SOUTHWEST RESEARCH INSTITUTE

September 4, 2020

Test Report

SwRI Project #:	20859.01.00X
SwRI SDG:	666686
SwRI Task Order:	200818-6
SwRI Sample Receipt:	65486
Date Received:	08/18/2020
SAF No.:	W20-007

Prepared by:

Southwest Research Institute®
Department of Analytical and Environmental Chemistry
6220 Culebra Road
San Antonio, Texas 78238

Prepared for:

CH2M Hill Plateau Remediation Co.
2420 Stevens Center Place
Mail Stop H8-41
Richland, WA 99352
Attn: Ms. Karen-Waters-Husted

Digitally signed by Mike Dammann
Date: 2020.09.04 17:11:13 -05'00'

Authorized for Release
09/04/2020 4:30PM
Radonna Spies, Project Manager
Radonna.Spies@swri.org
210-522-3242

Mike Dammann
Laboratory Director

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Results relate only to the items tested and the samples/materials received by the laboratory.

SOUTHWEST RESEARCH INSTITUTE
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 200818-6
SwRI SRR: 65486
SDG: 666686
VTSR: 08.18.2020

Analysis by EPA Method 8290A

SOUTHWEST RESEARCH INSTITUTE
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EPA Method 8290A
Case Narrative

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SwRI CASE NARRATIVE

1. Three (03) samples were received for EPA Method 8290A:

SwRI ID	Customer ID	Matrix
666686	B3X607	Water
666687	B3X613	Water
666688	B3X617	Water

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DIOXIN ANALYSIS

Three water samples were analyzed under this SDG for target and total chlorinated dibenzo-p-dioxins and dibenzofurans according to EPA Method 8290A – "Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High Resolution Gas Chromatography / High Resolution Mass Spectrometry (HRGC/HRMS)" and SwRI TAP-01-0403-014. The instrument used was a Micromass Autospec Premier high-resolution gas chromatograph/high-resolution mass spectrometer (HRGC/HRMS), operated at 10,000 resolution power throughout the analysis. The analytical column used was a Phenomenex ZB-5 (60 m, 0.32 mm ID, 0.25 µm film thickness).

The samples were extracted within 30 days of CED and analyzed within 45 days of extraction.

The samples were reported on an as-received basis in the method units of pg/L.

The initial calibration (ICAL) met the QC requirement of ≤ 20 % relative standard deviation (RSD) for unlabeled standards and ≤ 20 % RSD for labeled standards. The calibration verification standards met the Quality Control (QC) criteria of ≤ 20 % for native target compounds and ≤ 30 % for internal standards. Sample quantitations are based on the mean RRF from the corresponding ICAL. The CRQLs were based on concentrations of 0.500 pg/µL, 1.25 pg/µL, and 2.50 pg/µL for tetra-, penta- through hepta-, and octa-substituted compounds, respectively. Note that the ^{37}Cl-2,3,7,8-TCDD cleanup standard is only present in the CS3/ICV calibration standards. This compound is used as a diagnostic tool by the laboratory and is not required by the method. The absence of the compound in the specified standards has no impact on the data, and it is not reported on the Form I's.

Injection log 19-0402-022, pages 100 and 102, contain information blacked out in the interest of client confidentiality.

Sequence P08280P1, which contained the ICAL and the second source verification standard (ICV), inadvertently contained a secondary column TCDF specificity check instead of the normal window defining/column resolution check for the primary analytical column. As a result, there are no 2,3,7,8-TCDD resolution or window defining chromatograms for that sequence. However, as no samples were analyzed in that sequence, there is no impact to the data. The analytical sequence containing the samples in this SDG, P09020P1, met the chromatographic resolution QC criteria of ≤ 25 % for 2,3,7,8-TCDD and its closest eluting isomer, and has the first and last eluters for each level of chlorination defined. All sequences met the beginning and ending mass resolution checks.

The samples, extraction blank, matrix spike (MS), matrix spike duplicate (MSD), and laboratory control sample (LCS) were spiked with 10 µL of the following carbon-13 labeled internal standard

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(IS) mixture at the beginning of extraction:

$^{13}C_{12}$-2378-TCDD	50 pg/µL
$^{13}C_{12}$-2378-TCDF	50 pg/µL
$^{13}C_{12}$-12378-PeCDD	50 pg/µL
$^{13}C_{12}$-12378-PeCDF	50 pg/µL
$^{13}C_{12}$-123678-HxCDD	125 pg/µL
$^{13}C_{12}$-123478-HxCDF	125 pg/µL
$^{13}C_{12}$-1234678-HpCDD	125 pg/µL
$^{13}C_{12}$-1234678-HpCDF	125 pg/µL
$^{13}C_{12}$-OCDD	250 pg/µL

The MS, MSD, and LCS were spiked with 10 µL of the following matrix spiking solution:

2,3,7,8-TCDD	10 pg/µL
1,2,3,7,8-PeCDD	25 pg/µL
1,2,3,4,7,8-HxCDD	25 pg/µL
1,2,3,6,7,8-HxCDD	25 pg/µL
1,2,3,7,8,9-HxCDD	25 pg/µL
1,2,3,4,6,7,8-HpCDD	25 pg/µL
OCDD	50 pg/µL
2,3,7,8-TCDF	10 pg/µL
1,2,3,7,8-PeCDF	25 pg/µL
2,3,4,7,8-PeCDF	25 pg/µL
1,2,3,4,7,8-HxCDF	25 pg/µL
1,2,3,6,7,8-HxCDF	25 pg/µL
1,2,3,7,8,9-HxCDF	25 pg/µL
2,3,4,6,7,8-HxCDF	25 pg/µL
1,2,3,4,6,7,8-HpCDF	25 pg/µL
1,2,3,4,7,8,9-HpCDF	25 pg/µL
OCDF	50 pg/µL

The sample extracts were spiked with 25 µL of cleanup standard containing ^{37}Cl-2,3,7,8-TCDD at 4.0 pg/µL prior to putting them through a series of clean-up processes, which included H_2SO_4 wash, silica gel column chromatography, alumina column chromatography, and, if necessary, activated carbon on silica column chromatography. The final sample extract residues were reconstituted into 40 µL of solution by adding 10 µL of recovery standard mixture and 30 µL of nonane. The addition of nonane prior to injection does not constitute a physical dilution of the

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sample and only serves to help minimize potential matrix effects in the extract. The recovery standard mixture contains $^{13}C_{12}$-1234-TCDD at 50 pg/µL. One (1) µL of each well-mixed final sample extract was then injected into HRGC/HRMS.

