	1.51	1.000	1
1,2,3,4,6,7,8-HpCDF	10.9	BJ	0.842	25.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.825	25.0			1
OCDF	13.0	BJK	4.28	50.0	1.17	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-10
Lab Code: E2201020-011

Service Request: E2201020
Date Collected: 10/18/22 16:10
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633179
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 08:42
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	4.55	5.00			1
Total Penta-Dioxins	ND	U	0.951	25.0			1
Total Hexa-Dioxins	11.6J		0.509	25.0	1.33		1
Total Hepta-Dioxins	51.3		0.839	25.0	0.94		1
Total Tetra-Furans	ND	U	2.48	5.00			1
Total Penta-Furans	ND	U	1.05	25.0			1
Total Hexa-Furans	ND	U	0.390	25.0			1
Total Hepta-Furans	26.3		0.832	25.0	1.05		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/18/22 16:10
Date Received: 10/21/22 11:05

Sample Name: AS-10
Lab Code: E2201020-011

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 08:42
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633172

Data File Name: P633179
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1086.902	54		25-164	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1055.902	53		25-181	1.59	1.174
13C-1,2,3,4,7,8-HxCDD	2000	977.718	49		32-141	1.27	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1146.199	57		28-130	1.31	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1058.863	53		23-140	1.07	1.066
13C-OCDD	4000	1772.312	44		17-157	0.89	1.142
13C-2,3,7,8-TCDF	2000	1014.885	51		24-169	0.75	0.994
13C-1,2,3,7,8-PeCDF	2000	1087.197	54		24-185	1.61	1.134
13C-2,3,4,7,8-PeCDF	2000	949.674	47		21-178	1.59	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1131.503	57		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	972.551	49		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1087.538	54		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1156.464	58		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	859.905	43		28-143	0.41	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1146.942	57		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	282.521	35		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-10
Lab Code: E2201020-011

Service Request: E2201020
Date Collected: 10/18/22 16:10
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	4.55	5.00	1	1	
1,2,3,7,8-PeCDD	ND	0.951	25.0	1	1	
1,2,3,4,7,8-HxCDD	1.32	0.561	25.0	1	0.1	0.132
1,2,3,6,7,8-HxCDD	2.53	0.479	25.0	1	0.1	0.253
1,2,3,7,8,9-HxCDD	1.89	0.496	25.0	1	0.1	0.189
1,2,3,4,6,7,8-HpCDD	32.9	0.839	25.0	1	0.01	0.329
OCDD	243	3.46	50.0	1	0.0003	0.0729
2,3,7,8-TCDF	ND	2.48	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	0.993	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.10	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	0.982	0.369	25.0	1	0.1	0.0982
1,2,3,6,7,8-HxCDF	0.620	0.409	25.0	1	0.1	0.0620
1,2,3,7,8,9-HxCDF	0.792	0.435	25.0	1	0.1	0.0792
2,3,4,6,7,8-HxCDF	0.587	0.352	25.0	1	0.1	0.0587
1,2,3,4,6,7,8-HpCDF	10.9	0.842	25.0	1	0.01	0.109
1,2,3,4,7,8,9-HpCDF	ND	0.825	25.0	1	0.01	
OCDF	13.0	4.28	50.0	1	0.0003	0.00390
Total TEQ						1.39

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/19/22 09:10
Date Received: 10/21/22 11:05

Sample Name: AS-11
Lab Code: E2201020-012

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/19/22 09:31
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P633172

Data File Name: P633180
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	6.47	6.47			1
1,2,3,7,8-PeCDD	5.02JK		3.76	25.0	2.80	1.000	1
1,2,3,4,7,8-HxCDD	8.83JK		2.28	25.0	3.51	1.000	1
1,2,3,6,7,8-HxCDD	245		1.99	25.0	1.11	1.000	1
1,2,3,7,8,9-HxCDD	55.1		2.04	25.0	1.31	1.006	1
1,2,3,4,6,7,8-HpCDD	14400		14.2	25.0	1.04	1.000	1
OCDD	179000E		5.57	50.0	0.87	1.000	1
2,3,7,8-TCDF	7.88K		2.63	5.00	0.90	1.000	1
1,2,3,7,8-PeCDF	5.89JK		2.37	25.0	2.01	1.002	1
2,3,4,7,8-PeCDF	24.4J		2.56	25.0	1.76	1.000	1
1,2,3,4,7,8-HxCDF	52.6K		3.22	25.0	1.54	1.000	1
1,2,3,6,7,8-HxCDF	16.4JK		3.46	25.0	1.60	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	3.39	25.0			1
2,3,4,6,7,8-HxCDF	21.8J		3.02	25.0	1.29	1.000	1
1,2,3,4,6,7,8-HpCDF	2380		17.2	25.0	1.00	1.000	1
1,2,3,4,7,8,9-HpCDF	52.0		19.7	25.0	0.92	1.000	1
OCDF	1860		10.5	50.0	0.85	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-11
Lab Code: E2201020-012

Service Request: E2201020
Date Collected: 10/19/22 09:10
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633180
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 09:31
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P633172

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	6.47	6.47			1
Total Penta-Dioxins	24.5J		3.76	25.0	1.57		1
Total Hexa-Dioxins	1520		2.10	25.0	1.24		1
Total Hepta-Dioxins	30900		14.2	25.0	1.01		1
Total Tetra-Furans	ND	U	2.63	5.00			1
Total Penta-Furans	105		0.626	25.0	1.69		1
Total Hexa-Furans	1760		13.7	25.0	1.40		1
Total Hepta-Furans	6210		18.4	25.0	1.00		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/19/22 09:10
Date Received: 10/21/22 11:05

Sample Name: AS-11
Lab Code: E2201020-012

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633180
ICAL Date: 03/15/22

Date Analyzed: 11/19/22 09:31
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P633172

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	656.570	33		25-164	0.75	1.020
13C-1,2,3,7,8-PeCDD	2000	571.486	29		25-181	1.59	1.175
13C-1,2,3,4,7,8-HxCDD	2000	488.840	24	Y	32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	566.767	28		28-130	1.33	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	527.437	26		23-140	1.06	1.066
13C-OCDD	4000	683.935	17		17-157	0.86	1.143
13C-2,3,7,8-TCDF	2000	619.788	31		24-169	0.79	0.994
13C-1,2,3,7,8-PeCDF	2000	610.748	31		24-185	1.56	1.134
13C-2,3,4,7,8-PeCDF	2000	543.091	27		21-178	1.57	1.165
13C-1,2,3,4,7,8-HxCDF	2000	529.502	26		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	486.893	24	Y	26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	561.671	28	Y	29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	579.871	29		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	392.834	20	Y	28-143	0.41	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	439.575	22	Y	26-138	0.43	1.080
37Cl-2,3,7,8-TCDD	800	185.855	23	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-11
Lab Code: E2201020-012

Service Request: E2201020
Date Collected: 10/19/22 09:10
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	6.47	6.47	1	1	
1,2,3,7,8-PeCDD	5.02	3.76	25.0	1	1	5.02
1,2,3,4,7,8-HxCDD	8.83	2.28	25.0	1	0.1	0.883
1,2,3,6,7,8-HxCDD	245	1.99	25.0	1	0.1	24.5
1,2,3,7,8,9-HxCDD	55.1	2.04	25.0	1	0.1	5.51
1,2,3,4,6,7,8-HpCDD	14400	14.2	25.0	1	0.01	144
OCDD	179000	5.57	50.0	1	0.0003	53.7
2,3,7,8-TCDF	7.88	2.63	5.00	1	0.1	0.788
1,2,3,7,8-PeCDF	5.89	2.37	25.0	1	0.03	0.177
2,3,4,7,8-PeCDF	24.4	2.56	25.0	1	0.3	7.32
1,2,3,4,7,8-HxCDF	52.6	3.22	25.0	1	0.1	5.26
1,2,3,6,7,8-HxCDF	16.4	3.46	25.0	1	0.1	1.64
1,2,3,7,8,9-HxCDF	ND	3.39	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	21.8	3.02	25.0	1	0.1	2.18
1,2,3,4,6,7,8-HpCDF	2380	17.2	25.0	1	0.01	23.8
1,2,3,4,7,8,9-HpCDF	52.0	19.7	25.0	1	0.01	0.520
OCDF	1860	10.5	50.0	1	0.0003	0.558
Total TEQ						276

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 14:40
Date Received: 10/21/22 11:05

Sample Name: AS-12
Lab Code: E2201020-013

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/28/22 14:00
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P633312

Data File Name: P633315
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.906	5.00			1
1,2,3,7,8-PeCDD	2.73J		0.398	25.0	1.45	1.000	1
1,2,3,4,7,8-HxCDD	3.79JK		0.443	25.0	1.71	1.000	1
1,2,3,6,7,8-HxCDD	8.96J		0.396	25.0	1.15	1.000	1
1,2,3,7,8,9-HxCDD	4.90JK		0.401	25.0	1.51	1.007	1
1,2,3,4,6,7,8-HpCDD	269		1.70	25.0	1.00	1.000	1
OCDD	3990		1.50	50.0	0.87	1.000	1
2,3,7,8-TCDF	1.22JK		0.394	5.00	1.52	1.000	1
1,2,3,7,8-PeCDF	1.57JK		0.435	25.0	1.15	1.000	1
2,3,4,7,8-PeCDF	2.65J		0.466	25.0	1.47	1.001	1
1,2,3,4,7,8-HxCDF	3.03JK		1.01	25.0	1.48	1.000	1
1,2,3,6,7,8-HxCDF	2.21J		1.17	25.0	1.33	1.000	1
1,2,3,7,8,9-HxCDF	1.77J		1.59	25.0	1.32	1.001	1
2,3,4,6,7,8-HxCDF	2.48JK		1.02	25.0	1.54	1.001	1
1,2,3,4,6,7,8-HpCDF	42.3B		1.83	25.0	1.04	1.000	1
1,2,3,4,7,8,9-HpCDF	6.73BJK		3.34	25.0	1.36	1.001	1
OCDF	127B		2.46	50.0	0.91	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-12
Lab Code: E2201020-013

