

Port Ewen 5

Top 9.27.22 Bottom
← →

Proj#
CHPE Hudson 24711.001
River



Port Ewen 5

Top 9.27.22 Bottom
← →

CHPE Hudson River Proj# 24711.001



Attachment E

Rhinebeck Sediment Cores

Laboratory Results



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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For

Normandeu Associates Inc.-Stowe

Project 24711.001 Task 10
Workorder 3266431
Report ID 209978 on 11/30/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Sep 30, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Sarah Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Don Nazario - Normandeu Associates, Inc.-Stowe
Michael Mettler - Normandeu Associates, Inc.

Sarah Leung

Sarah Leung
Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3266431001	Rhineback 1A	Solid	09/29/2022 12:30	09/30/2022 08:30	CBC	Collected By Client
3266431002	Rhineback 1B	Solid	09/29/2022 12:40	09/30/2022 08:30	CBC	Collected By Client
3266431003	Rhineback 2A	Solid	09/29/2022 11:50	09/30/2022 08:30	CBC	Collected By Client
3266431004	Rhineback 2B	Solid	09/29/2022 12:00	09/30/2022 08:30	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

P1 See attached subcontract Dioxin results from ALS Houston. SLW 11/30/2022

Sample Notations

Lab ID	Sample ID		
3266431001	Rhineback 1A	S1	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266431002	Rhineback 1B	S2	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266431003	Rhineback 2A	S3	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266431004	Rhineback 2B	S4	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.

Result Notations

Notation Ref.	
1	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 36% in the bracketing CCV.
2	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 25% in the bracketing CCV.
3	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 24% in the bracketing CCV.
4	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 23% in the bracketing CCV.



Detected Results Summary

Client Sample ID	Rhineback 1A	Collected	09/29/2022 12:30
Lab Sample ID	3266431001	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	3.2	mg/kg	2.5	0.85	SW846 6010D	#
Copper, Total	7.6	mg/kg	2.5	0.85	SW846 6010D	#
Lead, Total	6.4	mg/kg	2.5	0.85	SW846 6010D	#
Mercury, Total	0.031J	mg/kg	0.059	0.019	SW846 7471B	#
SEMIVOLATILES						
Benzo(a)anthracene	71.4	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(a)pyrene	97.2	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(b)fluoranthene	107	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(g,h,i)perylene	54.4J	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(k)fluoranthene	41.0J	ug/kg	61.0	20.7	SW846 8270D	#
Chrysene	72.6	ug/kg	61.0	20.7	SW846 8270D	#
Fluoranthene	151	ug/kg	61.0	20.7	SW846 8270D	#
Indeno(1,2,3-cd)pyrene	75.5	ug/kg	61.0	20.7	SW846 8270D	#
Naphthalene	42.6J	ug/kg	61.0	20.7	SW846 8270D	#
Phenanthrene	85.7	ug/kg	61.0	20.7	SW846 8270D	#
Pyrene	91.9	ug/kg	61.0	20.7	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	see attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	29.3	%	0.1	0.01	S2540G-11	#
Total Solids	70.7	%	0.1	0.01	S2540G-11	#



Project 24711.001 Task 10
Workorder 3266431

Detected Results Summary

Client Sample ID	Rhineback 1B	Collected	09/29/2022 12:40
Lab Sample ID	3266431002	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	2.7	mg/kg	2.6	0.88	SW846 6010D	#
Copper, Total	5.0	mg/kg	2.6	0.88	SW846 6010D	#
Lead, Total	5.8	mg/kg	2.6	0.88	SW846 6010D	#
SEMIVOLATILES						
Naphthalene	25.0J	ug/kg	63.7	21.7	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	see attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	24.5	%	0.1	0.01	S2540G-11	#
Total Solids	75.5	%	0.1	0.01	S2540G-11	#



Detected Results Summary

Client Sample ID	Rhineback 2A	Collected	09/29/2022 11:50
Lab Sample ID	3266431003	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	6.4	mg/kg	3.6	1.2	SW846 6010D	#
Cadmium, Total	0.57J	mg/kg	0.91	0.30	SW846 6010D	#
Copper, Total	26.8	mg/kg	3.6	1.2	SW846 6010D	#
Lead, Total	24.1	mg/kg	3.6	1.2	SW846 6010D	#
Mercury, Total	0.11	mg/kg	0.085	0.027	SW846 7471B	#
SEMIVOLATILES						
Anthracene	35.3J	ug/kg	89.9	30.6	SW846 8270D	#
Benzo(a)anthracene	100	ug/kg	89.9	30.6	SW846 8270D	#
Benzo(a)pyrene	118	ug/kg	89.9	30.6	SW846 8270D	#
Benzo(b)fluoranthene	147	ug/kg	89.9	30.6	SW846 8270D	#
Benzo(g,h,i)perylene	72.3J	ug/kg	89.9	30.6	SW846 8270D	#
Benzo(k)fluoranthene	49.1J	ug/kg	89.9	30.6	SW846 8270D	#
Chrysene	116	ug/kg	89.9	30.6	SW846 8270D	#
Fluoranthene	250	ug/kg	89.9	30.6	SW846 8270D	#
Naphthalene	43.3J	ug/kg	89.9	30.6	SW846 8270D	#
Phenanthrene	125	ug/kg	89.9	30.6	SW846 8270D	#
Pyrene	178	ug/kg	89.9	30.6	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	see attached	ug/L			EPA 1613B	#
VOLATILE ORGANICS						
Toluene	2.0J	ug/kg	3.0	0.99	SW846 8260C	#
WET CHEMISTRY						
Moisture	47.5	%	0.1	0.01	S2540G-11	#
Total Solids	52.5	%	0.1	0.01	S2540G-11	#



Detected Results Summary

Client Sample ID	Rhineback 2B	Collected	09/29/2022 12:00
Lab Sample ID	3266431004	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	9.2	mg/kg	3.2	1.1	SW846 6010D	#
Cadmium, Total	0.90	mg/kg	0.79	0.26	SW846 6010D	#
Copper, Total	42.2	mg/kg	3.2	1.1	SW846 6010D	#
Lead, Total	46.7	mg/kg	3.2	1.1	SW846 6010D	#
Mercury, Total	0.44	mg/kg	0.082	0.026	SW846 7471B	#
SEMIVOLATILES						
Acenaphthene	40.1J	ug/kg	77.4	26.3	SW846 8270D	#
Acenaphthylene	49.9J	ug/kg	77.4	26.3	SW846 8270D	#
Anthracene	131	ug/kg	77.4	26.3	SW846 8270D	#
Benzo(a)anthracene	250	ug/kg	77.4	26.3	SW846 8270D	#
Benzo(a)pyrene	362	ug/kg	77.4	26.3	SW846 8270D	#
Benzo(b)fluoranthene	464	ug/kg	77.4	26.3	SW846 8270D	#
Benzo(g,h,i)perylene	206	ug/kg	77.4	26.3	SW846 8270D	#
Benzo(k)fluoranthene	132	ug/kg	77.4	26.3	SW846 8270D	#
Chrysene	413	ug/kg	77.4	26.3	SW846 8270D	#
Dibenzo(a,h)anthracene	49.7J	ug/kg	77.4	26.3	SW846 8270D	#
Fluoranthene	869	ug/kg	77.4	26.3	SW846 8270D	#
Fluorene	61.8J	ug/kg	77.4	26.3	SW846 8270D	#
Indeno(1,2,3-cd)pyrene	246	ug/kg	77.4	26.3	SW846 8270D	#
Naphthalene	166	ug/kg	77.4	26.3	SW846 8270D	#
Phenanthrene	710	ug/kg	77.4	26.3	SW846 8270D	#
Pyrene	635	ug/kg	77.4	26.3	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	see attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	39.0	%	0.1	0.01	S2540G-11	#
Total Solids	61.0	%	0.1	0.01	S2540G-11	#



Results

Client Sample ID	Rhineback 1A	Collected	09/29/2022 12:30
Lab Sample ID	3266431001	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	3.2	P1,S1	mg/kg	2.5	0.85	SW846 6010D	1	10/19/2022 14:35	A1S	A1
Cadmium, Total	ND	ND,P1,S1	mg/kg	0.63	0.21	SW846 6010D	1	10/19/2022 14:35	A1S	A1
Copper, Total	7.6	P1,S1	mg/kg	2.5	0.85	SW846 6010D	1	10/19/2022 14:35	A1S	A1
Lead, Total	6.4	P1,S1	mg/kg	2.5	0.85	SW846 6010D	1	10/19/2022 14:35	A1S	A1
Mercury, Total	0.031J	J,P1,S1	mg/kg	0.059	0.019	SW846 7471B	1	10/07/2022 10:52	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,1,P1,S1	ug/kg	11.6	7.5	SW846 8081B	5	10/05/2022 22:06	KJH	A
4,4'-DDE	ND	ND,2,P1,S1	ug/kg	11.6	3.8	SW846 8081B	5	10/05/2022 22:06	KJH	A
4,4'-DDT	ND	ND,P1,S1	ug/kg	11.6	3.4	SW846 8081B	5	10/05/2022 22:06	KJH	A
Chlordane	ND	ND,P1,S1	ug/kg	239	40.4	SW846 8081B	5	10/05/2022 22:06	KJH	A
Dieldrin	ND	ND,P1,S1	ug/kg	11.6	4.5	SW846 8081B	5	10/05/2022 22:06	KJH	A
Mirex	ND	ND,P1,S1	ug/kg	11.6	3.6	SW846 8081B	5	10/05/2022 22:06	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	63.1%	30 - 135	10/05/2022 22:06	
Tetrachloro-m-xylene	877-09-8	71.6%	30 - 111	10/05/2022 22:06	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Acenaphthylene	ND	ND,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Anthracene	ND	ND,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Benzo(a)anthracene	71.4	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Benzo(a)pyrene	97.2	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Benzo(b)fluoranthene	107	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Benzo(g,h,i)perylene	54.4J	J,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Benzo(k)fluoranthene	41.0J	J,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Chrysene	72.6	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Dibenzo(a,h)anthracene	ND	ND,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Fluoranthene	151	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Fluorene	ND	ND,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Indeno(1,2,3-cd)pyrene	75.5	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Naphthalene	42.6J	J,P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Phenanthrene	85.7	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A
Pyrene	91.9	P1,S1	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 08:31	S7M	A