The total pg concentration of a particular PCDD/PCDF in a sample can be obtained simply by multiplying the pg/µL value in the "Amount" column of the quantitation summary by 10 (the final effective extract volume). The concentration values in pg/L can be obtained by dividing this total pg value with sample volume (L).

Three types of detection limits are reported.

a. LOQ (Limit of Quantitation). LOQ was calculated based on the concentration of the lowest point calibration standard, final extract volume, sample size, and % dry weight (if applicable).

b. EMPC (Estimated Maximum Possible Concentration). EMPC was reported when signals of both ions of a target PCDD/PCDF were detected with everything meeting identification criteria except the isotope ratio. The EMPC was calculated the same way a positive result was calculated.

c. EDL (Estimated Detection Limit). EDL was calculated when no signals for the monitored ions were detected for a target PCDD/PCDF. EDL was calculated based on noise level at the retention time of the target PCDD/PCDF, peak height of the C-13 labeled internal standard, RRF of the target PCDD/PCDF, final extract volume, sample size, and % dry weight (if applicable). Note that the calculated detection limit on the data system has only two decimal places, and noise levels below 0.01 will register a zero EDL.

LOQ will be reported for every target PCDD/PCDF of every sample. EMPC or EDL will be reported only for target PCDD/PCDF not meeting isotope ratio (EMPC) or simply not found (EDL).

Possible qualifiers:

U Target compound not detected.
J Target compound found at the concentration below the calibration range.
E Target compound found at the concentration above the calibration range.
D Target compound concentration reported based on dilution analysis that brought the concentration within calibration range.
B Target compound was detected in the associated blank.

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The method blank did not contain any target analytes above ½ x LOQ. The compounds 1234678-HpCDD, OCDD, 123478-HxCDF, 123678-HxCDF, 234678-HxCDF, and OCDF were detected at trace levels below ½ x LOQ due to minor instrument carryover. Per the DOE QSAS, no corrective action is necessary.

The internal standards (IS) were within the QC limits of 40-135% for all samples.

Analysis reports were modified to include LOQ values in the CONC column for Target and Total PCDD's and PCDF's that were not detected ("U" flagged). For Totals, these values are based on a single congener at the same level of chlorination. These values have also been included in the electronic deliverable. This modification was made at the request of the client.

Spike recoveries for the MS and MSD were within the DOE QSM 8290 water QC limits for all analytes. The relative percent difference (RPD) between the MS and MSD was within the DOE QC limit of 20% for all analytes.

Spike recoveries for the LCS were within the DOE QSM 8290 water QC limits for all analytes.

Sample Calculations:

Positive result (or EMPC) calculation
(minor differences to the Form I are due to rounding)

Sample: LCS_27AUG20
Lab ID: 667272
Analyte: 2,3,7,8-TCDD
Response$_{(NAT)}$: 3.073e4
Response$_{(IS)}$: 1.249e5

Native RRF: 1.272
IS Conc.: 50.0 pg/µL
Sample Weight/Vol: 1.00 L
Extract Vol: 10 µL
Percent Dry: N/A

$$Conc\ (pg/\mu L) = \frac{(Area_{Nat})(Conc_{IS})}{(Area_{IS})(RRF_{Nat})} = \frac{(3.073e4)(50.0)}{(1.249e5)(1.272)} = 9.67\ pg/\mu L$$

$$Conc\ (pg/L) = \frac{(Conc_{pg/\mu L})(Vol_{Ext})}{(SampleVol)} = \frac{(9.67\ pg/\mu L)(10\ \mu L)}{1.00\ L} = 96.7\ pg/L$$

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Lorraine Scheller Digitally signed by Lorraine Scheller
Date: 2020.09.04 14:03:48 -05'00'

Manager

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EPA Method 8290A
Results

Southwest Research Institute

Method 8290A Blank Summary

Blank ID: WBLANK_27AUG20
Lab Sample ID: 667271
Client: CH2M Hill Plateau Remediation Company
Matrix: Water

Project: 20859.01.00X
CASE #: W20-007
SDG: 666686
Analyzed: 02-Sep-20 18:22:12

This method blank applies to the following samples, MS, and MSD's

Client Sample ID	Lab Sample ID	Date Analyzed	File ID
B3X607	666686	9/2/2020	P09020P1_03
B3X613	666687	9/2/2020	P09020P1_04
B3X617	666688	9/2/2020	P09020P1_05
B3X617 MS	666688 MS	9/2/2020	P09020P1_07
B3X617 MSD	666688 MSD	9/2/2020	P09020P1_08
LCS_27AUG20	667272	9/3/2020	P09020P1_09

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Method 8290A PCDD/PCDF Analysis Report

Sample ID
B3X607

Client ID: CH2M Hill Plateau Remediatio
Case: W20-007
SDG: 666686
Matrix: Water
Sample Wt/Vol: 1.05 L

Project: 20859.01.00X
Date Received: 8/18/2020
Date Extracted: 8/27/2020
Date Analyzed: 9/2/2020
Concentration Unit: pg/L