Service Request: E2201020
Date Collected: 10/10/22 14:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P633315
ICAL Date: 03/15/22

Date Analyzed: 11/28/22 14:00
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P633312

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.906	5.00			1
Total Penta-Dioxins	8.57J		0.398	25.0	1.74		1
Total Hexa-Dioxins	51.0		0.412	25.0	1.13		1
Total Hepta-Dioxins	777		1.70	25.0	1.02		1
Total Tetra-Furans	3.94J		0.394	5.00	0.70		1
Total Penta-Furans	11.4J		0.626	25.0	1.52		1
Total Hexa-Furans	58.8		1.16	25.0	1.39		1
Total Hepta-Furans	169		2.44	25.0	1.04		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 14:40
Date Received: 10/21/22 11:05

Sample Name: AS-12
Lab Code: E2201020-013

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633315
ICAL Date: 03/15/22

Date Analyzed: 11/28/22 14:00
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P633312

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	990.173	50		25-164	0.80	1.020
13C-1,2,3,7,8-PeCDD	2000	891.196	45		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	776.733	39		32-141	1.34	0.991
13C-1,2,3,6,7,8-HxCDD	2000	938.338	47		28-130	1.19	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	803.454	40		23-140	1.04	1.066
13C-OCDD	4000	1273.875	32		17-157	0.89	1.142
13C-2,3,7,8-TCDF	2000	842.712	42		24-169	0.77	0.994
13C-1,2,3,7,8-PeCDF	2000	894.227	45		24-185	1.54	1.135
13C-2,3,4,7,8-PeCDF	2000	798.016	40		21-178	1.54	1.167
13C-1,2,3,4,7,8-HxCDF	2000	772.624	39		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	704.163	35		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	610.098	31		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	843.470	42		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	615.606	31		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	508.580	25	Y	26-138	0.43	1.080
37Cl-2,3,7,8-TCDD	800	362.491	45		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-12
Lab Code: E2201020-013

Service Request: E2201020
Date Collected: 10/10/22 14:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.906	5.00	1	1	
1,2,3,7,8-PeCDD	2.73	0.398	25.0	1	1	2.73
1,2,3,4,7,8-HxCDD	3.79	0.443	25.0	1	0.1	0.379
1,2,3,6,7,8-HxCDD	8.96	0.396	25.0	1	0.1	0.896
1,2,3,7,8,9-HxCDD	4.90	0.401	25.0	1	0.1	0.490
1,2,3,4,6,7,8-HpCDD	269	1.70	25.0	1	0.01	2.69
OCDD	3990	1.50	50.0	1	0.0003	1.20
2,3,7,8-TCDF	1.22	0.394	5.00	1	0.1	0.122
1,2,3,7,8-PeCDF	1.57	0.435	25.0	1	0.03	0.0471
2,3,4,7,8-PeCDF	2.65	0.466	25.0	1	0.3	0.795
1,2,3,4,7,8-HxCDF	3.03	1.01	25.0	1	0.1	0.303
1,2,3,6,7,8-HxCDF	2.21	1.17	25.0	1	0.1	0.221
1,2,3,7,8,9-HxCDF	1.77	1.59	25.0	1	0.1	0.177
2,3,4,6,7,8-HxCDF	2.48	1.02	25.0	1	0.1	0.248
1,2,3,4,6,7,8-HpCDF	42.3	1.83	25.0	1	0.01	0.423
1,2,3,4,7,8,9-HpCDF	6.73	3.34	25.0	1	0.01	0.0673
OCDF	127	2.46	50.0	1	0.0003	0.0381
Total TEQ						10.8

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 14:55
Date Received: 10/21/22 11:05

Sample Name: AS-13
Lab Code: E2201020-014

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540136
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 19:48
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	5.22	5.22			1
1,2,3,7,8-PeCDD	ND	U	3.53	25.0			1
1,2,3,4,7,8-HxCDD	2.04JK		1.99	25.0	0.74	1.000	1
1,2,3,6,7,8-HxCDD	ND	U	1.77	25.0			1
1,2,3,7,8,9-HxCDD	3.60J		1.87	25.0	1.18	1.007	1
1,2,3,4,6,7,8-HpCDD	40.8		3.86	25.0	1.06	1.000	1
OCDD	524		8.79	50.0	0.95	1.000	1
2,3,7,8-TCDF	ND	U	4.92	5.00			1
1,2,3,7,8-PeCDF	ND	U	2.53	25.0			1
2,3,4,7,8-PeCDF	ND	U	2.67	25.0			1
1,2,3,4,7,8-HxCDF	1.87JK		1.63	25.0	2.05	1.000	1
1,2,3,6,7,8-HxCDF	2.63J		1.86	25.0	1.13	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	2.49	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	1.75	25.0			1
1,2,3,4,6,7,8-HpCDF	23.0BJ		3.72	25.0	1.08	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	4.63	25.0			1
OCDF	62.1B		9.36	50.0	0.91	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 14:55
Date Received: 10/21/22 11:05

Sample Name: AS-13
Lab Code: E2201020-014

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540136
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 19:48
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	5.22	5.22			1
Total Penta-Dioxins	ND	U	3.53	25.0			1
Total Hexa-Dioxins	14.3J		1.87	25.0	1.07		1
Total Hepta-Dioxins	110		3.86	25.0	1.01		1
Total Tetra-Furans	ND	U	4.92	5.00			1
Total Penta-Furans	ND	U	2.59	25.0			1
Total Hexa-Furans	2.63J		1.89	25.0	1.13		1
Total Hepta-Furans	23.0J		4.14	25.0	1.08		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 14:55
Date Received: 10/21/22 11:05

Sample Name: AS-13
Lab Code: E2201020-014

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540136
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 19:48
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	592.200	30		25-164	0.79	1.024
13C-1,2,3,7,8-PeCDD	2000	547.282	27		25-181	1.61	1.208
13C-1,2,3,4,7,8-HxCDD	2000	499.556	25	Y	32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	606.030	30		28-130	1.24	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	583.943	29		23-140	1.06	1.068
13C-OCDD	4000	921.496	23		17-157	0.87	1.139
13C-2,3,7,8-TCDF	2000	476.028	24		24-169	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	539.822	27		24-185	1.60	1.161
13C-2,3,4,7,8-PeCDF	2000	498.781	25		21-178	1.62	1.197
13C-1,2,3,4,7,8-HxCDF	2000	629.420	31		26-152	0.49	0.970
13C-1,2,3,6,7,8-HxCDF	2000	562.686	28		26-123	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	529.382	26	Y	29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	629.830	31		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	483.086	24	Y	28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	501.853	25	Y	26-138	0.41	1.080
37Cl-2,3,7,8-TCDD	800	225.642	28	Y	35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-13
Lab Code: E2201020-014

Service Request: E2201020
Date Collected: 10/10/22 14:55
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	5.22	5.22	1	1	
1,2,3,7,8-PeCDD	ND	3.53	25.0	1	1	
1,2,3,4,7,8-HxCDD	2.04	1.99	25.0	1	0.1	0.204
1,2,3,6,7,8-HxCDD	ND	1.77	25.0	1	0.1	
1,2,3,7,8,9-HxCDD	3.60	1.87	25.0	1	0.1	0.360
1,2,3,4,6,7,8-HpCDD	40.8	3.86	25.0	1	0.01	0.408
OCDD	524	8.79	50.0	1	0.0003	0.157
2,3,7,8-TCDF	ND	4.92	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	2.53	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	2.67	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	1.87	1.63	25.0	1	0.1	0.187
1,2,3,6,7,8-HxCDF	2.63	1.86	25.0	1	0.1	0.263
1,2,3,7,8,9-HxCDF	ND	2.49	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.75	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDF	23.0	3.72	25.0	1	0.01	0.230
1,2,3,4,7,8,9-HpCDF	ND	4.63	25.0	1	0.01	
OCDF	62.1	9.36	50.0	1	0.0003	0.0186
Total TEQ						1.83

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-14
Lab Code: E2201020-015

Service Request: E2201020
Date Collected: 10/10/22 15:15
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540137
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 20:36
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.87	5.00			1
1,2,3,7,8-PeCDD	ND	U	1.72	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	1.89	25.0			1
1,2,3,6,7,8-HxCDD	2.98JK		1.66	25.0	1.50	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	1.77	25.0			1
1,2,3,4,6,7,8-HpCDD	52.0		2.00	25.0	1.04	1.000	1
OCDD	529		5.96	50.0	0.89	1.000	1
2,3,7,8-TCDF	ND	U	2.96	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.84	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.97	25.0			1
1,2,3,4,7,8-HxCDF	1.68JK		1.22	25.0	0.75	1.000	1
1,2,3,6,7,8-HxCDF	ND	U	1.42	25.0			1
1,2,3,7,8,9-HxCDF	2.07J		1.79	25.0	1.14	1.000	1
2,3,4,6,7,8-HxCDF	ND	U	1.21	25.0			1
1,2,3,4,6,7,8-HpCDF	10.8BJK		4.13	25.0	0.74	1.001	1
1,2,3,4,7,8,9-HpCDF	ND	U	5.11	25.0			1
OCDF	52.3B		5.06	50.0	0.81	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-14
Lab Code: E2201020-015