Results

Client Sample ID	Rhineback 1A	Collected	09/29/2022 12:30
Lab Sample ID	3266431001	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			60.5%		19 – 132		10/03/2022 08:31		
2-Fluorobiphenyl	321-60-8			67.2%		40 – 110		10/03/2022 08:31		
2-Fluorophenol	367-12-4			68.4%		26 – 116		10/03/2022 08:31		
Nitrobenzene-d5	4165-60-0			72.4%		38 – 112		10/03/2022 08:31		
Phenol-d5	4165-62-2			69.7%		35 – 111		10/03/2022 08:31		
Terphenyl-d14	98904-43-9			68.5%		45 – 126		10/03/2022 08:31		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	see attached	P1,S1	ug/L			EPA 1613B	1	11/30/2022 12:01	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,P1,S1	ug/kg	2.9	0.72	SW846 8260C	1	10/01/2022 00:40	VLM	D
Ethylbenzene	ND	ND,P1,S1	ug/kg	2.9	0.97	SW846 8260C	1	10/01/2022 00:40	VLM	D
Toluene	ND	ND,P1,S1	ug/kg	2.9	0.96	SW846 8260C	1	10/01/2022 00:40	VLM	D
Total Xylenes	ND	ND,P1,S1	ug/kg	8.6	2.0	SW846 8260C	1	10/01/2022 00:40	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			95.7%		56 – 124		10/01/2022 00:40		
4-Bromofluorobenzene	460-00-4			106%		51 – 128		10/01/2022 00:40		
Dibromofluoromethane	1868-53-7			106%		62 – 123		10/01/2022 00:40		
Toluene-d8	2037-26-5			96.9%		59 – 131		10/01/2022 00:40		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	29.3	P1,S1	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	70.7	P1,S1	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhineback 1B	Collected	09/29/2022 12:40
Lab Sample ID	3266431002	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	2.7	P1,S2	mg/kg	2.6	0.88	SW846 6010D	1	10/19/2022 14:40	A1S	A1
Cadmium, Total	ND	ND,P1,S2	mg/kg	0.66	0.22	SW846 6010D	1	10/19/2022 14:40	A1S	A1
Copper, Total	5.0	P1,S2	mg/kg	2.6	0.88	SW846 6010D	1	10/19/2022 14:40	A1S	A1
Lead, Total	5.8	P1,S2	mg/kg	2.6	0.88	SW846 6010D	1	10/19/2022 14:40	A1S	A1
Mercury, Total	ND	ND,P1,S2	mg/kg	0.057	0.018	SW846 7471B	1	10/07/2022 10:54	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,1,P1,S2	ug/kg	10.8	7.0	SW846 8081B	5	10/05/2022 22:16	KJH	A
4,4'-DDE	ND	ND,2,P1,S2	ug/kg	10.8	3.5	SW846 8081B	5	10/05/2022 22:16	KJH	A
4,4'-DDT	ND	ND,P1,S2	ug/kg	10.8	3.1	SW846 8081B	5	10/05/2022 22:16	KJH	A
Chlordane	ND	ND,P1,S2	ug/kg	222	37.3	SW846 8081B	5	10/05/2022 22:16	KJH	A
Dieldrin	ND	ND,P1,S2	ug/kg	10.8	4.2	SW846 8081B	5	10/05/2022 22:16	KJH	A
Mirex	ND	ND,P1,S2	ug/kg	10.8	3.4	SW846 8081B	5	10/05/2022 22:16	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	70.6%	30 - 135	10/05/2022 22:16	
Tetrachloro-m-xylene	877-09-8	78.6%	30 - 111	10/05/2022 22:16	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Acenaphthylene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Anthracene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Benzo(a)anthracene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Benzo(a)pyrene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Benzo(b)fluoranthene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Benzo(g,h,i)perylene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Benzo(k)fluoranthene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Chrysene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Dibenzo(a,h)anthracene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Fluoranthene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Fluorene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Naphthalene	25.0J	J,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A
Phenanthrene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A



Results

Client Sample ID	Rhineback 1B	Collected	09/29/2022 12:40
Lab Sample ID	3266431002	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Pyrene	ND	ND,P1,S2	ug/kg	63.7	21.7	SW846 8270D	1	10/03/2022 08:57	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	69.7%	19 - 132	10/03/2022 08:57	
2-Fluorobiphenyl	321-60-8	83.6%	40 - 110	10/03/2022 08:57	
2-Fluorophenol	367-12-4	80.1%	26 - 116	10/03/2022 08:57	
Nitrobenzene-d5	4165-60-0	86.2%	38 - 112	10/03/2022 08:57	
Phenol-d5	4165-62-2	79.9%	35 - 111	10/03/2022 08:57	
Terphenyl-d14	98904-43-9	78.1%	45 - 126	10/03/2022 08:57	

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	see attached	P1,S2	ug/L			EPA 1613B	1	11/30/2022 12:02	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,P1,S2	ug/kg	2.2	0.55	SW846 8260C	1	10/01/2022 01:04	VLM	D
Ethylbenzene	ND	ND,P1,S2	ug/kg	2.2	0.75	SW846 8260C	1	10/01/2022 01:04	VLM	D
Toluene	ND	ND,P1,S2	ug/kg	2.2	0.74	SW846 8260C	1	10/01/2022 01:04	VLM	D
Total Xylenes	ND	ND,P1,S2	ug/kg	6.7	1.6	SW846 8260C	1	10/01/2022 01:04	VLM	D

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
1,2-Dichloroethane-d4	17060-07-0	94.6%	56 - 124	10/01/2022 01:04	
4-Bromofluorobenzene	460-00-4	103%	51 - 128	10/01/2022 01:04	
Dibromofluoromethane	1868-53-7	106%	62 - 123	10/01/2022 01:04	
Toluene-d8	2037-26-5	96.1%	59 - 131	10/01/2022 01:04	

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	24.5	P1,S2	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	75.5	P1,S2	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhineback 2A	Collected	09/29/2022 11:50
Lab Sample ID	3266431003	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	6.4	P1,S3	mg/kg	3.6	1.2	SW846 6010D	1	10/19/2022 14:43	A1S	A1
Cadmium, Total	0.57J	J,P1,S3	mg/kg	0.91	0.30	SW846 6010D	1	10/19/2022 14:43	A1S	A1
Copper, Total	26.8	P1,S3	mg/kg	3.6	1.2	SW846 6010D	1	10/19/2022 14:43	A1S	A1
Lead, Total	24.1	P1,S3	mg/kg	3.6	1.2	SW846 6010D	1	10/19/2022 14:43	A1S	A1
Mercury, Total	0.11	P1,S3	mg/kg	0.085	0.027	SW846 7471B	1	10/07/2022 10:55	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,1,P1,S3	ug/kg	16.0	10.3	SW846 8081B	5	10/06/2022 20:59	KJH	A
4,4'-DDE	ND	ND,3,P1,S3	ug/kg	16.0	5.2	SW846 8081B	5	10/06/2022 20:59	KJH	A
4,4'-DDT	ND	ND,P1,S3	ug/kg	16.0	4.6	SW846 8081B	5	10/06/2022 20:59	KJH	A
Chlordane	ND	ND,P1,S3	ug/kg	329	55.5	SW846 8081B	5	10/06/2022 20:59	KJH	A
Dieldrin	ND	ND,4,P1,S3	ug/kg	16.0	6.2	SW846 8081B	5	10/06/2022 20:59	KJH	A
Mirex	ND	ND,P1,S3	ug/kg	16.0	5.0	SW846 8081B	5	10/06/2022 20:59	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	70.2%	30 - 135	10/06/2022 20:59	
Tetrachloro-m-xylene	877-09-8	68.5%	30 - 111	10/06/2022 20:59	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Acenaphthylene	ND	ND,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Anthracene	35.3J	J,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Benzo(a)anthracene	100	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Benzo(a)pyrene	118	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Benzo(b)fluoranthene	147	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Benzo(g,h,i)perylene	72.3J	J,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Benzo(k)fluoranthene	49.1J	J,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Chrysene	116	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Dibenzo(a,h)anthracene	ND	ND,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Fluoranthene	250	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Fluorene	ND	ND,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Naphthalene	43.3J	J,P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Phenanthrene	125	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A
Pyrene	178	P1,S3	ug/kg	89.9	30.6	SW846 8270D	1	10/03/2022 09:22	S7M	A



Results

Client Sample ID	Rhineback 2A	Collected	09/29/2022 11:50
Lab Sample ID	3266431003	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			59.9%		19 – 132		10/03/2022 09:22		
2-Fluorobiphenyl	321-60-8			57.3%		40 – 110		10/03/2022 09:22		
2-Fluorophenol	367-12-4			48%		26 – 116		10/03/2022 09:22		
Nitrobenzene-d5	4165-60-0			53.8%		38 – 112		10/03/2022 09:22		
Phenol-d5	4165-62-2			50.5%		35 – 111		10/03/2022 09:22		
Terphenyl-d14	98904-43-9			73.1%		45 – 126		10/03/2022 09:22		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	see attached	P1,S3	ug/L			EPA 1613B	1	11/30/2022 12:02	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,P1,S3	ug/kg	3.0	0.74	SW846 8260C	1	10/01/2022 00:15	VLM	D
Ethylbenzene	ND	ND,P1,S3	ug/kg	3.0	1.0	SW846 8260C	1	10/01/2022 00:15	VLM	D
Toluene	2.0J	J,P1,S3	ug/kg	3.0	0.99	SW846 8260C	1	10/01/2022 00:15	VLM	D
Total Xylenes	ND	ND,P1,S3	ug/kg	8.9	2.1	SW846 8260C	1	10/01/2022 00:15	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			93.1%		56 – 124		10/01/2022 00:15		
4-Bromofluorobenzene	460-00-4			99.5%		51 – 128		10/01/2022 00:15		
Dibromofluoromethane	1868-53-7			104%		62 – 123		10/01/2022 00:15		
Toluene-d8	2037-26-5			97.5%		59 – 131		10/01/2022 00:15		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	47.5	P1,S3	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	52.5	P1,S3	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhineback 2B	Collected	09/29/2022 12:00
Lab Sample ID	3266431004	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	9.2	P1,S4	mg/kg	3.2	1.1	SW846 6010D	1	10/19/2022 14:44	A1S	A1
Cadmium, Total	0.90	P1,S4	mg/kg	0.79	0.26	SW846 6010D	1	10/19/2022 14:44	A1S	A1
Copper, Total	42.2	P1,S4	mg/kg	3.2	1.1	SW846 6010D	1	10/19/2022 14:44	A1S	A1
Lead, Total	46.7	P1,S4	mg/kg	3.2	1.1	SW846 6010D	1	10/19/2022 14:44	A1S	A1
Mercury, Total	0.44	P1,S4	mg/kg	0.082	0.026	SW846 7471B	1	10/07/2022 10:56	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,1,P1,S4	ug/kg	13.8	8.9	SW846 8081B	5	10/06/2022 21:09	KJH	A
4,4'-DDE	ND	ND,3,P1,S4	ug/kg	13.8	4.5	SW846 8081B	5	10/06/2022 21:09	KJH	A
4,4'-DDT	ND	ND,P1,S4	ug/kg	13.8	4.0	SW846 8081B	5	10/06/2022 21:09	KJH	A
Chlordane	ND	ND,P1,S4	ug/kg	283	47.7	SW846 8081B	5	10/06/2022 21:09	KJH	A
Dieldrin	ND	ND,4,P1,S4	ug/kg	13.8	5.3	SW846 8081B	5	10/06/2022 21:09	KJH	A
Mirex	ND	ND,P1,S4	ug/kg	13.8	4.3	SW846 8081B	5	10/06/2022 21:09	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	79.2%	30 - 135	10/06/2022 21:09	
Tetrachloro-m-xylene	877-09-8	72.9%	30 - 111	10/06/2022 21:09	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	40.1J	J,P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Acenaphthylene	49.9J	J,P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Anthracene	131	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Benzo(a)anthracene	250	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Benzo(a)pyrene	362	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Benzo(b)fluoranthene	464	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Benzo(g,h,i)perylene	206	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Benzo(k)fluoranthene	132	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Chrysene	413	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Dibenzo(a,h)anthracene	49.7J	J,P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Fluoranthene	869	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Fluorene	61.8J	J,P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Indeno(1,2,3-cd)pyrene	246	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Naphthalene	166	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Phenanthrene	710	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A
Pyrene	635	P1,S4	ug/kg	77.4	26.3	SW846 8270D	1	10/03/2022 09:47	S7M	A