Lab Sample ID: 666686
Lab File Name: P09020P1_03
Final Extraction Vol: 10 uL
Dilution Factor: 1.0
Split Factor: 1.0
Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	4.76	U		0.259	4.76		
40321-76-4	1,2,3,7,8-PeCDD	11.9	U		0.304	11.9		
39227-28-6	1,2,3,4,7,8-HxCDD	11.9	U		0.234	11.9		
57653-85-7	1,2,3,6,7,8-HxCDD	11.9	U		0.198	11.9		
19408-74-3	1,2,3,7,8,9-HxCDD	11.9	U	0.711		11.9		
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.55	J			11.9	1.03	46.88
3268-87-9	OCDD	2.77	J			23.8	0.955	49.22
51207-31-9	2,3,7,8-TCDF	4.76	U		0.250	4.76		
57117-41-6	1,2,3,7,8-PeCDF	11.9	U		0.235	11.9		
57117-31-4	2,3,4,7,8-PeCDF	11.9	U	0.442		11.9		
70648-26-9	1,2,3,4,7,8-HxCDF	1.35	J			11.9	1.40	43.71
57117-44-9	1,2,3,6,7,8-HxCDF	11.9	U	0.521		11.9		
72918-21-9	1,2,3,7,8,9-HxCDF	11.9	U		0.182	11.9		
60851-34-5	2,3,4,6,7,8-HxCDF	11.9	U	0.496		11.9		
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.40	J			11.9	1.06	46.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	11.9	U	0.838		11.9		
39001-02-0	OCDF	1.80	J			23.8	0.926	49.33

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins	4.76	U	Total Tetra-Furans	4.76	U
Total Penta-Dioxins	11.9	U	Total Penta-Furans	11.9	U
Total Hexa-Dioxins	11.9	U	Total Hexa-Furans	2.32	JB
Total Hepta-Dioxins	4.31	JB	Total Hepta-Furans	3.73	J

Internal Standard % Recovery

13C-2,3,7,8-TCDD	92.4	13C-1,2,3,4,7,8-HxCDF	93.1	13C-1,2,3,7,8-PeCDF	99.5
13C-1,2,3,6,7,8-HxCDD	92.9	13C-1,2,3,7,8-PeCDD	107	13C-1,2,3,4,6,7,8-HpCDF	101
13C-2,3,7,8-TCDF	92.6	13C-1,2,3,4,6,7,8-HpCDD	113	13C-OCDD	112

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Method 8290A PCDD/PCDF Analysis Report

Sample ID: B3X613

Client ID: CH2M Hill Plateau Remediatio
Case: W20-007
SDG: 666686
Matrix: Water
Sample Wt/Vol: 1.04 L

Project: 20859.01.00X
Date Received: 8/18/2020
Date Extracted: 8/27/2020
Date Analyzed: 9/2/2020
Concentration Unit: pg/L

Lab Sample ID: 666687
Lab File Name: P09020P1_04
Final Extraction Vol: 10 uL
Dilution Factor: 1.0
Split Factor: 1.0
Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	4.81	U		0.244	4.81		
40321-76-4	1,2,3,7,8-PeCDD	12.0	U		0.303	12.0		
39227-28-6	1,2,3,4,7,8-HxCDD	12.0	U		0.171	12.0		
57653-85-7	1,2,3,6,7,8-HxCDD	12.0	U		0.145	12.0		
19408-74-3	1,2,3,7,8,9-HxCDD	0.533	J			12.0	1.10	44.74
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.69	J			12.0	1.07	46.88
3268-87-9	OCDD	24.0	U	2.68		24.0		
51207-31-9	2,3,7,8-TCDF	4.81	U		0.227	4.81		
57117-41-6	1,2,3,7,8-PeCDF	12.0	U		0.210	12.0		
57117-31-4	2,3,4,7,8-PeCDF	12.0	U	0.609		12.0		
70648-26-9	1,2,3,4,7,8-HxCDF	1.27	J			12.0	1.33	43.70
57117-44-9	1,2,3,6,7,8-HxCDF	0.622	J			12.0	1.19	43.82
72918-21-9	1,2,3,7,8,9-HxCDF	12.0	U		0.144	12.0		
60851-34-5	2,3,4,6,7,8-HxCDF	12.0	U		0.132	12.0		
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.30	J			12.0	1.03	46.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	12.0	U	0.865		12.0		
39001-02-0	OCDF	1.35	J			24.0	0.915	49.33

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins	4.81	U	Total Tetra-Furans	4.81	U
Total Penta-Dioxins	12.0	U	Total Penta-Furans	12.0	U
Total Hexa-Dioxins	1.69	J	Total Hexa-Furans	3.64	JB
Total Hepta-Dioxins	4.17	JB	Total Hepta-Furans	3.48	J

Internal Standard % Recovery

13C-2,3,7,8-TCDD	96.0	13C-1,2,3,4,7,8-HxCDF	93.9	13C-1,2,3,7,8-PeCDF	106
13C-1,2,3,6,7,8-HxCDD	93.6	13C-1,2,3,7,8-PeCDD	109	13C-1,2,3,4,6,7,8-HpCDF	97.7
13C-2,3,7,8-TCDF	97.3	13C-1,2,3,4,6,7,8-HpCDD	110	13C-OCDD	111

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Method 8290A PCDD/PCDF Analysis Report

Sample ID: B3X617

Client ID: CH2M Hill Plateau Remediatio
Case: W20-007
SDG: 666686
Matrix: Water
Sample Wt/Vol: 1.01 L

Project: 20859.01.00X
Date Received: 8/18/2020
Date Extracted: 8/27/2020
Date Analyzed: 9/2/2020
Concentration Unit: pg/L

Lab Sample ID: 666688
Lab File Name: P09020P1_05
Final Extraction Vol: 10 uL
Dilution Factor: 1.0
Split Factor: 1.0
Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	4.95	U		0.256	4.95		
40321-76-4	1,2,3,7,8-PeCDD	12.4	U		0.325	12.4		
39227-28-6	1,2,3,4,7,8-HxCDD	12.4	U		0.319	12.4		
57653-85-7	1,2,3,6,7,8-HxCDD	12.4	U	0.292		12.4		
19408-74-3	1,2,3,7,8,9-HxCDD	12.4	U	0.687		12.4		
35822-46-9	1,2,3,4,6,7,8-HpCDD	2.47	J			12.4	0.964	46.86
3268-87-9	OCDD	2.84	J			24.8	0.882	49.22
51207-31-9	2,3,7,8-TCDF	4.95	U		0.256	4.95		
57117-41-6	1,2,3,7,8-PeCDF	12.4	U		0.249	12.4		
57117-31-4	2,3,4,7,8-PeCDF	12.4	U	0.429		12.4		
70648-26-9	1,2,3,4,7,8-HxCDF	1.36	J			12.4	1.08	43.70
57117-44-9	1,2,3,6,7,8-HxCDF	0.589	J			12.4	1.36	43.80
72918-21-9	1,2,3,7,8,9-HxCDF	12.4	U		0.194	12.4		
60851-34-5	2,3,4,6,7,8-HxCDF	0.366	J			12.4	1.34	44.30
67562-39-4	1,2,3,4,6,7,8-HpCDF	2.56	J			12.4	1.19	46.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	12.4	U	0.572		12.4		
39001-02-0	OCDF	1.67	J			24.8	0.841	49.33