Service Request: E2201020
Date Collected: 10/10/22 15:15
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540137
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 20:36
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	3.87	5.00			1
Total Penta-Dioxins	ND	U	1.72	25.0			1
Total Hexa-Dioxins	5.97J		1.76	25.0	1.38		1
Total Hepta-Dioxins	123		2.00	25.0	1.09		1
Total Tetra-Furans	ND	U	2.96	5.00			1
Total Penta-Furans	ND	U	1.90	25.0			1
Total Hexa-Furans	2.07J		1.38	25.0	1.14		1
Total Hepta-Furans	14.6J		4.59	25.0	1.05		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:15
Date Received: 10/21/22 11:05

Sample Name: AS-14
Lab Code: E2201020-015

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 20:36
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540137
ICAL Date: 01/18/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	761.964	38		25-164	0.79	1.025
13C-1,2,3,7,8-PeCDD	2000	669.269	33		25-181	1.61	1.208
13C-1,2,3,4,7,8-HxCDD	2000	589.198	29	Y	32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	700.450	35		28-130	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	661.501	33		23-140	1.05	1.068
13C-OCDD	4000	1086.704	27		17-157	0.88	1.139
13C-2,3,7,8-TCDF	2000	671.309	34		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	683.305	34		24-185	1.57	1.162
13C-2,3,4,7,8-PeCDF	2000	618.211	31		21-178	1.62	1.198
13C-1,2,3,4,7,8-HxCDF	2000	728.793	36		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	613.458	31		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	624.156	31		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	769.999	38		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	551.080	28		28-143	0.40	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	572.442	29		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	245.104	31	Y	35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-14
Lab Code: E2201020-015

Service Request: E2201020
Date Collected: 10/10/22 15:15
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	3.87	5.00	1	1	
1,2,3,7,8-PeCDD	ND	1.72	25.0	1	1	
1,2,3,4,7,8-HxCDD	ND	1.89	25.0	1	0.1	
1,2,3,6,7,8-HxCDD	2.98	1.66	25.0	1	0.1	0.298
1,2,3,7,8,9-HxCDD	ND	1.77	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDD	52.0	2.00	25.0	1	0.01	0.520
OCDD	529	5.96	50.0	1	0.0003	0.159
2,3,7,8-TCDF	ND	2.96	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	1.84	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.97	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	1.68	1.22	25.0	1	0.1	0.168
1,2,3,6,7,8-HxCDF	ND	1.42	25.0	1	0.1	
1,2,3,7,8,9-HxCDF	2.07	1.79	25.0	1	0.1	0.207
2,3,4,6,7,8-HxCDF	ND	1.21	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDF	10.8	4.13	25.0	1	0.01	0.108
1,2,3,4,7,8,9-HpCDF	ND	5.11	25.0	1	0.01	
OCDF	52.3	5.06	50.0	1	0.0003	0.0157
Total TEQ						1.48

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:25
Date Received: 10/21/22 11:05

Sample Name: AS-15
Lab Code: E2201020-016

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540138
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 21:25
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.19	5.00			1
1,2,3,7,8-PeCDD	ND	U	1.43	25.0			1
1,2,3,4,7,8-HxCDD	1.13JK		0.553	25.0	0.47	1.000	1
1,2,3,6,7,8-HxCDD	0.937JK		0.483	25.0	1.00	1.000	1
1,2,3,7,8,9-HxCDD	0.886JK		0.516	25.0	2.06	1.007	1
1,2,3,4,6,7,8-HpCDD	16.5JK		0.924	25.0	1.37	1.000	1
OCDD	202		5.58	50.0	0.88	1.000	1
2,3,7,8-TCDF	ND	U	1.58	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.29	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.32	25.0			1
1,2,3,4,7,8-HxCDF	1.48J		0.484	25.0	1.30	1.001	1
1,2,3,6,7,8-HxCDF	0.659JK		0.611	25.0	2.60	1.000	1
1,2,3,7,8,9-HxCDF	2.42J		0.829	25.0	1.25	1.001	1
2,3,4,6,7,8-HxCDF	0.720JK		0.546	25.0	0.90	1.000	1
1,2,3,4,6,7,8-HpCDF	8.83BJ		1.54	25.0	1.15	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	1.84	25.0			1
OCDF	25.6BJ		2.63	50.0	0.81	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-15
Lab Code: E2201020-016

Service Request: E2201020
Date Collected: 10/10/22 15:25
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540138
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 21:25
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	2.19	5.00			1
Total Penta-Dioxins	ND	U	1.43	25.0			1
Total Hexa-Dioxins	2.28J		0.515	25.0	1.30		1
Total Hepta-Dioxins	30.6		0.924	25.0	0.91		1
Total Tetra-Furans	ND	U	1.58	5.00			1
Total Penta-Furans	ND	U	1.30	25.0			1
Total Hexa-Furans	5.58J		0.600	25.0	1.07		1
Total Hepta-Furans	8.83J		1.69	25.0	1.15		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:25
Date Received: 10/21/22 11:05

Sample Name: AS-15
Lab Code: E2201020-016

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540138
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 21:25
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1191.624	60		25-164	0.81	1.024
13C-1,2,3,7,8-PeCDD	2000	1047.793	52		25-181	1.60	1.208
13C-1,2,3,4,7,8-HxCDD	2000	980.351	49		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1148.819	57		28-130	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1167.574	58		23-140	1.08	1.068
13C-OCDD	4000	1910.068	48		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	982.153	49		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	1018.263	51		24-185	1.60	1.162
13C-2,3,4,7,8-PeCDF	2000	959.184	48		21-178	1.62	1.197
13C-1,2,3,4,7,8-HxCDF	2000	1294.476	65		26-152	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1052.684	53		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	994.834	50		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1204.855	60		28-136	0.49	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	927.705	46		28-143	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1035.405	52		26-138	0.44	1.080
37Cl-2,3,7,8-TCDD	800	449.828	56		35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-15
Lab Code: E2201020-016

Service Request: E2201020
Date Collected: 10/10/22 15:25
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.19	5.00	1	1	
1,2,3,7,8-PeCDD	ND	1.43	25.0	1	1	
1,2,3,4,7,8-HxCDD	1.13	0.553	25.0	1	0.1	0.113
1,2,3,6,7,8-HxCDD	0.937	0.483	25.0	1	0.1	0.0937
1,2,3,7,8,9-HxCDD	0.886	0.516	25.0	1	0.1	0.0886
1,2,3,4,6,7,8-HpCDD	16.5	0.924	25.0	1	0.01	0.165
OCDD	202	5.58	50.0	1	0.0003	0.0606
2,3,7,8-TCDF	ND	1.58	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	1.29	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.32	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	1.48	0.484	25.0	1	0.1	0.148
1,2,3,6,7,8-HxCDF	0.659	0.611	25.0	1	0.1	0.0659
1,2,3,7,8,9-HxCDF	2.42	0.829	25.0	1	0.1	0.242
2,3,4,6,7,8-HxCDF	0.720	0.546	25.0	1	0.1	0.0720
1,2,3,4,6,7,8-HpCDF	8.83	1.54	25.0	1	0.01	0.0883
1,2,3,4,7,8,9-HpCDF	ND	1.84	25.0	1	0.01	
OCDF	25.6	2.63	50.0	1	0.0003	0.00768
Total TEQ						1.14

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-16
Lab Code: E2201020-017

Service Request: E2201020
Date Collected: 10/10/22 15:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540139
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 22:13
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.57	5.00			1
1,2,3,7,8-PeCDD	ND	U	1.67	25.0			1
1,2,3,4,7,8-HxCDD	2.38JK		0.225	25.0	1.02	1.000	1
1,2,3,6,7,8-HxCDD	1.71J		0.197	25.0	1.05	1.001	1
1,2,3,7,8,9-HxCDD	0.539JK		0.210	25.0	4.44	1.006	1
1,2,3,4,6,7,8-HpCDD	45.4		1.86	25.0	1.01	1.000	1
OCDD	712		9.09	50.0	0.88	1.000	1
2,3,7,8-TCDF	ND	U	1.25	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.82	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.88	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	1.34	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	1.56	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	2.14	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	1.42	25.0			1
1,2,3,4,6,7,8-HpCDF	33.0BK		4.28	25.0	0.84	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	5.31	25.0			1
OCDF	68.7B		4.12	50.0	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:40
Date Received: 10/21/22 11:05

Sample Name: AS-16
Lab Code: E2201020-017

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 22:13
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540139
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	2.57	5.00			1
Total Penta-Dioxins	ND	U	1.67	25.0			1
Total Hexa-Dioxins	5.08J		0.210	25.0	1.23		1
Total Hepta-Dioxins	138		1.86	25.0	1.15		1
Total Tetra-Furans	ND	U	1.25	5.00			1
Total Penta-Furans	ND	U	1.85	25.0			1
Total Hexa-Furans	6.82J		1.57	25.0	1.15		1
Total Hepta-Furans	ND	U	4.77	25.0			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:40
Date Received: 10/21/22 11:05