Results

Client Sample ID	Rhineback 2B	Collected	09/29/2022 12:00
Lab Sample ID	3266431004	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			63.9%		19 – 132		10/03/2022 09:47		
2-Fluorobiphenyl	321-60-8			69.8%		40 – 110		10/03/2022 09:47		
2-Fluorophenol	367-12-4			58.7%		26 – 116		10/03/2022 09:47		
Nitrobenzene-d5	4165-60-0			64.4%		38 – 112		10/03/2022 09:47		
Phenol-d5	4165-62-2			64%		35 – 111		10/03/2022 09:47		
Terphenyl-d14	98904-43-9			74.4%		45 – 126		10/03/2022 09:47		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	see attached	P1,S4	ug/L			EPA 1613B	1	11/30/2022 12:02	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,P1,S4	ug/kg	3.1	0.78	SW846 8260C	1	10/01/2022 01:29	VLM	D
Ethylbenzene	ND	ND,P1,S4	ug/kg	3.1	1.1	SW846 8260C	1	10/01/2022 01:29	VLM	D
Toluene	ND	ND,P1,S4	ug/kg	3.1	1.0	SW846 8260C	1	10/01/2022 01:29	VLM	D
Total Xylenes	ND	ND,P1,S4	ug/kg	9.4	2.2	SW846 8260C	1	10/01/2022 01:29	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			95%		56 – 124		10/01/2022 01:29		
4-Bromofluorobenzene	460-00-4			103%		51 – 128		10/01/2022 01:29		
Dibromofluoromethane	1868-53-7			104%		62 – 123		10/01/2022 01:29		
Toluene-d8	2037-26-5			96.3%		59 – 131		10/01/2022 01:29		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	39.0	P1,S4	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	61.0	P1,S4	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3266431001	Rhineback 1A	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266431002	Rhineback 1B	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266431003	Rhineback 2A	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266431004	Rhineback 2B	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3266431001	Rhineback 1A	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	886779	10/05/2022 14:00	JSE	SW846 6010D	891527
		SW846 7471B	886554	10/06/2022 10:15	WDA	SW846 7471B	888227
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 12:30	PDK	SW846 8260C	885655
		N/A	N/A	N/A		S2540G-11	887530
3266431002	Rhineback 1B	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	886554	10/06/2022 10:15	WDA	SW846 7471B	888227
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 12:40	PDK	SW846 8260C	885655
		N/A	N/A	N/A		S2540G-11	887530
3266431003	Rhineback 2A	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	886554	10/06/2022 10:15	WDA	SW846 7471B	888227
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 11:50	PDK	SW846 8260C	885655
		N/A	N/A	N/A		S2540G-11	887530
3266431004	Rhineback 2B	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	886554	10/06/2022 10:15	WDA	SW846 7471B	888227
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 12:00	PDK	SW846 8260C	885655
		N/A	N/A	N/A		S2540G-11	887530

11/30/2022 12:21 PM



301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:



3266431

Logged By: CXW
PM: SSL



ALS Quote #: 904

Client Name: Normandean Assoc.
Address: 400 Old Reading Pike
Stowe, PA 19464

Container Type	<u>VOA</u>	<u>GL</u>	<u>GL</u>								
Container Size	<u>40ml</u>	<u>8oz</u>	<u>8oz</u>								
Preservative	<u>MeOH</u>	<u>-</u>	<u>-</u>								

Receipt Info:
Temp Taken By: KSB Therm ID: 570 WO Temp (°C) 5
Receipt Info completed by: KSB WV Containers 0-6°C Y N NA
Cooler Custody Seals Intact Y N NA
Sample Custody Seal Intact Y N NA
Received on Ice Y N NA
Coolers & Samples Intact Y N
Correct Containers Provided Y N
Sample Label/COC Agree Y N
Adequate Sample Volumes Y N
VOA only: Headspace Present Y N NA
VOA only: Trip Blank Y N NA
NJ ≤ 4 days? Y N
Courier/Tracking #: 7700 5204 7549

Contact: DON NAZARIO
Phone#: 717-617-7076
Project Name#: 24711.001, Task 10
Bill To: Normandean
Purchase Order #: 24711.001
TAT Normal-Standard TAT is 10-12 business days.
 Rush-Subject to ALS approval and surcharges.
Date Required: _____ Approved?
Email? DNAZARIO@Normandean.com

ANALYSES/METHOD REQUESTED

SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	<u>VOCs, 90 most</u>	<u>Metals, PAHS</u>	<u>PEST</u>	<u>Dioxin</u>														
----------------------------	---------	------------------------------	----------------------	---------------------	-------------	---------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Client contact: _____
Date/Tech: _____
Sample(s) for Radiation testing? Y N
Reportable SDWA Sample(s)? Y N
SDWA State of Origin? _____
PWSID # _____
PWS Contact: _____ PWS Phone #: _____
SDWA Sample Type Key: D=Distribution E=Entry Point
R=Raw P=Plant C=Check S=Special A=Annual Startup

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type (see key)	*G or C	**Matrix (See bottom of COC)	Enter Number of Containers Per Sample or Field Results Below.														
1 Rhinebeck 1A	9/29/22	1230	G	S		5	1	1												
2 1B	↓	1240	↓	↓		5	1	1												
3 2A	↓	1150	↓	↓		4	1	1												
4 2B	↓	1200	↓	↓		4	1	1												
5																				
6																				
7																				
8																				
9																				
10																				

Sample/COC Remarks
Ferracore kit: 1x G/MeOH
2x G/OE
1x G/UNP
2x G/UNP } Per Sample
Contains Short Hold Testing **YES** NO
Internal Use: If less than 48 hours - notify lab upon receipt

Circle Sample Collector: ALS Tech / Client
ID: _____
Comments: _____

Date:	Time	Relinquished By / Company Name	Received By / Company Name
9/29/22	1500	1 <u>Ngono/Normandean</u>	2 <u>Fedex</u>
9.30.22	830	3 <u>Loax</u>	4 <u>Thibault</u>
		5	6
		7	8
		9	10

Data Deliverables
 Standard Lvl 1 CLP-like HSCA
 Standard Lvl 2 DOD Landfill
 Standard Lvl 3 NJ RED NJ GW
 Standard Lvl 4 NJ Full _____
State Samples Collected In
 NY
 NJ
 PA
 WV
 FL
other _____

EDD
 Excel Summary Sample Disposal
 Equis Lab
 Custom Special

EDDS: Format Type _____

*G=Grab; C=Composite **Matrix - A=Air, D=Drinking Water, GW=Groundwater, O=Oil, LW=Liquid Waste, S=Solid/Soil/Sludge, SW=Surface Water, WP=Wipe, WW=Wastewater

19 of 68



November 30, 2022

Service Request No:E2200962

Sarah Leung
ALS Environmental - Middletown
301 Fulling Mill Road
Middletown, PA 17057

Laboratory Results for: 3266431

Dear Sarah,

Enclosed are the results of the sample(s) submitted to our laboratory October 05, 2022
For your reference, these analyses have been assigned our service request number **E2200962**.

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

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
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
www.alsglobal.com

ALS Environmental

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request No.: E2200962
Date Received: 10/05/22

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.

Sample Receipt

Four samples were received for analysis at ALS Environmental in Houston on 10/05/22.

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:

EQ2200475: Laboratory Control Spike (LCS) sample was analyzed and reported in addition to a MS/MSD for this extraction batch.

The batch precision (MS/DMS) measurements were determined on an unrelated sample in the extraction batch. The MS/DMS results are not included in this report.

B flags – Method Blanks

The Method Blank EQ2200475-01 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.

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.

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: ALS Environmental - Middletown
Project: 3266431

Service Request:E2200962

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E2200962-001	3266431-001 Rhinebeck 1A	9/29/2022	1230
E2200962-002	3266431-002 Rhinebeck 1B	9/29/2022	1240
E2200962-003	3266431-003 Rhinebeck 2A	9/29/2022	1150
E2200962-004	3266431-004 Rhinebeck 2B	9/29/2022	1200

Service Request Summary

Folder #: E2200962
Client Name: ALS Environmental - Middletown
Project Name: 3266431
Project Number:
Report To: Sarah Leung
 ALS Environmental - Middletown
 301 Fulling Mill Road
 Middletown, PA 17057
 USA
Phone Number: 717-944-5541
Cell Number:
Fax Number:
E-mail: sarah.leung@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/05/22
Internal Due Date: 11/9/2022
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 3266431
EDD: BASIC_WQC_CASNo

4 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 10B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON	
				PCDD PCDF/8290A	Total Solids/ALS SOP
E2200962-001	3266431-001 Rhinebeck 1A	Soil	09/29/22 1230		
E2200962-002	3266431-002 Rhinebeck 1B	Soil	09/29/22 1240		
E2200962-003	3266431-003 Rhinebeck 2A	Soil	09/29/22 1150		
E2200962-004	3266431-004 Rhinebeck 2B	Soil	09/29/22 1200		

Service Request Summary

Folder #: E2200962
Client Name: ALS Environmental - Middletown
Project Name: 3266431
Project Number:
Report To: Sarah Leung
ALS Environmental - Middletown
301 Fulling Mill Road
Middletown, PA 17057
USA
Phone Number: 717-944-5541
Cell Number:
Fax Number:
E-mail: sarah.leung@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/05/22
Internal Due Date: 11/9/2022
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 3266431
EDD: BASIC_WQC_CASNo

4 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 10B
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-noise 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	CONCetration
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

E2200962

DB-5MSUI

SPB-Octyl

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

Date:

11/29/22

Analyst:

Jc

Samples:

001

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

Date:

11/30/22

Analyst:

SL

Samples:

001

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

SR# Unique ID

E2200962

DB-5MSUI

SPB-Octyl

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

Date:

11/22/22

Analyst:

gc

Samples:

002, 003

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

Date:

11/22/22

Analyst:

sl

Samples:

002, 003

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

SR# Unique ID

E2200962

DB-5MSUI

SPB-Octyl

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

Date:

11/18/22

Analyst:

gc

Samples:

004

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

Date:

11/18/22

Analyst:

sl

Samples:

004



Chain of Custody

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



301 Fulling Mill Road
 Middletown, PA 17057
 P. 717-944-5541
 F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
 SAMPLER. INSTRUCTIONS ON THE BACK.