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins	4.95	U	Total Tetra-Furans	4.95	U
Total Penta-Dioxins	12.4	U	Total Penta-Furans	12.4	U
Total Hexa-Dioxins	2.02	J	Total Hexa-Furans	3.68	JB
Total Hepta-Dioxins	4.01	JB	Total Hepta-Furans	3.81	J

Internal Standard % Recovery

13C-2,3,7,8-TCDD	88.7	13C-1,2,3,4,7,8-HxCDF	95.3	13C-1,2,3,7,8-PeCDF	98.6
13C-1,2,3,6,7,8-HxCDD	94.0	13C-1,2,3,7,8-PeCDD	105	13C-1,2,3,4,6,7,8-HpCDF	105
13C-2,3,7,8-TCDF	90.5	13C-1,2,3,4,6,7,8-HpCDD	116	13C-OCDD	125

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Method 8290A PCDD/PCDF Analysis Report

Sample ID: B3X617 MS

Client ID: CH2M Hill Plateau Remediatio
Case: W20-007
SDG: 666686
Matrix: Water
Sample Wt/Vol: 1.03 L

Project: 20859.01.00X
Date Received: 8/18/2020
Date Extracted: 8/27/2020
Date Analyzed: 9/2/2020
Concentration Unit: pg/L

Lab Sample ID: 666688 MS
Lab File Name: P09020P1_07
Final Extraction Vol: 10 uL
Dilution Factor: 1.0
Split Factor: 1.0
Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	95.5				4.85	0.783	33.43
40321-76-4	1,2,3,7,8-PeCDD	238				12.1	1.58	40.62
39227-28-6	1,2,3,4,7,8-HxCDD	268				12.1	1.20	44.42
57653-85-7	1,2,3,6,7,8-HxCDD	232				12.1	1.28	44.50
19408-74-3	1,2,3,7,8,9-HxCDD	272				12.1	1.25	44.74
35822-46-9	1,2,3,4,6,7,8-HpCDD	233				12.1	1.05	46.88
3268-87-9	OCDD	467				24.3	0.904	49.24
51207-31-9	2,3,7,8-TCDF	92.1				4.85	0.775	32.24
57117-41-6	1,2,3,7,8-PeCDF	229				12.1	1.56	38.71
57117-31-4	2,3,4,7,8-PeCDF	269				12.1	1.56	39.99
70648-26-9	1,2,3,4,7,8-HxCDF	233				12.1	1.24	43.71
57117-44-9	1,2,3,6,7,8-HxCDF	244				12.1	1.24	43.82
72918-21-9	1,2,3,7,8,9-HxCDF	271				12.1	1.23	44.88
60851-34-5	2,3,4,6,7,8-HxCDF	260				12.1	1.23	44.30
67562-39-4	1,2,3,4,6,7,8-HpCDF	238				12.1	1.04	46.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	274				12.1	1.02	47.17
39001-02-0	OCDF	463				24.3	0.864	49.33

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins			Total Tetra-Furans		
Total Penta-Dioxins			Total Penta-Furans		
Total Hexa-Dioxins			Total Hexa-Furans		
Total Hepta-Dioxins			Total Hepta-Furans		

Internal Standard % Recovery

13C-2,3,7,8-TCDD	93.7	13C-1,2,3,4,7,8-HxCDF	87.5	13C-1,2,3,7,8-PeCDF	99.8
13C-1,2,3,6,7,8-HxCDD	87.7	13C-1,2,3,7,8-PeCDD	108	13C-1,2,3,4,6,7,8-HpCDF	96.0
13C-2,3,7,8-TCDF	89.5	13C-1,2,3,4,6,7,8-HpCDD	105	13C-OCDD	110

Southwest Research Institute

Method 8290A PCDD/PCDF Analysis Report

Sample ID
B3X617 MSD

Client ID: CH2M Hill Plateau Remediatio
Case: W20-007
SDG: 666686
Matrix: Water
Sample Wt/Vol: 1.03 L

Project: 20859.01.00X
Date Received: 8/18/2020
Date Extracted: 8/27/2020
Date Analyzed: 9/2/2020
Concentration Unit: pg/L

Lab Sample ID: 666688 MSD
Lab File Name: P09020P1_08
Final Extraction Vol: 10 uL
Dilution Factor: 1.0
Split Factor: 1.0
Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	95.7				4.85	0.784	33.44
40321-76-4	1,2,3,7,8-PeCDD	246				12.1	1.56	40.62
39227-28-6	1,2,3,4,7,8-HxCDD	262				12.1	1.25	44.43
57653-85-7	1,2,3,6,7,8-HxCDD	238				12.1	1.26	44.50
19408-74-3	1,2,3,7,8,9-HxCDD	262				12.1	1.21	44.74
35822-46-9	1,2,3,4,6,7,8-HpCDD	233				12.1	1.16	46.88
3268-87-9	OCDD	470				24.3	0.904	49.24
51207-31-9	2,3,7,8-TCDF	93.4				4.85	0.794	32.26
57117-41-6	1,2,3,7,8-PeCDF	230				12.1	1.54	38.71
57117-31-4	2,3,4,7,8-PeCDF	257				12.1	1.58	39.99
70648-26-9	1,2,3,4,7,8-HxCDF	230				12.1	1.23	43.72
57117-44-9	1,2,3,6,7,8-HxCDF	239				12.1	1.23	43.82
72918-21-9	1,2,3,7,8,9-HxCDF	248				12.1	1.24	44.88
60851-34-5	2,3,4,6,7,8-HxCDF	252				12.1	1.27	44.31
67562-39-4	1,2,3,4,6,7,8-HpCDF	236				12.1	1.04	46.13
55673-89-7	1,2,3,4,7,8,9-HpCDF	269				12.1	1.06	47.19
39001-02-0	OCDF	476				24.3	0.896	49.34