Sample Name: AS-16
Lab Code: E2201020-017

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 22:13
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540139
ICAL Date: 01/18/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	894.886	45		25-164	0.81	1.024
13C-1,2,3,7,8-PeCDD	2000	807.526	40		25-181	1.59	1.208
13C-1,2,3,4,7,8-HxCDD	2000	711.142	36		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	812.484	41		28-130	1.30	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	783.086	39		23-140	1.06	1.068
13C-OCDD	4000	1210.783	30		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	765.912	38		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	784.283	39		24-185	1.62	1.161
13C-2,3,4,7,8-PeCDF	2000	743.022	37		21-178	1.63	1.197
13C-1,2,3,4,7,8-HxCDF	2000	852.239	43		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	734.705	37		26-123	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	693.217	35		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	862.154	43		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	642.461	32		28-143	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	675.550	34		26-138	0.44	1.080
37Cl-2,3,7,8-TCDD	800	310.008	39		35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-16
Lab Code: E2201020-017

Service Request: E2201020
Date Collected: 10/10/22 15:40
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.57	5.00	1	1	
1,2,3,7,8-PeCDD	ND	1.67	25.0	1	1	
1,2,3,4,7,8-HxCDD	2.38	0.225	25.0	1	0.1	0.238
1,2,3,6,7,8-HxCDD	1.71	0.197	25.0	1	0.1	0.171
1,2,3,7,8,9-HxCDD	0.539	0.210	25.0	1	0.1	0.0539
1,2,3,4,6,7,8-HpCDD	45.4	1.86	25.0	1	0.01	0.454
OCDD	712	9.09	50.0	1	0.0003	0.214
2,3,7,8-TCDF	ND	1.25	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	1.82	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.88	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	ND	1.34	25.0	1	0.1	
1,2,3,6,7,8-HxCDF	ND	1.56	25.0	1	0.1	
1,2,3,7,8,9-HxCDF	ND	2.14	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.42	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDF	33.0	4.28	25.0	1	0.01	0.330
1,2,3,4,7,8,9-HpCDF	ND	5.31	25.0	1	0.01	
OCDF	68.7	4.12	50.0	1	0.0003	0.0206
Total TEQ						1.48

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:55
Date Received: 10/21/22 11:05

Sample Name: AS-17
Lab Code: E2201020-018

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540140
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 23:01
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.59	5.00			1
1,2,3,7,8-PeCDD	7.20J		0.945	25.0	1.32	1.001	1
1,2,3,4,7,8-HxCDD	12.9J		1.44	25.0	1.05	1.000	1
1,2,3,6,7,8-HxCDD	34.9		1.35	25.0	1.25	1.000	1
1,2,3,7,8,9-HxCDD	24.1J		1.39	25.0	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	1070		7.26	25.0	1.11	1.000	1
OCDD	13400		25.0	50.0	0.89	1.000	1
2,3,7,8-TCDF	9.64K		0.979	5.00	0.59	1.001	1
1,2,3,7,8-PeCDF	10.2J		1.76	25.0	1.42	1.001	1
2,3,4,7,8-PeCDF	23.5J		1.85	25.0	1.32	1.000	1
1,2,3,4,7,8-HxCDF	25.0		4.79	25.0	1.22	1.000	1
1,2,3,6,7,8-HxCDF	17.3J		5.67	25.0	1.14	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	6.15	25.0			1
2,3,4,6,7,8-HxCDF	17.4JK		4.72	25.0	1.50	1.000	1
1,2,3,4,6,7,8-HpCDF	281		4.16	25.0	0.99	1.000	1
1,2,3,4,7,8,9-HpCDF	18.6BJK		4.86	25.0	1.36	1.000	1
OCDF	717		6.99	50.0	0.83	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-17
Lab Code: E2201020-018

Service Request: E2201020
Date Collected: 10/10/22 15:55
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540140
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 23:01
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	4.99J		1.59	5.00	0.81		1
Total Penta-Dioxins	72.4		0.945	25.0	1.60		1
Total Hexa-Dioxins	375		1.39	25.0	1.11		1
Total Hepta-Dioxins	3100		7.26	25.0	1.02		1
Total Tetra-Furans	26.3		0.979	5.00	0.67		1
Total Penta-Furans	141		0.626	25.0	1.37		1
Total Hexa-Furans	226		5.28	25.0	1.19		1
Total Hepta-Furans	703		4.49	25.0	0.99		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 15:55
Date Received: 10/21/22 11:05

Sample Name: AS-17
Lab Code: E2201020-018

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540140
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 23:01
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1222.757	61		25-164	0.80	1.024
13C-1,2,3,7,8-PeCDD	2000	1003.512	50		25-181	1.60	1.208
13C-1,2,3,4,7,8-HxCDD	2000	794.202	40		32-141	1.26	0.990
13C-1,2,3,6,7,8-HxCDD	2000	893.331	45		28-130	1.24	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	770.881	39		23-140	1.08	1.067
13C-OCDD	4000	1162.744	29		17-157	0.92	1.140
13C-2,3,7,8-TCDF	2000	1091.395	55		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	997.180	50		24-185	1.59	1.161
13C-2,3,4,7,8-PeCDF	2000	942.210	47		21-178	1.62	1.197
13C-1,2,3,4,7,8-HxCDF	2000	944.385	47		26-152	0.51	0.969
13C-1,2,3,6,7,8-HxCDF	2000	793.539	40		26-123	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	864.685	43		29-147	0.48	1.008
13C-2,3,4,6,7,8-HxCDF	2000	992.404	50		28-136	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	631.331	32		28-143	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	677.967	34		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	529.161	66		35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-17
Lab Code: E2201020-018

Service Request: E2201020
Date Collected: 10/10/22 15:55
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.59	5.00	1	1	
1,2,3,7,8-PeCDD	7.20	0.945	25.0	1	1	7.20
1,2,3,4,7,8-HxCDD	12.9	1.44	25.0	1	0.1	1.29
1,2,3,6,7,8-HxCDD	34.9	1.35	25.0	1	0.1	3.49
1,2,3,7,8,9-HxCDD	24.1	1.39	25.0	1	0.1	2.41
1,2,3,4,6,7,8-HpCDD	1070	7.26	25.0	1	0.01	10.7
OCDD	13400	25.0	50.0	1	0.0003	4.02
2,3,7,8-TCDF	9.64	0.979	5.00	1	0.1	0.964
1,2,3,7,8-PeCDF	10.2	1.76	25.0	1	0.03	0.306
2,3,4,7,8-PeCDF	23.5	1.85	25.0	1	0.3	7.05
1,2,3,4,7,8-HxCDF	25.0	4.79	25.0	1	0.1	2.50
1,2,3,6,7,8-HxCDF	17.3	5.67	25.0	1	0.1	1.73
1,2,3,7,8,9-HxCDF	ND	6.15	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	17.4	4.72	25.0	1	0.1	1.74
1,2,3,4,6,7,8-HpCDF	281	4.16	25.0	1	0.01	2.81
1,2,3,4,7,8,9-HpCDF	18.6	4.86	25.0	1	0.01	0.186
OCDF	717	6.99	50.0	1	0.0003	0.215
Total TEQ						46.6

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-18
Lab Code: E2201020-019

Service Request: E2201020
Date Collected: 10/10/22 16:05
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540141
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 23:50
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.56	5.00			1
1,2,3,7,8-PeCDD	2.26	JK	1.34	25.0	2.67	1.001	1
1,2,3,4,7,8-HxCDD	8.44	J	0.738	25.0	1.30	1.000	1
1,2,3,6,7,8-HxCDD	38.2		0.662	25.0	1.18	1.000	1
1,2,3,7,8,9-HxCDD	10.3	J	0.699	25.0	1.21	1.007	1
1,2,3,4,6,7,8-HpCDD	1290		2.43	25.0	1.03	1.000	1
OCDD	16000		61.9	61.9	0.88	1.000	1
2,3,7,8-TCDF	ND	U	1.55	5.00			1
1,2,3,7,8-PeCDF	ND	U	3.07	25.0			1
2,3,4,7,8-PeCDF	6.83	JK	3.07	25.0	1.17	1.001	1
1,2,3,4,7,8-HxCDF	9.48	J	1.87	25.0	1.26	1.000	1
1,2,3,6,7,8-HxCDF	7.23	JK	2.27	25.0	0.84	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	2.82	25.0			1
2,3,4,6,7,8-HxCDF	7.31	JK	1.98	25.0	0.99	1.000	1
1,2,3,4,6,7,8-HpCDF	275		6.78	25.0	0.97	1.000	1
1,2,3,4,7,8,9-HpCDF	10.7	BJK	7.70	25.0	1.64	1.001	1
OCDF	875		8.34	50.0	0.86	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 16:05
Date Received: 10/21/22 11:05

Sample Name: AS-18
Lab Code: E2201020-019

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 23:50
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540141
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	1.56	5.00			1
Total Penta-Dioxins	ND	U	1.34	25.0			1
Total Hexa-Dioxins	206		0.699	25.0	1.32		1
Total Hepta-Dioxins	2460		2.43	25.0	0.95		1
Total Tetra-Furans	3.35J		1.55	5.00	0.70		1
Total Penta-Furans	24.8J		0.626	25.0	1.50		1
Total Hexa-Furans	263		2.19	25.0	1.07		1
Total Hepta-Furans	1000		7.22	25.0	0.97		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 16:05
Date Received: 10/21/22 11:05