COC #:	1
ALS Quote #:	of 1
	1

Client Name: ALS	Container Type: G	Receipt Information (completed by Receiving Lab)									
Address: 301 Fulling Mill Road Middletown PA 17057	Container Size: 8oz	W.O. Temp: _____ Therm ID: _____									
	Perservative: None	Courier/Tracking #: 3266431									

Contact: Sarah Leung	ANALYSES/METHOD REQUESTED										Purchase Order #: 3265451 Slw id4/22
----------------------	---------------------------	--	--	--	--	--	--	--	--	--	--------------------------------------

Phone#: (717) 702-2248	<table border="1"> <tr> <td colspan="10">Project Name/ #: 3266431</td> <td rowspan="4">Project Comments: Subcontract: ALS Houston ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor <input type="checkbox"/> Composite Sampling <input type="checkbox"/> Rental Equipment Other: _____</td> </tr> <tr> <td colspan="10">Bill To:</td> </tr> <tr> <td colspan="10">TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days. <input type="checkbox"/> Rush-Subject to ALS approval and surcharges.</td> </tr> <tr> <td colspan="10">Date Required: _____ Approved? _____</td> </tr> </table>										Project Name/ #: 3266431										Project Comments: Subcontract: ALS Houston ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor <input type="checkbox"/> Composite Sampling <input type="checkbox"/> Rental Equipment Other: _____	Bill To:										TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days. <input type="checkbox"/> Rush-Subject to ALS approval and surcharges.										Date Required: _____ Approved? _____									
Project Name/ #: 3266431											Project Comments: Subcontract: ALS Houston ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor <input type="checkbox"/> Composite Sampling <input type="checkbox"/> Rental Equipment Other: _____																																								
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Date Required: _____ Approved? _____																																																			
Email? <input checked="" type="checkbox"/> -Y namdt.subcontract@alsglobal.com																																																			
Fax? <input type="checkbox"/> -Y No.:																																																			

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	*G or C	**Matrix	Enter Number of Containers Per Sample or Field Results Below.										Sample/COC Comments		
					DIOXIN METHOD 8290												
1 3266431001 Rhinebeck 1A	9/29/22	1230	G	S	1												
2 3266431002 Rhinebeck 1B	9/29/22	1240	G	S	1												
3 3266431003 Rhinebeck 2A	9/29/22	1150	G	S	1												
4 3266431004 Rhinebeck 2B	9/29/22	1200	G	S	1												
5																	
6																	
7																	
8																	
9																	
10																	

*Blue ink
#51
eff - 0.20*

SAMPLED BY (Please Print):			Sampler Comments:						Data Deliverables <input type="checkbox"/> Standard <input type="checkbox"/> CLP-like <input type="checkbox"/> USACE/DOD <input checked="" type="checkbox"/> Level 2		Special Processing USACE <input type="checkbox"/> Navy <input type="checkbox"/>		State Samples Collected In <input checked="" type="checkbox"/> NY <input type="checkbox"/> NJ <input type="checkbox"/> PA <input type="checkbox"/> NC <input type="checkbox"/> MD	
Relinquished By / Company Name	Date	Time	Received By / Company Name			Date	Time	Reportable to PADEP? Yes <input type="checkbox"/> No <input type="checkbox"/>		Sample Disposal Lab <input type="checkbox"/> Special <input type="checkbox"/>		other		
<i>Slw</i>	10/4/22	1600	<i>Slw</i>			10/5/22	10:10							
1			2					PWSID # _____		EDDS: Format Type- Excel				
3			4											
5			6											
7			8											
9			10											

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057



Cooler Receipt Form

Project Chemist _____

Client/Project ALS M

Thermometer ID JR31

Date/Time Received: 10/5/22 1010

Initials: JG

Date/Time Logged in: 10/5/22 1300 Initials JG.

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	COCID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
5857 1123 6201		10/5/22	1010	CG	1.6	<input 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
T: +1 713 266 1599
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

11/30/2022 12:21 PM

Prep Run#: 408315
Team: Semivoa GCMS/TWOODS

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/18/22 11:46

	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2200962-001	3266431-001 Rhinebeck 1A	.01	8290A/PCDD PCDF			Soil	10.361g	dark mud
2	E2200962-002	3266431-002 Rhinebeck 1B	.01	8290A/PCDD PCDF			Soil	10.385g	dark mud
3	E2200962-003	3266431-003 Rhinebeck 2A	.01	8290A/PCDD PCDF			Soil	10.020g	dark mud
4	E2200962-004	3266431-004 Rhinebeck 2B	.01	8290A/PCDD PCDF			Soil	10.001g	dark mud
5	E2200963-001	3266432-001 (Rhinebeck 3A)	.01	8290A/PCDD PCDF			Soil	10.112g	dark mud and water
6	E2200963-002	3266432-002 (Rhinebeck 3B)	.01	8290A/PCDD PCDF			Soil	10.211g	dark mud and water
7	E2200963-003	3266432-003 (Rhinebeck 4A)	.01	8290A/PCDD PCDF			Soil	10.226g	dark mud and water
8	E2200963-004	3266432-004 (Rhinebeck 4B)	.01	8290A/PCDD PCDF			Soil	10.000g	dark mud and water
9	E2200963-005	3266432-005 (Rhinebeck 5A)	.01	8290A/PCDD PCDF			Soil	10.006g	dark mud and water
10	E2200963-006	3266432-006 (Rhinebeck 5B)	.01	8290A/PCDD PCDF			Soil	10.000g	dark mud and water
11	E2200969-001	2131544	.01	8290/PCDD PCDF			Soil	10.229g	dark sand and rocks
12	E2200969-002	2131545	.01	8290/PCDD PCDF			Soil	10.312g	dark sand and rocks
13	E2200969-003	2131546	.01	8290/PCDD PCDF			Soil	10.114g	dark soil
14	EQ2200475-01	MB		8290A/PCDD PCDF			Solid	10.000g	
15	EQ2200475-02	LCS		8290A/PCDD PCDF			Solid	10.000g	
16	EQ2200475-03	2131546 MS	.01	8290/PCDD PCDF			Solid	10.614g	
17	EQ2200475-04	2131546 DMS	.01	8290/PCDD PCDF			Solid	10.136g	

Spiking Solutions

Name: 1613B Matrix Working Standard	Inventory ID 225447	Logbook Ref: tw 10/12/22 225447	Expires On: 04/10/2023
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EQ2200475-02 100.00µL EQ2200475-02 100.00µL EQ2200475-03 100.00µL EQ2200475-04 100.00µL

Name: 8290/1613B Cleanup Working Standard	Inventory ID 225486	Logbook Ref: tw 10/14/22 225486	Expires On: 02/28/2023
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E2200962-001 100.00µL E2200962-002 100.00µL E2200962-003 100.00µL E2200962-004 100.00µL E2200963-001 100.00µL E2200963-002 100.00µL
 E2200963-003 100.00µL E2200963-004 100.00µL E2200963-005 100.00µL E2200963-006 100.00µL E2200969-001 100.00µL E2200969-002 100.00µL
 E2200969-003 100.00µL EQ2200475-01 100.00µL EQ2200475-01 100.00µL EQ2200475-02 100.00µL EQ2200475-02 100.00µL EQ2200475-03 100.00µL
 EQ2200475-04 100.00µL

Name: 1613B Labeled Working Standard	Inventory ID 225503	Logbook Ref: BF 10/17/2022 225503	Expires On: 04/10/2023
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E2200962-001 1,000.00µL E2200962-002 1,000.00µL E2200962-003 1,000.00µL E2200962-004 1,000.00µL E2200963-001 1,000.00µL E2200963-002 1,000.00µL
 E2200963-003 1,000.00µL E2200963-004 1,000.00µL E2200963-005 1,000.00µL E2200963-006 1,000.00µL E2200969-001 1,000.00µL E2200969-002 1,000.00µL
 E2200969-003 1,000.00µL EQ2200475-01 1,000.00µL EQ2200475-01 1,000.00µL EQ2200475-02 1,000.00µL EQ2200475-02 1,000.00µL EQ2200475-03 1,000.00µL
 EQ2200475-04 1,000.00µL

Preparation Information Benchsheet

11/30/2022 12:21 PM

Prep Run#: 408315
Team: Semivoa GCMS/TWOODS

Prep Workflow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/18/22 11:46

Preparation Materials

Carbon, High Purity	tw 08/15/22 (224550)	Ethyl Acetate 99.9% Minimum EtOAc	Ethyl Acetate 6/30/22 (223782)	Glass Wool	TW 5/20/22 (225628)
Hexanes 95%	tw 10/18/22 hexane (225613)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	tw 10/04/22 (225325)	Sodium Hydroxide 1N NaOH	SN 4/26/22 (222726)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	SN 5/18/22 (223143)	Tridecane (n-Tridecane)	tw 08/15/22 (224552)	Silica Gel	tw 10/17/22 (225501)
sulfuric acid	tw 09/09/22 sulfuric (224982)	Toluene 99.9% Minimum	tw 10/03/22 (225319)		

Preparation Steps

Step: Extraction	Step: Acid Clean	Step: Silica Gel Clean	Step: Final Volume
Started: 10/18/22 11:46	Started: 10/25/22 10:00	Started: 10/25/22 12:00	Started: 10/26/22 11:00
Finished: 10/19/22 09:00	Finished: 10/25/22 11:00	Finished: 10/25/22 15:00	Finished: 10/26/22 14:00
By: TWOODS	By: TWOODS	By: TWOODS	By: TWOODS
Comments	Comments	Comments	Comments

Comments: _____

Reviewed By: TW Date: 10/18/22

Chain of Custody

Relinquished By: _____	Date: _____	Extracts Examined
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: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:30
Date Received: 10/05/22 10:10

Sample Name: 3266431-001 Rhinebeck 1A
Lab Code: E2200962-001

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.361g
Data File Name: P540052
ICAL Date: 01/18/22

Date Analyzed: 11/15/22 17:14
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: p540057
Cal Ver. File Name: P540041