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins			Total Tetra-Furans		
Total Penta-Dioxins			Total Penta-Furans		
Total Hexa-Dioxins			Total Hexa-Furans		
Total Hepta-Dioxins			Total Hepta-Furans		

Internal Standard % Recovery

13C-2,3,7,8-TCDD	92.7	13C-1,2,3,4,7,8-HxCDF	95.1	13C-1,2,3,7,8-PeCDF	100
13C-1,2,3,6,7,8-HxCDD	93.7	13C-1,2,3,7,8-PeCDD	103	13C-1,2,3,4,6,7,8-HpCDF	97.4
13C-2,3,7,8-TCDF	90.6	13C-1,2,3,4,6,7,8-HpCDD	106	13C-OCDD	106

Southwest Research Institute

Matrix Spike Evaluation Form

Client ID: CH2M Hill Plateau Remediati Lab Sample ID: 666688 MS Project: 20859.01.00X
Case: W20-007 Sample ID: B3X617 MS Matrix: Water
Sample Wt/Vol: 1.03 L Final Extraction Vol: 10 uL Concentration Unit: pg/L

ANALYTE	Amount Added	Amount Unspiked Sample	Amount Detected	Amount Recovered	% Recovery	Target Recovery (Advisory)
2,3,7,8-TCDD	97.1	0	95.5	95.5	98.4	71 - 125
1,2,3,7,8-PeCDD	243	0	238	238	97.9	76 - 121
1,2,3,4,7,8-HxCDD	243	0	268	268	110	80 - 126
1,2,3,6,7,8-HxCDD	243	0	232	232	95.5	78 - 134
1,2,3,7,8,9-HxCDD	243	0	272	272	112	76 - 137
1,2,3,4,6,7,8-HpCDD	243	2.47	233	231	95.1	79 - 122
OCDD	485	2.84	467	464	95.7	81 - 135
2,3,7,8-TCDF	97.1	0	92.1	92.1	94.9	72 - 138
1,2,3,7,8-PeCDF	243	0	229	229	94.2	82 - 130
2,3,4,7,8-PeCDF	243	0	269	269	111	77 - 129
1,2,3,4,7,8-HxCDF	243	1.36	233	232	95.5	80 - 130
1,2,3,6,7,8-HxCDF	243	0.589	244	243	100	79 - 131
1,2,3,7,8,9-HxCDF	243	0	271	271	112	83 - 130
2,3,4,6,7,8-HxCDF	243	0.366	260	260	107	81 - 130
1,2,3,4,6,7,8-HpCDF	243	2.56	238	235	96.7	81 - 130
1,2,3,4,7,8,9-HpCDF	243	0	274	274	113	77 - 128
OCDF	485	1.67	463	461	95.1	66 - 150

Southwest Research Institute

Matrix Spike Evaluation Form

Client ID: CH2M Hill Plateau Remediati Lab Sample ID: 666688 MSD Project: 20859.01.00X
Case: W20-007 Sample ID: B3X617 MSD Matrix: Water
Sample Wt/Vol: 1.03 L Final Extraction Vol: 10 uL Concentration Unit: pg/L

ANALYTE	Amount Added	Amount Unspiked Sample	Amount Detected	Amount Recovered	% Recovery	Target Recovery (Advisory)
2,3,7,8-TCDD	97.1	0	95.7	95.7	98.6	71 - 125
1,2,3,7,8-PeCDD	243	0	246	246	101	76 - 121
1,2,3,4,7,8-HxCDD	243	0	262	262	108	80 - 126
1,2,3,6,7,8-HxCDD	243	0	238	238	97.9	78 - 134
1,2,3,7,8,9-HxCDD	243	0	262	262	108	76 - 137
1,2,3,4,6,7,8-HpCDD	243	2.47	233	231	95.1	79 - 122
OCDD	485	2.84	470	467	96.3	81 - 135
2,3,7,8-TCDF	97.1	0	93.4	93.4	96.2	72 - 138
1,2,3,7,8-PeCDF	243	0	230	230	94.7	82 - 130
2,3,4,7,8-PeCDF	243	0	257	257	106	77 - 129
1,2,3,4,7,8-HxCDF	243	1.36	230	229	94.2	80 - 130
1,2,3,6,7,8-HxCDF	243	0.589	239	238	97.9	79 - 131
1,2,3,7,8,9-HxCDF	243	0	248	248	102	83 - 130
2,3,4,6,7,8-HxCDF	243	0.366	252	252	104	81 - 130
1,2,3,4,6,7,8-HpCDF	243	2.56	236	233	95.9	81 - 130
1,2,3,4,7,8,9-HpCDF	243	0	269	269	111	77 - 128
OCDF	485	1.67	476	474	97.7	66 - 150

Southwest Research Institute

Duplicate Sample Evaluation

Client ID: CH2M Hill Plateau Remediation Company Lab Sample ID: 666688 Project: 20859.01.00X
Case: W20-007 Sample ID: B3X617 Matrix: Water
Sample Wt/Vol: 1.03 L Final Extraction Vol: 10 uL Concentration Unit: pg/L

CAS No.	ANALYTE	% Recovery from Sample (MS)	% Recovery from Sample (MSD)	RPD	QC RPD Limit
1746-01-6	2,3,7,8-TCDD	98.4	98.6	0.203	20
40321-76-4	1,2,3,7,8-PeCDD	97.9	101	3.12	20
39227-28-6	1,2,3,4,7,8-HxCDD	110	108	1.83	20
57653-85-7	1,2,3,6,7,8-HxCDD	95.5	97.9	2.48	20
19408-74-3	1,2,3,7,8,9-HxCDD	112	108	3.64	20
35822-46-9	1,2,3,4,6,7,8-HpCDD	95.1	95.1	0	20
3268-87-9	OCDD	95.7	96.3	0.625	20
51207-31-9	2,3,7,8-TCDF	94.9	96.2	1.36	20
57117-41-6	1,2,3,7,8-PeCDF	94.2	94.7	0.529	20
57117-31-4	2,3,4,7,8-PeCDF	111	106	4.61	20
70648-26-9	1,2,3,4,7,8-HxCDF	95.5	94.2	1.37	20
57117-44-9	1,2,3,6,7,8-HxCDF	100	97.9	2.12	20
72918-21-9	1,2,3,7,8,9-HxCDF	112	102	9.35	20
60851-34-5	2,3,4,6,7,8-HxCDF	107	104	2.84	20
67562-39-4	1,2,3,4,6,7,8-HpCDF	96.7	95.9	0.831	20
55673-89-7	1,2,3,4,7,8,9-HpCDF	113	111	1.79	20
39001-02-0	OCDF	95.1	97.7	2.70	20