Sample Name: AS-18
Lab Code: E2201020-019

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 23:50
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540141
ICAL Date: 01/18/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	998.266	50		25-164	0.79	1.025
13C-1,2,3,7,8-PeCDD	2000	876.056	44		25-181	1.58	1.208
13C-1,2,3,4,7,8-HxCDD	2000	801.971	40		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	866.065	43		28-130	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	844.312	42		23-140	1.08	1.068
13C-OCDD	4000	1307.020	33		17-157	0.88	1.140
13C-2,3,7,8-TCDF	2000	859.473	43		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	835.260	42		24-185	1.59	1.162
13C-2,3,4,7,8-PeCDF	2000	798.483	40		21-178	1.59	1.197
13C-1,2,3,4,7,8-HxCDF	2000	930.549	47		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	764.938	38		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	787.609	39		29-147	0.48	1.008
13C-2,3,4,6,7,8-HxCDF	2000	943.486	47		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	680.347	34		28-143	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	735.500	37		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	374.616	47		35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-18
Lab Code: E2201020-019

Service Request: E2201020
Date Collected: 10/10/22 16:05
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.56	5.00	1	1	
1,2,3,7,8-PeCDD	2.26	1.34	25.0	1	1	2.26
1,2,3,4,7,8-HxCDD	8.44	0.738	25.0	1	0.1	0.844
1,2,3,6,7,8-HxCDD	38.2	0.662	25.0	1	0.1	3.82
1,2,3,7,8,9-HxCDD	10.3	0.699	25.0	1	0.1	1.03
1,2,3,4,6,7,8-HpCDD	1290	2.43	25.0	1	0.01	12.9
OCDD	16000	61.9	61.9	1	0.0003	4.80
2,3,7,8-TCDF	ND	1.55	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	3.07	25.0	1	0.03	
2,3,4,7,8-PeCDF	6.83	3.07	25.0	1	0.3	2.05
1,2,3,4,7,8-HxCDF	9.48	1.87	25.0	1	0.1	0.948
1,2,3,6,7,8-HxCDF	7.23	2.27	25.0	1	0.1	0.723
1,2,3,7,8,9-HxCDF	ND	2.82	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	7.31	1.98	25.0	1	0.1	0.731
1,2,3,4,6,7,8-HpCDF	275	6.78	25.0	1	0.01	2.75
1,2,3,4,7,8,9-HpCDF	10.7	7.70	25.0	1	0.01	0.107
OCDF	875	8.34	50.0	1	0.0003	0.263
Total TEQ						33.2

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-19
Lab Code: E2201020-020

Service Request: E2201020
Date Collected: 10/10/22 16:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540142
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 00:38
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.56	5.00			1
1,2,3,7,8-PeCDD	ND	U	2.12	25.0			1
1,2,3,4,7,8-HxCDD	3.56J		0.125	25.0	1.17	1.000	1
1,2,3,6,7,8-HxCDD	0.510JK		0.112	25.0	2.55	1.000	1
1,2,3,7,8,9-HxCDD	0.918JK		0.118	25.0	2.78	1.007	1
1,2,3,4,6,7,8-HpCDD	24.5JK		0.919	25.0	0.86	1.000	1
OCDD	308		6.75	50.0	0.83	1.000	1
2,3,7,8-TCDF	ND	U	1.54	5.00			1
1,2,3,7,8-PeCDF	ND	U	2.02	25.0			1
2,3,4,7,8-PeCDF	ND	U	2.06	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	1.01	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	1.21	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.50	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.999	25.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	12.8	25.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	15.5	25.0			1
OCDF	38.3BJ		3.34	50.0	0.83	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-19
Lab Code: E2201020-020

Service Request: E2201020
Date Collected: 10/10/22 16:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540142
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 00:38
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	2.56	5.00			1
Total Penta-Dioxins	ND	U	2.12	25.0			1
Total Hexa-Dioxins	4.48J		0.118	25.0	1.17		1
Total Hepta-Dioxins	32.5		0.919	25.0	0.99		1
Total Tetra-Furans	ND	U	1.54	5.00			1
Total Penta-Furans	ND	U	2.04	25.0			1
Total Hexa-Furans	1.83J		1.16	25.0	1.37		1
Total Hepta-Furans	ND	U	14.1	25.0			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 16:20
Date Received: 10/21/22 11:05

Sample Name: AS-19
Lab Code: E2201020-020

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540142
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 00:38
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	702.356	35		25-164	0.79	1.025
13C-1,2,3,7,8-PeCDD	2000	654.638	33		25-181	1.66	1.208
13C-1,2,3,4,7,8-HxCDD	2000	568.016	28	Y	32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	649.763	32		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	626.824	31		23-140	1.10	1.068
13C-OCDD	4000	985.462	25		17-157	0.89	1.139
13C-2,3,7,8-TCDF	2000	583.797	29		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	629.666	31		24-185	1.58	1.162
13C-2,3,4,7,8-PeCDF	2000	595.968	30		21-178	1.62	1.197
13C-1,2,3,4,7,8-HxCDF	2000	659.165	33		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	545.936	27		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	552.727	28	Y	29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	687.805	34		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	511.098	26	Y	28-143	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	542.642	27		26-138	0.43	1.080
37Cl-2,3,7,8-TCDD	800	197.087	25	Y	35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: AS-19
Lab Code: E2201020-020

Service Request: E2201020
Date Collected: 10/10/22 16:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.56	5.00	1	1	
1,2,3,7,8-PeCDD	ND	2.12	25.0	1	1	
1,2,3,4,7,8-HxCDD	3.56	0.125	25.0	1	0.1	0.356
1,2,3,6,7,8-HxCDD	0.510	0.112	25.0	1	0.1	0.0510
1,2,3,7,8,9-HxCDD	0.918	0.118	25.0	1	0.1	0.0918
1,2,3,4,6,7,8-HpCDD	24.5	0.919	25.0	1	0.01	0.245
OCDD	308	6.75	50.0	1	0.0003	0.0924
2,3,7,8-TCDF	ND	1.54	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	2.02	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	2.06	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	ND	1.01	25.0	1	0.1	
1,2,3,6,7,8-HxCDF	ND	1.21	25.0	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.50	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.999	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	12.8	25.0	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	15.5	25.0	1	0.01	
OCDF	38.3	3.34	50.0	1	0.0003	0.0115
Total TEQ						0.848

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: FB-01
Lab Code: E2201020-021

Service Request: E2201020
Date Collected: 10/10/22 17:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540143
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 01:26
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	2.51	5.00			1
1,2,3,7,8-PeCDD	ND	U	1.74	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	1.04	25.0			1
1,2,3,6,7,8-HxCDD	1.73JK		0.945	25.0	1.02	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.991	25.0			1
1,2,3,4,6,7,8-HpCDD	6.72JK		0.172	25.0	1.35	1.001	1
OCDD	73.7B		5.33	50.0	0.85	1.000	1
2,3,7,8-TCDF	ND	U	1.79	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.55	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.50	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	0.924	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	1.05	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.30	25.0			1
2,3,4,6,7,8-HxCDF	1.60J		0.912	25.0	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	6.57BJK		1.09	25.0	1.62	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	1.36	25.0			1
OCDF	39.1BJ		3.78	50.0	0.95	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: FB-01
Lab Code: E2201020-021

Service Request: E2201020
Date Collected: 10/10/22 17:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each
Data File Name: P540143
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 01:26
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	2.51	5.00			1
Total Penta-Dioxins	ND	U	1.74	25.0			1
Total Hexa-Dioxins	ND	U	0.989	25.0			1
Total Hepta-Dioxins	ND	U	0.172	25.0			1
Total Tetra-Furans	ND	U	1.79	5.00			1
Total Penta-Furans	ND	U	1.53	25.0			1
Total Hexa-Furans	1.60J		1.03	25.0	1.25		1
Total Hepta-Furans	ND	U	1.21	25.0			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: 10/10/22 17:20
Date Received: 10/21/22 11:05

Sample Name: FB-01
Lab Code: E2201020-021

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 01:26
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540143
ICAL Date: 01/18/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	571.911	29		25-164	0.81	1.024
13C-1,2,3,7,8-PeCDD	2000	591.504	30		25-181	1.59	1.208
13C-1,2,3,4,7,8-HxCDD	2000	582.444	29	Y	32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	642.556	32		28-130	1.34	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	632.639	32		23-140	1.07	1.068
13C-OCDD	4000	1050.800	26		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	474.779	24		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	555.598	28		24-185	1.58	1.161
13C-2,3,4,7,8-PeCDF	2000	545.213	27		21-178	1.58	1.197
13C-1,2,3,4,7,8-HxCDF	2000	634.346	32		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	568.536	28		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	558.707	28	Y	29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	693.582	35		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	533.834	27	Y	28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	528.388	26		26-138	0.43	1.080
37Cl-2,3,7,8-TCDD	800	224.006	28	Y	35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe
Sample Name: FB-01
Lab Code: E2201020-021

Service Request: E2201020
Date Collected: 10/10/22 17:20
Date Received: 10/21/22 11:05
Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	2.51	5.00	1	1	
1,2,3,7,8-PeCDD	ND	1.74	25.0	1	1	
1,2,3,4,7,8-HxCDD	ND	1.04	25.0	1	0.1	
1,2,3,6,7,8-HxCDD	1.73	0.945	25.0	1	0.1	0.173
1,2,3,7,8,9-HxCDD	ND	0.991	25.0	1	0.1	
1,2,3,4,6,7,8-HpCDD	6.72	0.172	25.0	1	0.01	0.0672
OCDD	73.7	5.33	50.0	1	0.0003	0.0221
2,3,7,8-TCDF	ND	1.79	5.00	1	0.1	
1,2,3,7,8-PeCDF	ND	1.55	25.0	1	0.03	
2,3,4,7,8-PeCDF	ND	1.50	25.0	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.924	25.0	1	0.1	
1,2,3,6,7,8-HxCDF	ND	1.05	25.0	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.30	25.0	1	0.1	
2,3,4,6,7,8-HxCDF	1.60	0.912	25.0	1	0.1	0.160
1,2,3,4,6,7,8-HpCDF	6.57	1.09	25.0	1	0.01	0.0657
1,2,3,4,7,8,9-HpCDF	ND	1.36	25.0	1	0.01	
OCDF	39.1	3.78	50.0	1	0.0003	0.0117
Total TEQ						0.500