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.420	0.760			1
1,2,3,7,8-PeCDD	ND	U	0.169	3.80			1
1,2,3,6,7,8-HxCDD	ND	U	0.151	3.80			1
1,2,3,4,7,8-HxCDD	ND	U	0.171	3.80			1
1,2,3,7,8,9-HxCDD	ND	U	0.160	3.80			1
1,2,3,4,6,7,8-HpCDD	0.891JK		0.114	3.80	1.47	1.000	1
OCDD	14.4		0.752	7.60	1.01	1.000	1
2,3,7,8-TCDF	ND	U	0.330	0.760			1
1,2,3,7,8-PeCDF	ND	U	0.165	3.80			1
2,3,4,7,8-PeCDF	ND	U	0.157	3.80			1
1,2,3,6,7,8-HxCDF	ND	U	0.0864	3.80			1
1,2,3,7,8,9-HxCDF	ND	U	0.111	3.80			1
1,2,3,4,7,8-HxCDF	0.153J		0.0808	3.80	1.35	1.000	1
2,3,4,6,7,8-HxCDF	ND	U	0.0703	3.80			1
1,2,3,4,6,7,8-HpCDF	0.413J		0.155	3.80	0.98	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.179	3.80			1
OCDF	0.837JK		0.363	7.60	0.69	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:30
Date Received: 10/05/22 10:10

Sample Name: 3266431-001 Rhinebeck 1A
Lab Code: E2200962-001

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.361g

Data File Name: P540052
ICAL Date: 01/18/22

Date Analyzed: 11/15/22 17:14
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: p540057
Cal Ver. File Name: P540041

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.420	0.760			1
Total Penta-Dioxins	ND	U	0.169	3.80			1
Total Hexa-Dioxins	ND	U	0.160	3.80			1
Total Hepta-Dioxins	0.920J		0.114	3.80	1.00		1
Total Tetra-Furans	ND	U	0.330	0.760			1
Total Penta-Furans	ND	U	0.161	3.80			1
Total Hexa-Furans	0.153J		0.0850	3.80	1.35		1
Total Hepta-Furans	0.413J		0.167	3.80	0.98		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:30
Date Received: 10/05/22 10:10

Sample Name: 3266431-001 Rhinebeck 1A
Lab Code: E2200962-001

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.361g

Date Analyzed: 11/15/22 17:14
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: p540057
Cal Ver. File Name: P540041

Data File Name: P540052
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	654.819	33	Y	40-135	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	785.560	39	Y	40-135	1.62	1.207
13C-1,2,3,4,7,8-HxCDD	2000	941.571	47		40-135	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1067.133	53		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	944.372	47		40-135	1.05	1.068
13C-OCDD	4000	1269.593	32	Y	40-135	0.90	1.140
13C-2,3,7,8-TCDF	2000	512.865	26	Y	40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	684.054	34	Y	40-135	1.59	1.160
13C-2,3,4,7,8-PeCDF	2000	702.596	35	Y	40-135	1.57	1.196
13C-1,2,3,4,7,8-HxCDF	2000	941.693	47		40-135	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	870.366	44		40-135	0.49	0.973
13C-1,2,3,7,8,9-HxCDF	2000	863.582	43		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1147.282	57		40-135	0.50	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	744.955	37	Y	40-135	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	838.289	42		40-135	0.44	1.081
37Cl-2,3,7,8-TCDD	800	233.662	29	Y	40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:30
Date Received: 10/05/22 10:10

Sample Name: 3266431-001 Rhinebeck 1A
Lab Code: E2200962-001

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.420	0.760	1	1	
1,2,3,7,8-PeCDD	ND	0.169	3.80	1	1	
1,2,3,6,7,8-HxCDD	ND	0.151	3.80	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.171	3.80	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.160	3.80	1	0.1	
1,2,3,4,6,7,8-HpCDD	0.891	0.114	3.80	1	0.01	0.00891
OCDD	14.4	0.752	7.60	1	0.0003	0.00432
2,3,7,8-TCDF	ND	0.330	0.760	1	0.1	
1,2,3,7,8-PeCDF	ND	0.165	3.80	1	0.03	
2,3,4,7,8-PeCDF	ND	0.157	3.80	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0864	3.80	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.111	3.80	1	0.1	
1,2,3,4,7,8-HxCDF	0.153	0.0808	3.80	1	0.1	0.0153
2,3,4,6,7,8-HxCDF	ND	0.0703	3.80	1	0.1	
1,2,3,4,6,7,8-HpCDF	0.413	0.155	3.80	1	0.01	0.00413
1,2,3,4,7,8,9-HpCDF	ND	0.179	3.80	1	0.01	
OCDF	0.837	0.363	7.60	1	0.0003	0.000251
Total TEQ						0.0329

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil
Sample Name: 3266431-001 Rhinebeck 1A
Lab Code: E2200962-001

Service Request: E2200962
Date Collected: 09/29/22 12:30
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
8.5433g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Table with 8 columns: Analyte Name, Result, Q, EDL, MRL, Ion Ratio, RRT, Dilution Factor. Row 1: Total Solids, 63.5, -, -, -, -, -

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:40
Date Received: 10/05/22 10:10

Sample Name: 3266431-002 Rhinebeck 1B
Lab Code: E2200962-002

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.385g

Date Analyzed: 11/16/22 00:45
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540061
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	0.0874	0.639			1
1,2,3,7,8-PeCDD	ND	U	0.0956	3.20			1
1,2,3,6,7,8-HxCDD	0.0398	BJK	0.0206	3.20	2.37	1.000	1
1,2,3,4,7,8-HxCDD	0.178	BJK	0.0237	3.20	1.92	1.001	1
1,2,3,7,8,9-HxCDD	0.0904	BJK	0.0220	3.20	0.96	1.006	1
1,2,3,4,6,7,8-HpCDD	0.907	BJ	0.0818	3.20	1.14	1.000	1
OCDD	16.4	B	0.376	6.39	0.77	1.000	1
2,3,7,8-TCDF	ND	U	0.133	0.639			1
1,2,3,7,8-PeCDF	ND	U	0.108	3.20			1
2,3,4,7,8-PeCDF	ND	U	0.109	3.20			1
1,2,3,6,7,8-HxCDF	0.0318	BJK	0.00755	3.20	0.79	1.000	1
1,2,3,7,8,9-HxCDF	0.0963	BJK	0.00998	3.20	0.87	1.001	1
1,2,3,4,7,8-HxCDF	0.0354	BJK	0.00704	3.20	0.71	1.000	1
2,3,4,6,7,8-HxCDF	0.0481	BJ	0.00653	3.20	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	0.221	BJK	0.00653	3.20	0.70	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0678	BJK	0.00781	3.20	0.39	1.000	1
OCDF	0.721	BJK	0.281	6.39	0.64	1.006	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:40
Date Received: 10/05/22 10:10

Sample Name: 3266431-002 Rhinebeck 1B
Lab Code: E2200962-002

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.385g

Date Analyzed: 11/16/22 00:45
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540061
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.139J		0.0874	0.639	0.86		1
Total Penta-Dioxins	ND	U	0.0956	3.20			1
Total Hexa-Dioxins	0.304J		0.0220	3.20	1.37		1
Total Hepta-Dioxins	1.03J		0.0818	3.20	1.08		1
Total Tetra-Furans	ND	U	0.133	0.639			1
Total Penta-Furans	ND	U	0.108	3.20			1
Total Hexa-Furans	0.109J		0.00755	3.20	1.24		1
Total Hepta-Furans	0.322J		0.00717	3.20	1.12		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:40
Date Received: 10/05/22 10:10

Sample Name: 3266431-002 Rhinebeck 1B
Lab Code: E2200962-002

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.385g

Date Analyzed: 11/16/22 00:45
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540061
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	1162.251	58		40-135	0.80	1.024
13C-1,2,3,7,8-PeCDD	2000	1015.877	51		40-135	1.55	1.207
13C-1,2,3,4,7,8-HxCDD	2000	969.244	48		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1149.854	57		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	894.862	45		40-135	1.06	1.068
13C-OCDD	4000	1132.787	28	Y	40-135	0.89	1.140
13C-2,3,7,8-TCDF	2000	1005.094	50		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	988.148	49		40-135	1.61	1.161
13C-2,3,4,7,8-PeCDF	2000	939.288	47		40-135	1.60	1.197
13C-1,2,3,4,7,8-HxCDF	2000	1065.152	53		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	973.424	49		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	919.950	46		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1204.900	60		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	715.933	36	Y	40-135	0.41	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	825.737	41		40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	447.988	56		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:40
Date Received: 10/05/22 10:10

Sample Name: 3266431-002 Rhinebeck 1B
Lab Code: E2200962-002

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0874	0.639	1	1	
1,2,3,7,8-PeCDD	ND	0.0956	3.20	1	1	
1,2,3,6,7,8-HxCDD	0.0398	0.0206	3.20	1	0.1	0.00398
1,2,3,4,7,8-HxCDD	0.178	0.0237	3.20	1	0.1	0.0178
1,2,3,7,8,9-HxCDD	0.0904	0.0220	3.20	1	0.1	0.00904
1,2,3,4,6,7,8-HpCDD	0.907	0.0818	3.20	1	0.01	0.00907
OCDD	16.4	0.376	6.39	1	0.0003	0.00492
2,3,7,8-TCDF	ND	0.133	0.639	1	0.1	
1,2,3,7,8-PeCDF	ND	0.108	3.20	1	0.03	
2,3,4,7,8-PeCDF	ND	0.109	3.20	1	0.3	
1,2,3,6,7,8-HxCDF	0.0318	0.00755	3.20	1	0.1	0.00318
1,2,3,7,8,9-HxCDF	0.0963	0.00998	3.20	1	0.1	0.00963
1,2,3,4,7,8-HxCDF	0.0354	0.00704	3.20	1	0.1	0.00354
2,3,4,6,7,8-HxCDF	0.0481	0.00653	3.20	1	0.1	0.00481
1,2,3,4,6,7,8-HpCDF	0.221	0.00653	3.20	1	0.01	0.00221
1,2,3,4,7,8,9-HpCDF	0.0678	0.00781	3.20	1	0.01	0.000678
OCDF	0.721	0.281	6.39	1	0.0003	0.000216
Total TEQ						0.0691

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil
Sample Name: 3266431-002 Rhinebeck 1B
Lab Code: E2200962-002

Service Request: E2200962
Date Collected: 09/29/22 12:40
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
5.1874g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	75.3		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 11:50
Date Received: 10/05/22 10:10

Sample Name: 3266431-003 Rhinebeck 2A
Lab Code: E2200962-003

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.020g
Data File Name: P540062
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 01:34
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.304	0.980			1
1,2,3,7,8-PeCDD	ND	U	0.233	4.90			1
1,2,3,6,7,8-HxCDD	1.40	JK	0.141	4.90	1.48	1.000	1
1,2,3,4,7,8-HxCDD	0.480	BJK	0.153	4.90	2.72	1.000	1
1,2,3,7,8,9-HxCDD	1.05	J	0.147	4.90	1.30	1.007	1
1,2,3,4,6,7,8-HpCDD	34.8		0.446	4.90	1.04	1.000	1
OCDD	457		1.47	9.80	0.91	1.000	1
2,3,7,8-TCDF	ND	U	0.329	0.980			1
1,2,3,7,8-PeCDF	ND	U	0.267	4.90			1
2,3,4,7,8-PeCDF	0.386	JK	0.265	4.90	1.11	1.001	1
1,2,3,6,7,8-HxCDF	0.465	BJK	0.0808	4.90	1.01	1.000	1
1,2,3,7,8,9-HxCDF	0.272	BJK	0.101	4.90	2.49	1.001	1
1,2,3,4,7,8-HxCDF	0.378	JK	0.0714	4.90	0.65	1.001	1
2,3,4,6,7,8-HxCDF	0.417	J	0.0675	4.90	1.26	1.000	1
1,2,3,4,6,7,8-HpCDF	6.61	K	0.114	4.90	0.82	1.000	1
1,2,3,4,7,8,9-HpCDF	0.268	BJK	0.127	4.90	2.48	1.000	1
OCDF	15.1		0.394	9.80	0.85	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil
Sample Name: 3266431-003 Rhinebeck 2A
Lab Code: E2200962-003