Southwest Research Institute

Method 8290A PCDD/PCDF Analysis Report

Sample ID: WBLANK_27AUG20

Client ID: CH2M Hill Plateau Remediatio
Case: W20-007
SDG: 666686
Matrix: Water
Sample Wt/Vol: 1.00 L

Project: 20859.01.00X
Date Received: N/A
Date Extracted: 8/27/2020
Date Analyzed: 9/2/2020
Concentration Unit: pg/L

Lab Sample ID: 667271
Lab File Name: P09020P1_02
Final Extraction Vol: 10 uL
Dilution Factor: 1.0
Split Factor: 1.0
Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	5.00	U		0.256	5.00		
40321-76-4	1,2,3,7,8-PeCDD	12.5	U		0.385	12.5		
39227-28-6	1,2,3,4,7,8-HxCDD	12.5	U	0.387		12.5		
57653-85-7	1,2,3,6,7,8-HxCDD	12.5	U	0.456		12.5		
19408-74-3	1,2,3,7,8,9-HxCDD	12.5	U	0.983		12.5		
35822-46-9	1,2,3,4,6,7,8-HpCDD	3.06	J			12.5	1.04	46.86
3268-87-9	OCDD	3.06	J			25.0	0.811	49.22
51207-31-9	2,3,7,8-TCDF	5.00	U		0.248	5.00		
57117-41-6	1,2,3,7,8-PeCDF	12.5	U		0.242	12.5		
57117-31-4	2,3,4,7,8-PeCDF	12.5	U		0.260	12.5		
70648-26-9	1,2,3,4,7,8-HxCDF	1.68	J			12.5	1.19	43.70
57117-44-9	1,2,3,6,7,8-HxCDF	0.800	J			12.5	1.27	43.80
72918-21-9	1,2,3,7,8,9-HxCDF	12.5	U		0.185	12.5		
60851-34-5	2,3,4,6,7,8-HxCDF	0.605	J			12.5	1.21	44.30
67562-39-4	1,2,3,4,6,7,8-HpCDF	12.5	U	2.90		12.5		
55673-89-7	1,2,3,4,7,8,9-HpCDF	12.5	U	1.13		12.5		
39001-02-0	OCDF	1.92	J			25.0	0.975	49.33

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins	5.00	U	Total Tetra-Furans	5.00	U
Total Penta-Dioxins	12.5	U	Total Penta-Furans	12.5	U
Total Hexa-Dioxins	12.5	U	Total Hexa-Furans	5.24	J
Total Hepta-Dioxins	5.09	J	Total Hepta-Furans	0.777	J

Internal Standard % Recovery

13C-2,3,7,8-TCDD	97.9	13C-1,2,3,4,7,8-HxCDF	107	13C-1,2,3,7,8-PeCDF	108
13C-1,2,3,6,7,8-HxCDD	104	13C-1,2,3,7,8-PeCDD	110	13C-1,2,3,4,6,7,8-HpCDF	116
13C-2,3,7,8-TCDF	100	13C-1,2,3,4,6,7,8-HpCDD	126	13C-OCDD	131

Southwest Research Institute

Method 8290A PCDD/PCDF Analysis Report

Sample ID: LCS_27AUG20

Client ID: CH2M Hill Plateau Remediatio
Project: 20859.01.00X
Lab Sample ID: 667272

Case: W20-007
Date Received: N/A
Lab File Name: P09020P1_09

SDG: 666686
Date Extracted: 8/27/2020
Final Extraction Vol: 10 uL

Matrix: Water
Date Analyzed: 9/3/2020
Dilution Factor: 1.0

Sample Wt/Vol: 1.00 L
Concentration Unit: pg/L
Split Factor: 1.0

Percent Dry: N/A

CAS No.	ANALYTE	CONC	Q	EMPC	EDL	LOQ	RATIO	RT
1746-01-6	2,3,7,8-TCDD	96.7				5.00	0.795	33.43
40321-76-4	1,2,3,7,8-PeCDD	242				12.5	1.58	40.60
39227-28-6	1,2,3,4,7,8-HxCDD	273				12.5	1.40	44.42
57653-85-7	1,2,3,6,7,8-HxCDD	236				12.5	1.19	44.48
19408-74-3	1,2,3,7,8,9-HxCDD	254				12.5	1.25	44.72
35822-46-9	1,2,3,4,6,7,8-HpCDD	233				12.5	1.07	46.86
3268-87-9	OCDD	479				25.0	0.880	49.22
51207-31-9	2,3,7,8-TCDF	95.6				5.00	0.811	32.24
57117-41-6	1,2,3,7,8-PeCDF	230				12.5	1.56	38.69
57117-31-4	2,3,4,7,8-PeCDF	266				12.5	1.55	39.98
70648-26-9	1,2,3,4,7,8-HxCDF	235				12.5	1.30	43.71
57117-44-9	1,2,3,6,7,8-HxCDF	238				12.5	1.23	43.80
72918-21-9	1,2,3,7,8,9-HxCDF	253				12.5	1.25	44.88
60851-34-5	2,3,4,6,7,8-HxCDF	260				12.5	1.23	44.30
67562-39-4	1,2,3,4,6,7,8-HpCDF	236				12.5	1.06	46.12
55673-89-7	1,2,3,4,7,8,9-HpCDF	260				12.5	0.955	47.17
39001-02-0	OCDF	485				25.0	0.883	49.33