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200508-01

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/18/22 16:18
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633160
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	5.15	5.15			1
1,2,3,7,8-PeCDD	1.68JK		0.932	25.0	1.87	1.000	1
1,2,3,4,7,8-HxCDD	2.68J		0.795	25.0	1.37	1.001	1
1,2,3,6,7,8-HxCDD	0.783JK		0.724	25.0	3.43	1.001	1
1,2,3,7,8,9-HxCDD	2.37J		0.728	25.0	1.26	1.007	1
1,2,3,4,6,7,8-HpCDD	4.61JK		1.37	25.0	1.48	1.000	1
OCDD	12.0JK		1.72	50.0	0.62	1.000	1
2,3,7,8-TCDF	ND	U	3.59	5.00			1
1,2,3,7,8-PeCDF	2.74J		0.813	25.0	1.62	1.001	1
2,3,4,7,8-PeCDF	1.86J		0.818	25.0	1.49	1.000	1
1,2,3,4,7,8-HxCDF	1.72JK		0.444	25.0	1.80	1.000	1
1,2,3,6,7,8-HxCDF	1.86J		0.491	25.0	1.28	1.000	1
1,2,3,7,8,9-HxCDF	4.74JK		0.618	25.0	0.97	1.000	1
2,3,4,6,7,8-HxCDF	0.598JK		0.411	25.0	0.54	1.001	1
1,2,3,4,6,7,8-HpCDF	4.22JK		1.20	25.0	1.40	1.000	1
1,2,3,4,7,8,9-HpCDF	3.77JK		1.40	25.0	1.81	1.000	1
OCDF	6.07J		2.70	50.0	0.93	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200508-01

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633160
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 16:18
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	5.15	5.15			1
Total Penta-Dioxins	1.70J		0.932	25.0	1.58		1
Total Hexa-Dioxins	7.37J		0.747	25.0	1.32		1
Total Hepta-Dioxins	ND	U	1.37	25.0			1
Total Tetra-Furans	ND	U	3.59	5.00			1
Total Penta-Furans	4.60J		0.816	25.0	1.62		1
Total Hexa-Furans	1.86J		0.481	25.0	1.28		1
Total Hepta-Furans	ND	U	1.29	25.0			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200508-01

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633160
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 16:18
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	988.745	49		25-164	0.76	1.019
13C-1,2,3,7,8-PeCDD	2000	987.704	49		25-181	1.62	1.174
13C-1,2,3,4,7,8-HxCDD	2000	998.970	50		32-141	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1140.724	57		28-130	1.24	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1032.788	52		23-140	1.05	1.066
13C-OCDD	4000	1782.535	45		17-157	0.91	1.142
13C-2,3,7,8-TCDF	2000	884.653	44		24-169	0.75	0.994
13C-1,2,3,7,8-PeCDF	2000	1000.218	50		24-185	1.59	1.134
13C-2,3,4,7,8-PeCDF	2000	931.669	47		21-178	1.55	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1025.597	51		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	906.093	45		26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	867.323	43		29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1132.722	57		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	850.777	43		28-143	0.41	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	917.964	46		26-138	0.41	1.079
37Cl-2,3,7,8-TCDD	800	3401.202	425	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200509-01

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 19:00
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540135
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.01	5.00			1
1,2,3,7,8-PeCDD	ND	U	1.49	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	1.31	25.0			1
1,2,3,6,7,8-HxCDD	ND	U	1.17	25.0			1
1,2,3,7,8,9-HxCDD	ND	U	1.24	25.0			1
1,2,3,4,6,7,8-HpCDD	ND	U	1.25	25.0			1
OCDD	13.3J		2.88	50.0	0.84	1.000	1
2,3,7,8-TCDF	ND	U	2.69	5.00			1
1,2,3,7,8-PeCDF	ND	U	1.43	25.0			1
2,3,4,7,8-PeCDF	ND	U	1.52	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	0.894	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	0.967	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	1.27	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.845	25.0			1
1,2,3,4,6,7,8-HpCDF	5.76J		1.20	25.0	0.95	1.001	1
1,2,3,4,7,8,9-HpCDF	1.89JK		1.48	25.0	1.34	1.001	1
OCDF	18.2JK		3.84	50.0	0.72	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200509-01

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/18/22 19:00
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540135
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	3.01	5.00			1
Total Penta-Dioxins	ND	U	1.49	25.0			1
Total Hexa-Dioxins	ND	U	1.24	25.0			1
Total Hepta-Dioxins	ND	U	1.25	25.0			1
Total Tetra-Furans	ND	U	2.69	5.00			1
Total Penta-Furans	ND	U	1.47	25.0			1
Total Hexa-Furans	ND	U	0.973	25.0			1
Total Hepta-Furans	5.76J		1.33	25.0	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200509-01

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540135
ICAL Date: 01/18/22

Date Analyzed: 11/18/22 19:00
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1055.034	53		25-164	0.80	1.024
13C-1,2,3,7,8-PeCDD	2000	1015.986	51		25-181	1.61	1.208
13C-1,2,3,4,7,8-HxCDD	2000	991.671	50		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1171.206	59		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1133.749	57		23-140	1.06	1.068
13C-OCDD	4000	1831.672	46		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	892.957	45		24-169	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	982.447	49		24-185	1.57	1.161
13C-2,3,4,7,8-PeCDF	2000	908.512	45		21-178	1.60	1.197
13C-1,2,3,4,7,8-HxCDF	2000	1096.595	55		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	983.147	49		26-123	0.53	0.973
13C-1,2,3,7,8,9-HxCDF	2000	975.028	49		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1214.300	61		28-136	0.50	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	948.434	47		28-143	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	969.530	48		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	378.232	47		35-197	NA	1.025



Accuracy & Precision

ALS Environmental - Houston HRMS
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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Analyzed: 11/18/22 - 11/22/22
Date Extracted: 11/05/22

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Units: pg/100cm2
Basis: As Received
Analysis Lot: 786362

Lab Control Sample
EQ2200508-02

Duplicate Lab Control Sample
EQ2200508-03

Analyte Name	Lab Control Sample			Duplicate Lab Control Sample			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,2,3,4,6,7,8-HpCDD	851	1000	85	810	1000	81	70-140	5	50
1,2,3,4,7,8-HxCDD	1030	1000	103	947	1000	95	70-164	8	50
1,2,3,6,7,8-HxCDD	860	1000	86	863	1000	86	76-134	<1	50
1,2,3,7,8,9-HxCDD	923	1000	92	952	1000	95	64-162	3	50
1,2,3,7,8-PeCDD	1020	1000	102	961	1000	96	70-142	6	50
2,3,7,8-TCDD	177	200	88	156	200	78	67-158	12	50
OCDD	1950	2000	98	1900	2000	95	78-144	3	50
1,2,3,4,6,7,8-HpCDF	1020	1000	102	919	1000	92	82-122	10	50
1,2,3,4,7,8,9-HpCDF	911	1000	91	862	1000	86	78-138	6	50
1,2,3,4,7,8-HxCDF	904	1000	90	836	1000	84	72-134	8	50
1,2,3,6,7,8-HxCDF	1010	1000	101	933	1000	93	84-130	8	50
1,2,3,7,8,9-HxCDF	984	1000	98	880	1000	88	78-130	11	50
1,2,3,7,8-PeCDF	910	1000	91	854	1000	85	80-134	6	50
2,3,4,6,7,8-HxCDF	840	1000	84	775	1000	78	70-156	8	50
2,3,4,7,8-PeCDF	1020	1000	102	943	1000	94	68-160	8	50
2,3,7,8-TCDF	177	200	89	166	200	83	75-158	6	50
OCDF	1940	2000	97	1510	2000	76	63-170	25	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200508-02

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Date Analyzed: 11/18/22 23:46
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Data File Name: P633169
ICAL Date: 03/15/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	177		5.50	5.50	0.84	1.001	1
1,2,3,7,8-PeCDD	1020		1.28	25.0	1.51	1.000	1
1,2,3,4,7,8-HxCDD	1030		0.768	25.0	1.27	1.000	1
1,2,3,6,7,8-HxCDD	860		0.697	25.0	1.27	1.000	1
1,2,3,7,8,9-HxCDD	923		0.702	25.0	1.21	1.007	1
1,2,3,4,6,7,8-HpCDD	851		0.765	25.0	1.03	1.000	1
OCDD	1950		2.08	50.0	0.90	1.000	1
2,3,7,8-TCDF	177		1.85	5.00	0.79	1.001	1
1,2,3,7,8-PeCDF	910		0.790	25.0	1.58	1.000	1
2,3,4,7,8-PeCDF	1020		0.816	25.0	1.49	1.000	1
1,2,3,4,7,8-HxCDF	904		0.786	25.0	1.29	1.000	1
1,2,3,6,7,8-HxCDF	1010		0.864	25.0	1.27	1.000	1
1,2,3,7,8,9-HxCDF	984		1.06	25.0	1.22	1.000	1
2,3,4,6,7,8-HxCDF	840		0.717	25.0	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	1020		3.58	25.0	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	911		4.52	25.0	0.96	1.000	1
OCDF	1940		4.09	50.0	0.86	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200508-02