Service Request: E2200962
Date Collected: 09/29/22 11:50
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.020g
Data File Name: P540062
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 01:34
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.856J		0.304	0.980	0.78		1
Total Penta-Dioxins	0.268J		0.233	4.90	1.40		1
Total Hexa-Dioxins	7.99		0.147	4.90	1.42		1
Total Hepta-Dioxins	75.4		0.446	4.90	1.08		1
Total Tetra-Furans	7.22		0.329	0.980	0.80		1
Total Penta-Furans	3.66J		0.123	4.90	1.52		1
Total Hexa-Furans	6.48		0.0785	4.90	1.08		1
Total Hepta-Furans	10.5		0.120	4.90	0.96		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 11:50
Date Received: 10/05/22 10:10

Sample Name: 3266431-003 Rhinebeck 2A
Lab Code: E2200962-003

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.020g

Date Analyzed: 11/16/22 01:34
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540062
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	929.324	46		40-135	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	808.038	40		40-135	1.60	1.207
13C-1,2,3,4,7,8-HxCDD	2000	786.721	39	Y	40-135	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	891.404	45		40-135	1.30	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	788.681	39	Y	40-135	1.04	1.068
13C-OCDD	4000	1100.525	28	Y	40-135	0.91	1.140
13C-2,3,7,8-TCDF	2000	817.596	41		40-135	0.77	0.991
13C-1,2,3,7,8-PeCDF	2000	780.483	39	Y	40-135	1.56	1.160
13C-2,3,4,7,8-PeCDF	2000	768.993	38	Y	40-135	1.62	1.196
13C-1,2,3,4,7,8-HxCDF	2000	852.985	43		40-135	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	765.069	38	Y	40-135	0.49	0.973
13C-1,2,3,7,8,9-HxCDF	2000	760.881	38	Y	40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	968.026	48		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	648.552	32	Y	40-135	0.43	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	725.681	36	Y	40-135	0.42	1.081
37Cl-2,3,7,8-TCDD	800	395.849	49		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 11:50
Date Received: 10/05/22 10:10

Sample Name: 3266431-003 Rhinebeck 2A
Lab Code: E2200962-003

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.304	0.980	1	1	
1,2,3,7,8-PeCDD	ND	0.233	4.90	1	1	
1,2,3,6,7,8-HxCDD	1.40	0.141	4.90	1	0.1	0.140
1,2,3,4,7,8-HxCDD	0.480	0.153	4.90	1	0.1	0.0480
1,2,3,7,8,9-HxCDD	1.05	0.147	4.90	1	0.1	0.105
1,2,3,4,6,7,8-HpCDD	34.8	0.446	4.90	1	0.01	0.348
OCDD	457	1.47	9.80	1	0.0003	0.137
2,3,7,8-TCDF	ND	0.329	0.980	1	0.1	
1,2,3,7,8-PeCDF	ND	0.267	4.90	1	0.03	
2,3,4,7,8-PeCDF	0.386	0.265	4.90	1	0.3	0.116
1,2,3,6,7,8-HxCDF	0.465	0.0808	4.90	1	0.1	0.0465
1,2,3,7,8,9-HxCDF	0.272	0.101	4.90	1	0.1	0.0272
1,2,3,4,7,8-HxCDF	0.378	0.0714	4.90	1	0.1	0.0378
2,3,4,6,7,8-HxCDF	0.417	0.0675	4.90	1	0.1	0.0417
1,2,3,4,6,7,8-HpCDF	6.61	0.114	4.90	1	0.01	0.0661
1,2,3,4,7,8,9-HpCDF	0.268	0.127	4.90	1	0.01	0.00268
OCDF	15.1	0.394	9.80	1	0.0003	0.00453
Total TEQ						1.12

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil
Sample Name: 3266431-003 Rhinebeck 2A
Lab Code: E2200962-003

Service Request: E2200962
Date Collected: 09/29/22 11:50
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
6.7888g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	50.9		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:00
Date Received: 10/05/22 10:10

Sample Name: 3266431-004 Rhinebeck 2B
Lab Code: E2200962-004

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.001g
Data File Name: P540070
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 08:17
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.542	0.836			1
1,2,3,7,8-PeCDD	0.747JK		0.257	4.18	1.96	1.001	1
1,2,3,6,7,8-HxCDD	8.19		0.202	4.18	1.10	1.000	1
1,2,3,4,7,8-HxCDD	1.40BJ		0.226	4.18	1.15	1.000	1
1,2,3,7,8,9-HxCDD	4.80		0.214	4.18	1.08	1.007	1
1,2,3,4,6,7,8-HpCDD	134		0.730	4.18	1.07	1.000	1
OCDD	1060		6.21	8.36	0.90	1.000	1
2,3,7,8-TCDF	2.02		0.290	0.836	0.79	1.001	1
1,2,3,7,8-PeCDF	0.641JK		0.370	4.18	1.27	1.001	1
2,3,4,7,8-PeCDF	1.70J		0.384	4.18	1.52	1.001	1
1,2,3,6,7,8-HxCDF	1.79JK		0.359	4.18	0.98	1.000	1
1,2,3,7,8,9-HxCDF	0.646JK		0.451	4.18	1.50	1.000	1
1,2,3,4,7,8-HxCDF	1.61J		0.334	4.18	1.08	1.000	1
2,3,4,6,7,8-HxCDF	1.50J		0.305	4.18	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	86.6		0.652	4.18	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	1.07JK		0.771	4.18	0.85	1.000	1
OCDF	66.8		1.05	8.36	0.86	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:00
Date Received: 10/05/22 10:10

Sample Name: 3266431-004 Rhinebeck 2B
Lab Code: E2200962-004

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.001g

Data File Name: P540070
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 08:17
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	2.73		0.542	0.836	0.66		1
Total Penta-Dioxins	7.94		0.257	4.18	1.68		1
Total Hexa-Dioxins	70.9		0.213	4.18	1.27		1
Total Hepta-Dioxins	261		0.730	4.18	1.01		1
Total Tetra-Furans	19.5		0.290	0.836	0.66		1
Total Penta-Furans	17.5		0.105	4.18	1.57		1
Total Hexa-Furans	39.6		0.356	4.18	1.21		1
Total Hepta-Furans	166		0.709	4.18	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:00
Date Received: 10/05/22 10:10

Sample Name: 3266431-004 Rhinebeck 2B
Lab Code: E2200962-004

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.001g
Data File Name: P540070
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 08:17
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

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	1253.999	63		40-135	0.81	1.023
13C-1,2,3,7,8-PeCDD	2000	1091.826	55		40-135	1.60	1.207
13C-1,2,3,4,7,8-HxCDD	2000	958.429	48		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1138.857	57		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	932.655	47		40-135	1.07	1.068
13C-OCDD	4000	1342.307	34	Y	40-135	0.90	1.140
13C-2,3,7,8-TCDF	2000	1067.885	53		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1041.286	52		40-135	1.57	1.160
13C-2,3,4,7,8-PeCDF	2000	986.522	49		40-135	1.58	1.196
13C-1,2,3,4,7,8-HxCDF	2000	1012.450	51		40-135	0.51	0.969
13C-1,2,3,6,7,8-HxCDF	2000	935.531	47		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	951.611	48		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1155.849	58		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	767.625	38	Y	40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	841.567	42		40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	442.906	55		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: 09/29/22 12:00
Date Received: 10/05/22 10:10

Sample Name: 3266431-004 Rhinebeck 2B
Lab Code: E2200962-004

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.542	0.836	1	1	
1,2,3,7,8-PeCDD	0.747	0.257	4.18	1	1	0.747
1,2,3,6,7,8-HxCDD	8.19	0.202	4.18	1	0.1	0.819
1,2,3,4,7,8-HxCDD	1.40	0.226	4.18	1	0.1	0.140
1,2,3,7,8,9-HxCDD	4.80	0.214	4.18	1	0.1	0.480
1,2,3,4,6,7,8-HpCDD	134	0.730	4.18	1	0.01	1.34
OCDD	1060	6.21	8.36	1	0.0003	0.318
2,3,7,8-TCDF	2.02	0.290	0.836	1	0.1	0.202
1,2,3,7,8-PeCDF	0.641	0.370	4.18	1	0.03	0.0192
2,3,4,7,8-PeCDF	1.70	0.384	4.18	1	0.3	0.510
1,2,3,6,7,8-HxCDF	1.79	0.359	4.18	1	0.1	0.179
1,2,3,7,8,9-HxCDF	0.646	0.451	4.18	1	0.1	0.0646
1,2,3,4,7,8-HxCDF	1.61	0.334	4.18	1	0.1	0.161
2,3,4,6,7,8-HxCDF	1.50	0.305	4.18	1	0.1	0.150
1,2,3,4,6,7,8-HpCDF	86.6	0.652	4.18	1	0.01	0.866
1,2,3,4,7,8,9-HpCDF	1.07	0.771	4.18	1	0.01	0.0107
OCDF	66.8	1.05	8.36	1	0.0003	0.0200
Total TEQ						6.03

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil
Sample Name: 3266431-004 Rhinebeck 2B
Lab Code: E2200962-004

Service Request: E2200962
Date Collected: 09/29/22 12:00
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
5.7528g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	59.8		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200475-01

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g
Data File Name: P540057
ICAL Date: 01/18/22

Date Analyzed: 11/15/22 21:32
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0483	0.500			1
1,2,3,7,8-PeCDD	ND	U	0.0370	2.50			1
1,2,3,6,7,8-HxCDD	0.0575JK		0.0221	2.50	0.96	1.000	1
1,2,3,4,7,8-HxCDD	0.165J		0.0251	2.50	1.12	1.000	1
1,2,3,7,8,9-HxCDD	0.0249JK		0.0235	2.50	4.45	1.007	1
1,2,3,4,6,7,8-HpCDD	0.407J		0.00740	2.50	1.13	1.000	1
OCDD	2.59J		0.166	5.00	0.87	1.000	1
2,3,7,8-TCDF	ND	U	0.0404	0.500			1
1,2,3,7,8-PeCDF	ND	U	0.0384	2.50			1
2,3,4,7,8-PeCDF	ND	U	0.0386	2.50			1
1,2,3,6,7,8-HxCDF	0.0614J		0.00540	2.50	1.13	1.000	1
1,2,3,7,8,9-HxCDF	0.0537JK		0.00700	2.50	2.25	1.001	1
1,2,3,4,7,8-HxCDF	0.0332JK		0.00500	2.50	1.50	1.000	1
2,3,4,6,7,8-HxCDF	0.0228JK		0.00480	2.50	2.65	1.000	1
1,2,3,4,6,7,8-HpCDF	0.0631JK		0.00930	2.50	0.44	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0394JK		0.0107	2.50	0.49	1.000	1
OCDF	0.306JK		0.0517	5.00	0.63	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200475-01