Total Dioxin	CONC	Q	Total Dibenzofuran	CONC	Q
Total Tetra-Dioxins			Total Tetra-Furans		
Total Penta-Dioxins			Total Penta-Furans		
Total Hexa-Dioxins			Total Hexa-Furans		
Total Hepta-Dioxins			Total Hepta-Furans		

Internal Standard % Recovery

13C-2,3,7,8-TCDD	89.7	13C-1,2,3,4,7,8-HxCDF	95.9	13C-1,2,3,7,8-PeCDF	99.7
13C-1,2,3,6,7,8-HxCDD	95.7	13C-1,2,3,7,8-PeCDD	105	13C-1,2,3,4,6,7,8-HpCDF	102
13C-2,3,7,8-TCDF	88.1	13C-1,2,3,4,6,7,8-HpCDD	113	13C-OCDD	114

Southwest Research Institute

Matrix Spike Evaluation Form

Client ID: CH2M Hill Plateau Remediati Lab Sample ID: 667272 Project: 20859.01.00X
Case: W20-007 Sample ID: LCS_27AUG20 Matrix: Water
Sample Wt/Vol: 1.00 L Final Extraction Vol: 10 uL Concentration Unit: pg/L

ANALYTE	Amount Added	Amount Unspiked Sample	Amount Detected	Amount Recovered	% Recovery	Target Recovery (Advisory)
2,3,7,8-TCDD	100	0	96.7	96.7	96.7	71 - 125
1,2,3,7,8-PeCDD	250	0	242	242	96.8	76 - 121
1,2,3,4,7,8-HxCDD	250	0	273	273	109	80 - 126
1,2,3,6,7,8-HxCDD	250	0	236	236	94.4	78 - 134
1,2,3,7,8,9-HxCDD	250	0	254	254	102	76 - 137
1,2,3,4,6,7,8-HpCDD	250	3.06	233	230	92.0	79 - 122
OCDD	500	3.06	479	476	95.2	81 - 135
2,3,7,8-TCDF	100	0	95.6	95.6	95.6	72 - 138
1,2,3,7,8-PeCDF	250	0	230	230	92.0	82 - 130
2,3,4,7,8-PeCDF	250	0	266	266	106	77 - 129
1,2,3,4,7,8-HxCDF	250	1.68	235	233	93.2	80 - 130
1,2,3,6,7,8-HxCDF	250	0.800	238	237	94.8	79 - 131
1,2,3,7,8,9-HxCDF	250	0	253	253	101	83 - 130
2,3,4,6,7,8-HxCDF	250	0.605	260	259	104	81 - 130
1,2,3,4,6,7,8-HpCDF	250	0	236	236	94.4	81 - 130
1,2,3,4,7,8,9-HpCDF	250	0	260	260	104	77 - 128
OCDF	500	1.92	485	483	96.6	66 - 150

SOUTHWEST RESEARCH INSTITUTE
CLIENT: CH2M Hill Plateau Remediation Company
SwRI PROJECT#: 20859.01.00X
SwRI TASK ORDER: 200818-6
SwRI SRR: 65486
SDG: 666686
VTSR: 08.18.2020

Chain-of-Custody
&
Sample Receipt Paperwork

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W20-007-308 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W20-007	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, JULY 2020	**Logbook No.:** HNF-N-506 -115142	**Ice Chest No.:** GWS-077
Shipped To (Lab): Southwest Research Institute	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771275179300
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

SPECIAL INSTRUCTIONS
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3X607	N	W	AUG 14 2020	1004	4x1-L aG	8290_DIOXINS_GCMS_APP_5: COMMON	30/45 Days	Cool <=6C

CHPRC
SRR # 65486
SDG # 666686

SwRI Prjct # 20859.01.00X
TO: 200818-6

SwRI

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		AUG 14 2020 1143	Daniel Klug CHPRC	D. K	AUG 14 2020 1143
Daniel Klug CHPRC	D. K	AUG 14 2020 1315	SSU-1		AUG 14 2020 1315
SSU-1		AUG 17 2020 0615	Troy Bacon /CHPRC	Troy L. Bacon	AUG 17 2020 0615
Troy Bacon /CHPRC	Troy L. Bacon	AUG 17 2020 1400	FEDEX		
FEDEX			David Garcia	David Garcia	08.18.2020 09:20

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:

Printed On 7/29/2020 FSR ID = FSR95032 A-6004-842 (REV 3)

SWRI666686 September 4, 2020 Rev. 0
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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W20-007-313 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W20-007	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, JULY 2020	**Logbook No.:** HNF-N-506-11514	**Ice Chest No.:** GWS-077
Shipped To (Lab): Southwest Research Institute	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7712 7517 9300
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

SPECIAL INSTRUCTIONS
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3X613	N	W	AUG 13 2020	0855	4x1-L aG	8290_DIOXINS_GCMS_APP_5: COMMON	30/45 Days	Cool <=6C

CHPRC
SRR # 65486
SDG # 666686

SwRI Prjct # 20859.01.00X
TO: 200818-6

SWRI

Relinquished By			Received By		
Print First and Last Name	Signature	Date/Time	Print First and Last Name	Signature	Date/Time
Juan Aguilar CHPRC		AUG 13 2020 1005	Jeff Tucksen CHPRC		AUG 13 2020 1005
Jeff Tucksen CHPRC		AUG 13 2020 1046	SSU-1		AUG 13 2020 1046
SSU-1		AUG 17 2020 0615	Troy Bacon ICHPRC		AUG 17 2020 0615
Troy Bacon ICHPRC		AUG 17 2020 1400	FEDEX		
FEDEX				08.18.2020	09:20

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:

Printed On 7/29/2020 FSR ID = FSR95029 A-6004-842 (REV 3)

SWRI666686
September 4, 2020
(25 of 29)
Rev. 0

CH2MHill Plateau Remediation Company	84 LBS. CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W20-007-317 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: W20-007	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: RCRA, JULY 2020	**Logbook No.:** HNF-N-506-11S142	**Ice Chest No.:** GWS-077
Shipped To (Lab): Southwest Research Institute	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 771275179300
Protocol: RCRA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

SPECIAL INSTRUCTIONS
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3X617	N	W	AUG 14 2020	1051	4x1-L aG	8290_DIOXINS_GCMS_APP_5: COMMON	30/45 Days	Cool <=6C