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633169
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 23:46
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	177		5.50	5.50	0.84		1
Total Penta-Dioxins	1020		1.28	25.0	1.51		1
Total Hexa-Dioxins	2810		0.720	25.0	1.27		1
Total Hepta-Dioxins	851		0.765	25.0	1.03		1
Total Tetra-Furans	177		1.85	5.00	0.79		1
Total Penta-Furans	1940		0.803	25.0	1.34		1
Total Hexa-Furans	3740		0.841	25.0	1.29		1
Total Hepta-Furans	1930		4.01	25.0	1.05		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200508-02

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633169
ICAL Date: 03/15/22

Date Analyzed: 11/18/22 23:46
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633157

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	947.265	47		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	1113.672	56		25-181	1.67	1.174
13C-1,2,3,4,7,8-HxCDD	2000	1157.452	58		32-141	1.30	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1278.307	64		28-130	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1280.649	64		23-140	1.06	1.066
13C-OCDD	4000	2279.085	57		17-157	0.87	1.142
13C-2,3,7,8-TCDF	2000	852.842	43		24-169	0.80	0.994
13C-1,2,3,7,8-PeCDF	2000	1086.072	54		24-185	1.58	1.134
13C-2,3,4,7,8-PeCDF	2000	1054.638	53		21-178	1.52	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1155.946	58		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	992.656	50		26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	982.855	49		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1285.997	64		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1033.845	52		28-143	0.41	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1090.970	55		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	2862.688	358	Y	35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ2200508-03

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633216
ICAL Date: 03/15/22

Date Analyzed: 11/22/22 01:42
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633204

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	156		2.64	5.00	0.79	1.000	1
1,2,3,7,8-PeCDD	961		0.737	25.0	1.58	1.001	1
1,2,3,4,7,8-HxCDD	947		0.370	25.0	1.25	1.000	1
1,2,3,6,7,8-HxCDD	863		0.339	25.0	1.23	1.000	1
1,2,3,7,8,9-HxCDD	952		0.341	25.0	1.23	1.007	1
1,2,3,4,6,7,8-HpCDD	810		0.521	25.0	1.06	1.000	1
OCDD	1900		1.07	50.0	0.86	1.000	1
2,3,7,8-TCDF	166		0.806	5.00	0.76	1.000	1
1,2,3,7,8-PeCDF	854		0.279	25.0	1.50	1.001	1
2,3,4,7,8-PeCDF	943		0.283	25.0	1.53	1.000	1
1,2,3,4,7,8-HxCDF	836		0.284	25.0	1.24	1.000	1
1,2,3,6,7,8-HxCDF	933		0.305	25.0	1.23	1.000	1
1,2,3,7,8,9-HxCDF	880		0.350	25.0	1.23	1.000	1
2,3,4,6,7,8-HxCDF	775		0.266	25.0	1.26	1.000	1
1,2,3,4,6,7,8-HpCDF	919		1.04	25.0	1.07	1.000	1
1,2,3,4,7,8,9-HpCDF	862		1.29	25.0	1.03	1.000	1
OCDF	1510		1.55	50.0	0.86	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ2200508-03

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P633216
ICAL Date: 03/15/22

Date Analyzed: 11/22/22 01:42
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633204

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	156		2.64	5.00	0.79		1
Total Penta-Dioxins	961		0.737	25.0	1.58		1
Total Hexa-Dioxins	2760		0.350	25.0	1.25		1
Total Hepta-Dioxins	810		0.521	25.0	1.06		1
Total Tetra-Furans	167		0.806	5.00	0.77		1
Total Penta-Furans	1800		0.281	25.0	1.50		1
Total Hexa-Furans	3420		0.298	25.0	1.24		1
Total Hepta-Furans	1780		1.15	25.0	1.07		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ2200508-03

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/22/22 01:42
Date Extracted: 11/5/22
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P633160
Cal Ver. File Name: P633204

Data File Name: P633216
ICAL Date: 03/15/22

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1156.573	58		25-164	0.77	1.020
13C-1,2,3,7,8-PeCDD	2000	1119.764	56		25-181	1.60	1.175
13C-1,2,3,4,7,8-HxCDD	2000	1117.048	56		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1208.743	60		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1026.377	51		23-140	1.04	1.066
13C-OCDD	4000	1621.589	41		17-157	0.88	1.142
13C-2,3,7,8-TCDF	2000	950.432	48		24-169	0.73	0.994
13C-1,2,3,7,8-PeCDF	2000	1052.651	53		24-185	1.53	1.134
13C-2,3,4,7,8-PeCDF	2000	984.843	49		21-178	1.57	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1020.449	51		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	903.659	45		26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	961.659	48		29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1136.368	57		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	793.020	40		28-143	0.42	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	839.502	42		26-138	0.42	1.079
37Cl-2,3,7,8-TCDD	800	392.352	49		35-197	NA	1.020

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Analyzed: 11/19/22
Date Extracted: 11/05/22

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method

Units: pg/100cm2
Basis: As Received
Analysis Lot: 786014

Lab Control Sample
EQ2200509-02

Duplicate Lab Control Sample
EQ2200509-03

Analyte Name	Lab Control Sample			Duplicate Lab Control Sample			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,2,3,4,6,7,8-HpCDD	982	1000	98	960	1000	96	70-140	2	50
1,2,3,4,7,8-HxCDD	1040	1000	104	1050	1000	105	70-164	<1	50
1,2,3,6,7,8-HxCDD	961	1000	96	949	1000	95	76-134	1	50
1,2,3,7,8,9-HxCDD	1050	1000	105	1010	1000	101	64-162	4	50
1,2,3,7,8-PeCDD	962	1000	96	943	1000	94	70-142	2	50
2,3,7,8-TCDD	161	200	80	156	200	78	67-158	3	50
OCDD	2080	2000	104	2070	2000	103	78-144	<1	50
1,2,3,4,6,7,8-HpCDF	1030	1000	103	1050	1000	105	82-122	3	50
1,2,3,4,7,8,9-HpCDF	974	1000	97	914	1000	91	78-138	6	50
1,2,3,4,7,8-HxCDF	942	1000	94	941	1000	94	72-134	<1	50
1,2,3,6,7,8-HxCDF	1060	1000	106	1060	1000	106	84-130	<1	50
1,2,3,7,8,9-HxCDF	977	1000	98	989	1000	99	78-130	1	50
1,2,3,7,8-PeCDF	939	1000	94	955	1000	95	80-134	2	50
2,3,4,6,7,8-HxCDF	854	1000	85	855	1000	85	70-156	<1	50
2,3,4,7,8-PeCDF	1040	1000	104	1020	1000	102	68-160	1	50
2,3,7,8-TCDF	193	200	96	188	200	94	75-158	3	50
OCDF	1990	2000	99	1960	2000	98	63-170	1	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200509-02

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540144
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 02:15
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	161		1.23	5.00	0.72	1.001	1
1,2,3,7,8-PeCDD	962		0.623	25.0	1.53	1.000	1
1,2,3,4,7,8-HxCDD	1040		0.115	25.0	1.23	1.000	1
1,2,3,6,7,8-HxCDD	961		0.100	25.0	1.24	1.000	1
1,2,3,7,8,9-HxCDD	1050		0.107	25.0	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	982		0.607	25.0	1.01	1.000	1
OCDD	2080		6.07	50.0	0.86	1.000	1
2,3,7,8-TCDF	193		0.648	5.00	0.72	1.001	1
1,2,3,7,8-PeCDF	939		0.656	25.0	1.49	1.000	1
2,3,4,7,8-PeCDF	1040		0.679	25.0	1.46	1.001	1
1,2,3,4,7,8-HxCDF	942		0.322	25.0	1.21	1.000	1
1,2,3,6,7,8-HxCDF	1060		0.365	25.0	1.18	1.000	1
1,2,3,7,8,9-HxCDF	977		0.443	25.0	1.19	1.000	1
2,3,4,6,7,8-HxCDF	854		0.302	25.0	1.17	1.000	1
1,2,3,4,6,7,8-HpCDF	1030		2.36	25.0	1.00	1.000	1
1,2,3,4,7,8,9-HpCDF	974		2.79	25.0	1.00	1.000	1
OCDF	1990		9.96	50.0	0.87	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200509-02

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 02:15
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540144
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	161		1.23	5.00	0.72		1
Total Penta-Dioxins	962		0.623	25.0	1.53		1
Total Hexa-Dioxins	3060		0.107	25.0	1.23		1
Total Hepta-Dioxins	982		0.607	25.0	1.01		1
Total Tetra-Furans	194		0.648	5.00	0.71		1
Total Penta-Furans	1980		0.667	25.0	1.49		1
Total Hexa-Furans	3830		0.352	25.0	1.21		1
Total Hepta-Furans	2000		2.56	25.0	1.00		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200509-02

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540144
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 02:15
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1357.745	68		25-164	0.79	1.024
13C-1,2,3,7,8-PeCDD	2000	1337.459	67		25-181	1.57	1.208
13C-1,2,3,4,7,8-HxCDD	2000	1222.297	61		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1427.736	71		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1270.833	64		23-140	1.05	1.068
13C-OCDD	4000	2078.064	52		17-157	0.88	1.140
13C-2,3,7,8-TCDF	2000	1134.909	57		24-169	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	1276.191	64		24-185	1.59	1.161
13C-2,3,4,7,8-PeCDF	2000	1189.411	59		21-178	1.59	1.197
13C-1,2,3,4,7,8-HxCDF	2000	1342.083	67		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1173.023	59		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1205.924	60		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1496.017	75		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1070.315	54		28-143	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1105.224	55		26-138	0.42	1.080
37Cl-2,3,7,8-TCDD	800	4393.998	549	Y	35-197	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ2200509-03