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/15/22 21:32
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540057
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.0483	0.500			1
Total Penta-Dioxins	ND	U	0.0370	2.50			1
Total Hexa-Dioxins	0.279J		0.0235	2.50	1.21		1
Total Hepta-Dioxins	0.407J		0.00740	2.50	1.13		1
Total Tetra-Furans	ND	U	0.0404	0.500			1
Total Penta-Furans	ND	U	0.0385	2.50			1
Total Hexa-Furans	0.125J		0.00540	2.50	1.14		1
Total Hepta-Furans	0.178J		0.0100	2.50	1.12		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200475-01

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Data File Name: P540057
ICAL Date: 01/18/22

Date Analyzed: 11/15/22 21:32
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

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	1329.581	66		40-135	0.79	1.024
13C-1,2,3,7,8-PeCDD	2000	1054.932	53		40-135	1.59	1.207
13C-1,2,3,4,7,8-HxCDD	2000	1002.880	50		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1176.697	59		40-135	1.24	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	997.424	50		40-135	1.06	1.068
13C-OCDD	4000	1435.843	36	Y	40-135	0.91	1.140
13C-2,3,7,8-TCDF	2000	1129.052	56		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1043.840	52		40-135	1.57	1.160
13C-2,3,4,7,8-PeCDF	2000	959.091	48		40-135	1.57	1.196
13C-1,2,3,4,7,8-HxCDF	2000	1102.154	55		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	983.824	49		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	984.524	49		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1192.728	60		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	794.857	40		40-135	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	923.312	46		40-135	0.43	1.080
37Cl-2,3,7,8-TCDD	800	672.315	84		40-135	NA	1.025



Accuracy & Precision

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

QA/QC Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Analyzed: 11/16/22
Date Extracted: 10/18/22

Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Units: ng/Kg
Basis: Dry
Analysis Lot: 785745

Lab Control Sample
EQ2200475-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2,3,4,6,7,8-HpCDD	94.6	100	95	70-130
1,2,3,4,7,8-HxCDD	100	100	100	70-130
1,2,3,6,7,8-HxCDD	89.0	100	89	70-130
1,2,3,7,8,9-HxCDD	97.7	100	98	70-130
1,2,3,7,8-PeCDD	95.4	100	95	70-130
2,3,7,8-TCDD	15.4	20.0	77	70-130
OCDD	196	200	98	70-130
1,2,3,4,6,7,8-HpCDF	95.7	100	96	70-130
1,2,3,4,7,8,9-HpCDF	90.3	100	90	70-130
1,2,3,4,7,8-HxCDF	89.9	100	90	70-130
1,2,3,6,7,8-HxCDF	97.9	100	98	70-130
1,2,3,7,8,9-HxCDF	95.1	100	95	70-130
1,2,3,7,8-PeCDF	93.0	100	93	70-130
2,3,4,6,7,8-HxCDF	82.7	100	83	70-130
2,3,4,7,8-PeCDF	101	100	101	70-130
2,3,7,8-TCDF	19.5	20.0	98	70-130
OCDF	187	200	93	70-130

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200475-02

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g
Data File Name: P540063
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 02:22
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	15.4		0.213	0.500	0.77	1.001	1
1,2,3,7,8-PeCDD	95.4		0.192	2.50	1.63	1.001	1
1,2,3,6,7,8-HxCDD	89.0		0.0488	2.50	1.25	1.000	1
1,2,3,4,7,8-HxCDD	100		0.0553	2.50	1.27	1.000	1
1,2,3,7,8,9-HxCDD	97.7		0.0519	2.50	1.23	1.006	1
1,2,3,4,6,7,8-HpCDD	94.6		0.0987	2.50	1.06	1.000	1
OCDD	196		1.24	5.00	0.90	1.000	1
2,3,7,8-TCDF	19.5		0.209	0.500	0.69	1.001	1
1,2,3,7,8-PeCDF	93.0		0.148	2.50	1.52	1.001	1
2,3,4,7,8-PeCDF	101		0.158	2.50	1.52	1.000	1
1,2,3,6,7,8-HxCDF	97.9		0.0448	2.50	1.20	1.000	1
1,2,3,7,8,9-HxCDF	95.1		0.0553	2.50	1.22	1.000	1
1,2,3,4,7,8-HxCDF	89.9		0.0408	2.50	1.20	1.000	1
2,3,4,6,7,8-HxCDF	82.7		0.0392	2.50	1.16	1.000	1
1,2,3,4,6,7,8-HpCDF	95.7		0.359	2.50	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	90.3		0.469	2.50	0.97	1.000	1
OCDF	187		0.406	5.00	0.84	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200475-02

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Data File Name: P540063
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 02:22
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	15.4		0.213	0.500	0.77		1
Total Penta-Dioxins	95.4		0.192	2.50	1.63		1
Total Hexa-Dioxins	287		0.0518	2.50	1.27		1
Total Hepta-Dioxins	94.6		0.0987	2.50	1.06		1
Total Tetra-Furans	19.7		0.209	0.500	0.65		1
Total Penta-Furans	196		0.153	2.50	1.44		1
Total Hexa-Furans	366		0.0443	2.50	1.20		1
Total Hepta-Furans	186		0.410	2.50	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266431
Sample Matrix: Soil

Service Request: E2200962
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200475-02

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Data File Name: P540063
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 02:22
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

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	975.817	49		40-135	0.81	1.024
13C-1,2,3,7,8-PeCDD	2000	757.465	38	Y	40-135	1.60	1.207
13C-1,2,3,4,7,8-HxCDD	2000	822.384	41		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	943.724	47		40-135	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	858.033	43		40-135	1.08	1.068
13C-OCDD	4000	1511.573	38	Y	40-135	0.89	1.140
13C-2,3,7,8-TCDF	2000	870.260	44		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	791.600	40		40-135	1.62	1.160
13C-2,3,4,7,8-PeCDF	2000	714.295	36	Y	40-135	1.59	1.197
13C-1,2,3,4,7,8-HxCDF	2000	923.728	46		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	814.235	41		40-135	0.48	0.973
13C-1,2,3,7,8,9-HxCDF	2000	815.907	41		40-135	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1008.007	50		40-135	0.49	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	751.549	38	Y	40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	756.913	38	Y	40-135	0.43	1.080
37Cl-2,3,7,8-TCDD	800	301.287	38	Y	40-135	NA	1.025



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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For

Normandeau Associates Inc.-Stowe

Project CHPE Hudson 7
Workorder 3266432
Report ID 208080 on 11/18/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Sep 30, 2022.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Sarah Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

Don Nazario - Normandeau Associates, Inc.-Stowe
Michael Mettler - Normandeau Associates, Inc.

Sarah Leung

Sarah Leung
Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

<u>Lab ID</u>	<u>Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>	<u>Collector</u>	<u>Collection Company</u>
3266432001	Rhinebeck 3A	Solid	09/29/2022 11:00	09/30/2022 08:30	CBC	Collected By Client
3266432002	Rhinebeck 3B	Solid	09/29/2022 11:15	09/30/2022 08:30	CBC	Collected By Client
3266432003	Rhinebeck 4A	Solid	09/29/2022 09:50	09/30/2022 08:30	CBC	Collected By Client
3266432004	Rhinebeck 4B	Solid	09/29/2022 10:10	09/30/2022 08:30	CBC	Collected By Client
3266432005	Rhinebeck 5A	Solid	09/29/2022 09:05	09/30/2022 08:30	CBC	Collected By Client
3266432006	Rhinebeck 5B	Solid	09/29/2022 09:10	09/30/2022 08:30	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136.
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

Sample Notations

Lab ID	Sample ID		
3266432001	Rhinebeck 3A	S1	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266432002	Rhinebeck 3B	S2	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266432003	Rhinebeck 4A	S3	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266432004	Rhinebeck 4B	S4	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266432005	Rhinebeck 5A	S5	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.
3266432006	Rhinebeck 5B	S6	This sample was analyzed at a dilution in the 8081 pesticide analysis. Reporting limits were adjusted accordingly.

Result Notations

Notation Ref.	
1	See attached subcontract Dioxin results from ALS Houston. SLW 11/18/2022
2	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 36% in the bracketing CCV.
3	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 24% in the bracketing CCV.
4	Method criteria requires continuing calibration verification (CCV) standards be less than or equal to 20% of the initial calibration for the 8081 analysis. This compound was biased high 23% in the bracketing CCV.



Detected Results Summary

Client Sample ID	Rhinebeck 3A	Collected	09/29/2022 11:00
Lab Sample ID	3266432001	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	9.7	mg/kg	4.7	1.6	SW846 6010D	#
Cadmium, Total	0.75J	mg/kg	1.2	0.39	SW846 6010D	#
Copper, Total	36.7	mg/kg	4.7	1.6	SW846 6010D	#
Lead, Total	33.3	mg/kg	4.7	1.6	SW846 6010D	#
Mercury, Total	0.12	mg/kg	0.098	0.031	SW846 7471B	#
SEMIVOLATILES						
Anthracene	41.3J	ug/kg	104	35.4	SW846 8270D	#
Benzo(a)anthracene	122	ug/kg	104	35.4	SW846 8270D	#
Benzo(a)pyrene	161	ug/kg	104	35.4	SW846 8270D	#
Benzo(b)fluoranthene	201	ug/kg	104	35.4	SW846 8270D	#
Benzo(g,h,i)perylene	101J	ug/kg	104	35.4	SW846 8270D	#
Benzo(k)fluoranthene	68.4J	ug/kg	104	35.4	SW846 8270D	#
Chrysene	157	ug/kg	104	35.4	SW846 8270D	#
Fluoranthene	278	ug/kg	104	35.4	SW846 8270D	#
Indeno(1,2,3-cd)pyrene	134	ug/kg	104	35.4	SW846 8270D	#
Naphthalene	57.2J	ug/kg	104	35.4	SW846 8270D	#
Phenanthrene	132	ug/kg	104	35.4	SW846 8270D	#
Pyrene	195	ug/kg	104	35.4	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	See attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	52.0	%	0.1	0.01	S2540G-11	#
Total Solids	48.0	%	0.1	0.01	S2540G-11	#