CHPRC
SRR # 65486
SDG # 666686

SwRI Prjct # 20859.01.00X
TO: 200818-6

SWRI

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		AUG 14 2020 1143	Daniel Klug CHPRC	D_K	AUG 14 2020 1143
Daniel Klug CHPRC	D. K	AUG 14 2020 1315	SSU-1		AUG 14 2020 1315
SSU-1		AUG 17 2020 0615	Troy Bacon ACHPRC	Troy L Bacon	AUG 17 2020 0615
Troy Bacon ACHPRC	Troy L Bacon	AUG 17 2020 1400	FEDEX		
FEDEX			David Garcia	David Garcia	08-10-2020 03:20

Matrix *

S	= Soil	DS	= Drum Solids
SE	= Sediment	DL	= Drum Liquids
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process):	Disposed By:	Date/Time:

Printed On 7/29/2020 FSR ID = FSR95033 A-6004-842 (REV 3)

SWRI666686 September 4, 2020 Rev. 0
(26 of 29)

Southwest Research Institute

Laboratory Task Order

TO #: 200818-6 Revision: 0

Project(s): 20859.01.00X
Manager(s): SPIES, RADONNA
To Client: 09/01/20

SDG: 666686
VTSR: 08/18/20
SAF: W20-007

SRR #'s: 65486
Client(s): CH2M Hill Plateau Remediation Company

Instructions

CH2MHill Plateau Remediation Company.
SAF No. W20-007

SDG 666686 is OPEN until 09/01/20

30-day TAT.
FINAL DATA/HARDCOPY IS DUE TO THE CLIENT ON 09/17/2020.

3 overall samples (12 containers) were received on 08/18/2020, which are ALL listed here.

Sample Analysis REQUIRED

8290 _ DIOXINS_GCMS

DATA DELIVERABLE _ Summary (Narrative / Results only)
REQUESTER _ Karen Waters-Husted

ATTACHMENT C - QC Requirements for Chemical and Radiochemical Analysis
Section 7.2.2 Sample Data Packages
Section 7.2.3 Hard Copy Deliverable format
Section 7.2.4 Final Data Package Requirements
Section 8.8 CHPRC Electronic Address
Electronic copies of all sample receipt information, COCs, priority data packages, final data packages, corrected/revised data packages, closure reports, status reports, invoices, etc. shall be sent to: mailto:^CPP_Sample_Management@rl.gov

Documents Related to this task order: 301828[COC for SRR 65486], 301829[Paperwork for SRR 65486]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: D8290A
Section: DIOXIN

Holding: 45 days from E-8290

Analysis for Method 8290A

Cnt: 3

System ID	Type	Cont	Matrix	Customer ID	N/A	Method Date
666686		1	Water	B3X607	03 Sep 20	18 Oct 20
666686		2	Water	B3X607	03 Sep 20	18 Oct 20
666686		3	Water	B3X607	03 Sep 20	18 Oct 20
666686		4	Water	B3X607	03 Sep 20	18 Oct 20
666687		1	Water	B3X613	03 Sep 20	18 Oct 20
666687		2	Water	B3X613	03 Sep 20	18 Oct 20
666687		3	Water	B3X613	03 Sep 20	18 Oct 20
666687		4	Water	B3X613	03 Sep 20	18 Oct 20
666688		1	Water	B3X617	03 Sep 20	18 Oct 20
666688		2	Water	B3X617	03 Sep 20	18 Oct 20
666688		3	Water	B3X617	03 Sep 20	18 Oct 20
666688		4	Water	B3X617	03 Sep 20	18 Oct 20

Test: E-8290
Section: EXTLAB

Holding: 30 days from CED

Extraction for Method 8290

Cnt: 3

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
666686		1	Water	B3X607	14 Aug 20	13 Sep 20
666686		2	Water	B3X607	14 Aug 20	13 Sep 20
666686		3	Water	B3X607	14 Aug 20	13 Sep 20
666686		4	Water	B3X607	14 Aug 20	13 Sep 20

Sample Receipt

Southwest Research Institute

Sample Receipt Number: 65486

VTSR: 08/18/20

Time: 09:20:00

Project: 20859.01.00X
Case #: W20-007
Client: CH2M Hill Plateau Remediation Company

Manager: SPIES, RADONNA
Logged in by: DXGARCIA
Creation Date: 08/18/20

Notes

1 cooler / samples were received intact.

Fed Ex Tracking #:
7712 7517 9300 _ 1.0°C (wet ice)

Scans: <120 cpm. Outside cooler.

Ice Chest No #:
GWS-077

Test requirements located on the applicable Task Order.

See chain-of-custody as part of the SRR system for more information.

Backaround CPM: <120cpm
Container Wipe CPM: <120cpm
Total CPM: <120

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
666686	B3X607	08/14/20	Water	4	
666687	B3X613	08/13/20	Water	4	
666688	B3X617	08/14/20	Water	4	

Containers: 12

Samples: 3

These documents are associated with this receipt: 301829[Paperwork for SRR 65486], 301828[COC for SRR 65486]

Thermometer: 025069
Temperature: 1.0

65486 CH2M Hill Plateau Remediatio

Southwest Research Institute

Traffic Report

Sample Custodian Signature: David Ramos

1. Custody Seal — Present
2. Chain of Custody — Present
3. Sample Tags — Not Present
   Sample Tag Numbers — Not on COC N/A
4. SMO Forms — Present

Client: CH2M Hill Plateau Remediation Company

Project: 20859.01.00X

Case: W20-007 / SDG: SEE TO

Sample Receipt: 65486

Airbill: 7712 7517 9300

Custody Seal #(s): N/A

Date Received	Time Received	COC Record	SMO Sample #	Corresponding		Traffic Rpt, Tags, COC Agree	Sample Condition
				Sample Tag #	SwRI #		
08/18/20	09:20:00	W20-007-308	B3X607	N/A	666686	YES	Intact
08/18/20	09:20:00	W20-007-313	B3X613	N/A	666687	YES	Intact
08/18/20	09:20:00	W20-007-317	B3X617	N/A	666688	YES	Intact