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1each

Data File Name: P540145
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 03:03
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	156		1.04	5.00	0.79	1.001	1
1,2,3,7,8-PeCDD	943		0.674	25.0	1.63	1.001	1
1,2,3,4,7,8-HxCDD	1050		0.442	25.0	1.25	1.000	1
1,2,3,6,7,8-HxCDD	949		0.397	25.0	1.28	1.000	1
1,2,3,7,8,9-HxCDD	1010		0.419	25.0	1.26	1.007	1
1,2,3,4,6,7,8-HpCDD	960		0.579	25.0	1.06	1.000	1
OCDD	2070		11.1	50.0	0.89	1.000	1
2,3,7,8-TCDF	188		1.19	5.00	0.71	1.001	1
1,2,3,7,8-PeCDF	955		1.32	25.0	1.47	1.001	1
2,3,4,7,8-PeCDF	1020		1.39	25.0	1.48	1.000	1
1,2,3,4,7,8-HxCDF	941		0.359	25.0	1.20	1.000	1
1,2,3,6,7,8-HxCDF	1060		0.398	25.0	1.20	1.000	1
1,2,3,7,8,9-HxCDF	989		0.495	25.0	1.19	1.000	1
2,3,4,6,7,8-HxCDF	855		0.333	25.0	1.14	1.000	1
1,2,3,4,6,7,8-HpCDF	1050		3.16	25.0	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	914		3.80	25.0	0.98	1.000	1
OCDF	1960		7.21	50.0	0.87	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ2200509-03

Units: pg/100cm2
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Date Analyzed: 11/19/22 03:03
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Data File Name: P540145
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	157		1.04	5.00	0.79		1
Total Penta-Dioxins	943		0.674	25.0	1.63		1
Total Hexa-Dioxins	3010		0.419	25.0	1.25		1
Total Hepta-Dioxins	960		0.579	25.0	1.06		1
Total Tetra-Furans	188		1.19	5.00	0.71		1
Total Penta-Furans	1980		1.35	25.0	1.47		1
Total Hexa-Furans	3840		0.388	25.0	1.20		1
Total Hepta-Furans	1970		3.47	25.0	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Houston Health Department
Project: UPRR House Wipe Sampling
Sample Matrix: Wipe

Service Request: E2201020
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ2200509-03

Units: Percent
Basis: As Received

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method
Sample Amount: 1 each

Data File Name: P540145
ICAL Date: 01/18/22

Date Analyzed: 11/19/22 03:03
Date Extracted: 11/5/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540135
Cal Ver. File Name: P540132

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1169.557	58		25-164	0.79	1.024
13C-1,2,3,7,8-PeCDD	2000	1117.949	56		25-181	1.59	1.208
13C-1,2,3,4,7,8-HxCDD	2000	1095.684	55		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1204.083	60		28-130	1.24	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1140.888	57		23-140	1.06	1.068
13C-OCDD	4000	1834.521	46		17-157	0.88	1.139
13C-2,3,7,8-TCDF	2000	969.395	48		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	1060.944	53		24-185	1.60	1.161
13C-2,3,4,7,8-PeCDF	2000	999.969	50		21-178	1.60	1.197
13C-1,2,3,4,7,8-HxCDF	2000	1162.024	58		26-152	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1024.197	51		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1012.618	51		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1316.599	66		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	923.362	46		28-143	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	996.183	50		26-138	0.43	1.080
37Cl-2,3,7,8-TCDD	800	416.638	52		35-197	NA	1.025

**SITE INVESTIGATION
PHOTOGRAPHS**

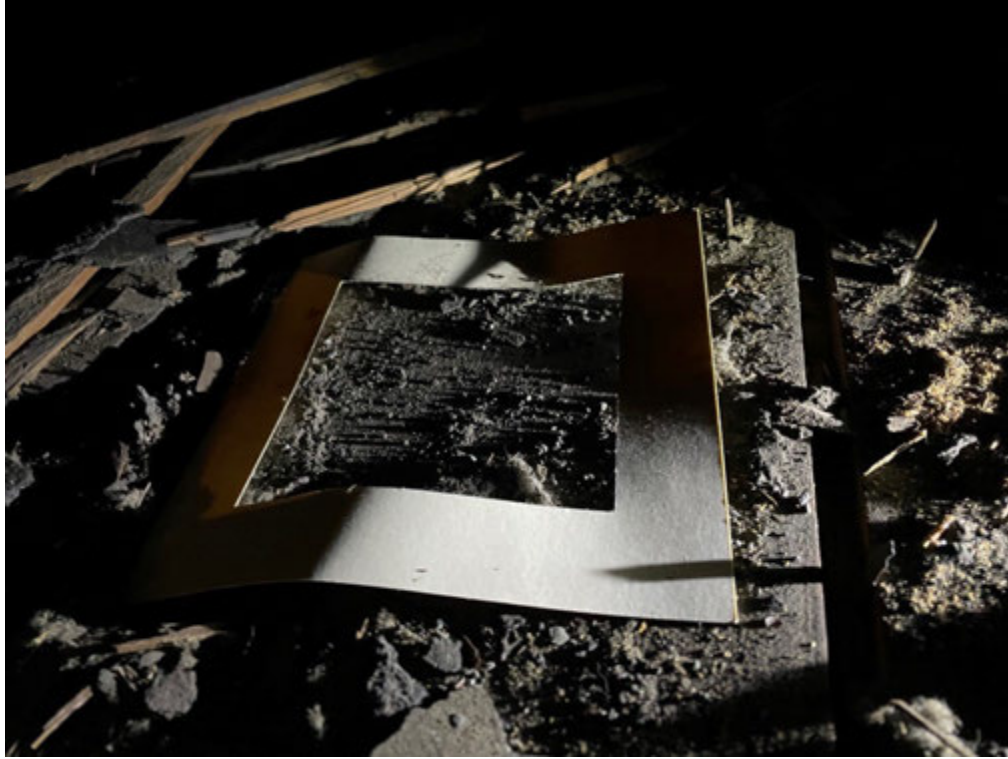
APPENDIX C



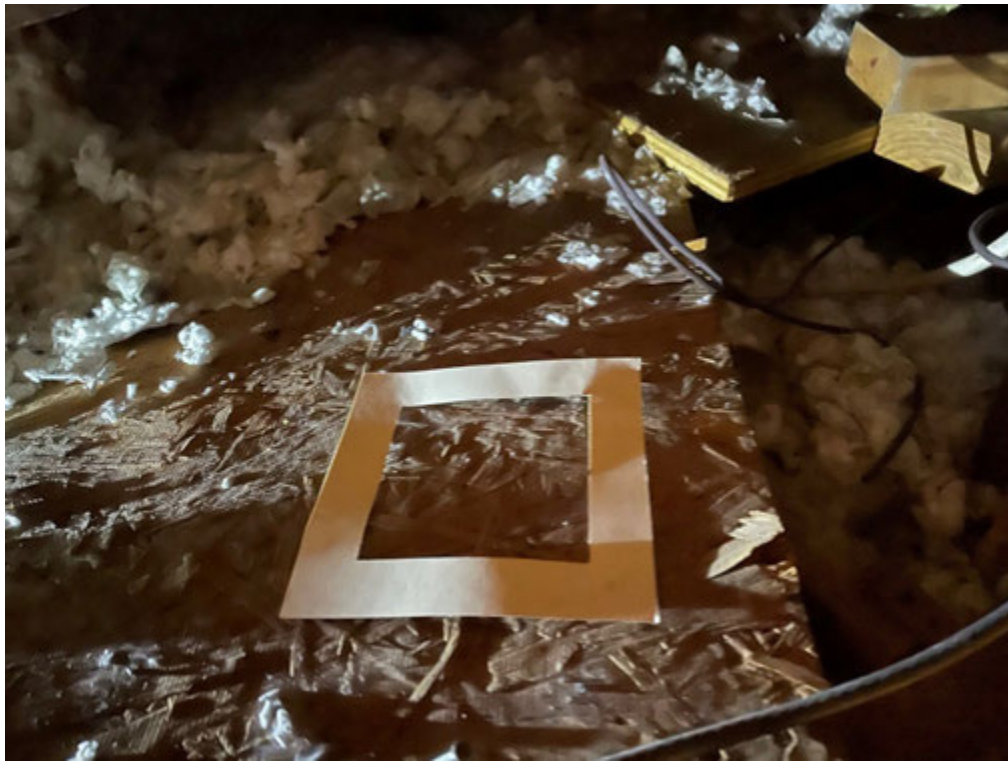
Photograph 1 – 100 cm² template grid at sample location in 4421 Quitman St.



Photograph 2 – Attic entrance at 2811 Amboy St.



Photograph 3 – 100 cm² template grid at sample location in 4502 Courtney St.



Photograph 4 – 100 cm² template grid at sample location in 2916 Wipprecht St.



Photograph 5 – 100 cm² template grid at sample location in 2906 Lavender St.



Photograph 6 – Attic entrance at 2708 Wayne St.



Photograph 7 – 100 cm² template grid at sample location in 2803 Kashmere St.



Photograph 8 - 100 cm² template grid at sample location in 4518 Courtney St.



Photograph 9 – 100 cm² template grid at sample location in 2902 Wiprecht St.



Photograph 10 – 100 cm² template grid at sample location in 4616 Wylie St.



Photograph 11 – 100 cm² template grid at sample location in 5211 Wylie St.