Detected Results Summary

Client Sample ID	Rhinebeck 3B	Collected	09/29/2022 11:15
Lab Sample ID	3266432002	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	4.8	mg/kg	2.4	0.79	SW846 6010D	#
Cadmium, Total	0.57J	mg/kg	0.59	0.20	SW846 6010D	#
Copper, Total	16.0	mg/kg	2.4	0.79	SW846 6010D	#
Lead, Total	19.5	mg/kg	2.4	0.79	SW846 6010D	#
Mercury, Total	0.18	mg/kg	0.065	0.021	SW846 7471B	#
SEMIVOLATILES						
Anthracene	35.8J	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(a)anthracene	61.2	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(a)pyrene	65.9	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(b)fluoranthene	73.8	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(g,h,i)perylene	37.5J	ug/kg	61.0	20.7	SW846 8270D	#
Benzo(k)fluoranthene	27.1J	ug/kg	61.0	20.7	SW846 8270D	#
Chrysene	67.3	ug/kg	61.0	20.7	SW846 8270D	#
Fluoranthene	116	ug/kg	61.0	20.7	SW846 8270D	#
Naphthalene	40.6J	ug/kg	61.0	20.7	SW846 8270D	#
Phenanthrene	80.2	ug/kg	61.0	20.7	SW846 8270D	#
Pyrene	99.0	ug/kg	61.0	20.7	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	See attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	29.3	%	0.1	0.01	S2540G-11	#
Total Solids	70.7	%	0.1	0.01	S2540G-11	#



Detected Results Summary

Client Sample ID	Rhinebeck 4A	Collected	09/29/2022 09:50
Lab Sample ID	3266432003	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	9.7	mg/kg	3.3	1.1	SW846 6010D	#
Cadmium, Total	0.91	mg/kg	0.81	0.27	SW846 6010D	#
Copper, Total	34.6	mg/kg	3.3	1.1	SW846 6010D	#
Lead, Total	52.9	mg/kg	3.3	1.1	SW846 6010D	#
Mercury, Total	0.38	mg/kg	0.083	0.027	SW846 7471B	#
SEMIVOLATILES						
Acenaphthene	45.6J	ug/kg	77.2	26.3	SW846 8270D	#
Acenaphthylene	91.4	ug/kg	77.2	26.3	SW846 8270D	#
Anthracene	175	ug/kg	77.2	26.3	SW846 8270D	#
Benzo(a)anthracene	357	ug/kg	77.2	26.3	SW846 8270D	#
Benzo(a)pyrene	493	ug/kg	77.2	26.3	SW846 8270D	#
Benzo(b)fluoranthene	426	ug/kg	77.2	26.3	SW846 8270D	#
Benzo(g,h,i)perylene	218	ug/kg	77.2	26.3	SW846 8270D	#
Benzo(k)fluoranthene	125	ug/kg	77.2	26.3	SW846 8270D	#
Chrysene	380	ug/kg	77.2	26.3	SW846 8270D	#
Dibenzo(a,h)anthracene	54.6J	ug/kg	77.2	26.3	SW846 8270D	#
Fluoranthene	458	ug/kg	77.2	26.3	SW846 8270D	#
Fluorene	71.7J	ug/kg	77.2	26.3	SW846 8270D	#
Indeno(1,2,3-cd)pyrene	254	ug/kg	77.2	26.3	SW846 8270D	#
Naphthalene	281	ug/kg	77.2	26.3	SW846 8270D	#
Phenanthrene	334	ug/kg	77.2	26.3	SW846 8270D	#
Pyrene	481	ug/kg	77.2	26.3	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	See attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	42.2	%	0.1	0.01	S2540G-11	#
Total Solids	57.8	%	0.1	0.01	S2540G-11	#



Detected Results Summary

Client Sample ID	Rhinebeck 4B	Collected	09/29/2022 10:10
Lab Sample ID	3266432004	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	3.4	mg/kg	2.5	0.85	SW846 6010D	#
Copper, Total	9.0	mg/kg	2.5	0.85	SW846 6010D	#
Lead, Total	9.2	mg/kg	2.5	0.85	SW846 6010D	#
Mercury, Total	0.45	mg/kg	0.067	0.022	SW846 7471B	#
SEMIVOLATILES						
Anthracene	31.5J	ug/kg	68.0	23.1	SW846 8270D	#
Benzo(a)anthracene	98.9	ug/kg	68.0	23.1	SW846 8270D	#
Benzo(a)pyrene	105	ug/kg	68.0	23.1	SW846 8270D	#
Benzo(b)fluoranthene	106	ug/kg	68.0	23.1	SW846 8270D	#
Benzo(g,h,i)perylene	42.0J	ug/kg	68.0	23.1	SW846 8270D	#
Benzo(k)fluoranthene	36.8J	ug/kg	68.0	23.1	SW846 8270D	#
Chrysene	82.2	ug/kg	68.0	23.1	SW846 8270D	#
Fluoranthene	180	ug/kg	68.0	23.1	SW846 8270D	#
Indeno(1,2,3-cd)pyrene	55.9J	ug/kg	68.0	23.1	SW846 8270D	#
Naphthalene	46.8J	ug/kg	68.0	23.1	SW846 8270D	#
Phenanthrene	55.5J	ug/kg	68.0	23.1	SW846 8270D	#
Pyrene	126	ug/kg	68.0	23.1	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	See attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	31.9	%	0.1	0.01	S2540G-11	#
Total Solids	68.1	%	0.1	0.01	S2540G-11	#



Detected Results Summary

Client Sample ID	Rhinebeck 5A	Collected	09/29/2022 09:05
Lab Sample ID	3266432005	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	10.3	mg/kg	3.4	1.1	SW846 6010D	#
Cadmium, Total	1.3	mg/kg	0.85	0.28	SW846 6010D	#
Copper, Total	45.6	mg/kg	3.4	1.1	SW846 6010D	#
Lead, Total	63.6	mg/kg	3.4	1.1	SW846 6010D	#
Mercury, Total	0.50	mg/kg	0.090	0.029	SW846 7471B	#
SEMIVOLATILES						
Acenaphthene	30.9J	ug/kg	84.4	28.7	SW846 8270D	#
Acenaphthylene	64.9J	ug/kg	84.4	28.7	SW846 8270D	#
Anthracene	174	ug/kg	84.4	28.7	SW846 8270D	#
Benzo(a)anthracene	294	ug/kg	84.4	28.7	SW846 8270D	#
Benzo(a)pyrene	355	ug/kg	84.4	28.7	SW846 8270D	#
Benzo(b)fluoranthene	332	ug/kg	84.4	28.7	SW846 8270D	#
Benzo(g,h,i)perylene	173	ug/kg	84.4	28.7	SW846 8270D	#
Benzo(k)fluoranthene	127	ug/kg	84.4	28.7	SW846 8270D	#
Chrysene	310	ug/kg	84.4	28.7	SW846 8270D	#
Dibenzo(a,h)anthracene	46.3J	ug/kg	84.4	28.7	SW846 8270D	#
Fluoranthene	506	ug/kg	84.4	28.7	SW846 8270D	#
Fluorene	61.2J	ug/kg	84.4	28.7	SW846 8270D	#
Naphthalene	168	ug/kg	84.4	28.7	SW846 8270D	#
Phenanthrene	328	ug/kg	84.4	28.7	SW846 8270D	#
Pyrene	505	ug/kg	84.4	28.7	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	See attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	45.2	%	0.1	0.01	S2540G-11	#
Total Solids	54.8	%	0.1	0.01	S2540G-11	#



Project CHPE Hudson 7
 Workorder 3266432

Detected Results Summary

Client Sample ID	Rhinebeck 5B	Collected	09/29/2022 09:10
Lab Sample ID	3266432006	Lab Receipt	09/30/2022 08:30

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Arsenic, Total	4.7	mg/kg	2.6	0.88	SW846 6010D	#
Copper, Total	11.8	mg/kg	2.6	0.88	SW846 6010D	#
Lead, Total	17.4	mg/kg	2.6	0.88	SW846 6010D	#
Mercury, Total	0.049J	mg/kg	0.061	0.020	SW846 7471B	#
SEMIVOLATILES						
Benzo(a)anthracene	37.9J	ug/kg	64.6	22.0	SW846 8270D	#
Benzo(a)pyrene	35.6J	ug/kg	64.6	22.0	SW846 8270D	#
Benzo(b)fluoranthene	35.7J	ug/kg	64.6	22.0	SW846 8270D	#
Chrysene	27.9J	ug/kg	64.6	22.0	SW846 8270D	#
Fluoranthene	52.0J	ug/kg	64.6	22.0	SW846 8270D	#
Indeno(1,2,3-cd)pyrene	22.8J	ug/kg	64.6	22.0	SW846 8270D	#
Naphthalene	38.8J	ug/kg	64.6	22.0	SW846 8270D	#
Phenanthrene	33.8J	ug/kg	64.6	22.0	SW846 8270D	#
Pyrene	41.1J	ug/kg	64.6	22.0	SW846 8270D	#
Sub'd-CASH Labs						
Dioxin	See attached	ug/L			EPA 1613B	#
WET CHEMISTRY						
Moisture	30.9	%	0.1	0.01	S2540G-11	#
Total Solids	69.1	%	0.1	0.01	S2540G-11	#



Results

Client Sample ID	Rhinebeck 3A	Collected	09/29/2022 11:00
Lab Sample ID	3266432001	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	9.7	S1	mg/kg	4.7	1.6	SW846 6010D	1	10/19/2022 14:45	A1S	A1
Cadmium, Total	0.75J	J,S1	mg/kg	1.2	0.39	SW846 6010D	1	10/19/2022 14:45	A1S	A1
Copper, Total	36.7	S1	mg/kg	4.7	1.6	SW846 6010D	1	10/19/2022 14:45	A1S	A1
Lead, Total	33.3	S1	mg/kg	4.7	1.6	SW846 6010D	1	10/19/2022 14:45	A1S	A1
Mercury, Total	0.12	S1	mg/kg	0.098	0.031	SW846 7471B	1	10/07/2022 10:57	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,2,S1	ug/kg	17.7	11.4	SW846 8081B	5	10/06/2022 21:20	KJH	A
4,4'-DDE	ND	ND,3,S1	ug/kg	17.7	5.7	SW846 8081B	5	10/06/2022 21:20	KJH	A
4,4'-DDT	ND	ND,S1	ug/kg	17.7	5.1	SW846 8081B	5	10/06/2022 21:20	KJH	A
Chlordane	ND	ND,S1	ug/kg	364	61.4	SW846 8081B	5	10/06/2022 21:20	KJH	A
Dieldrin	ND	ND,4,S1	ug/kg	17.7	6.9	SW846 8081B	5	10/06/2022 21:20	KJH	A
Mirex	ND	ND,S1	ug/kg	17.7	5.5	SW846 8081B	5	10/06/2022 21:20	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	68.1%	30 - 135	10/06/2022 21:20	
Tetrachloro-m-xylene	877-09-8	74.5%	30 - 111	10/06/2022 21:20	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Acenaphthylene	ND	ND,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Anthracene	41.3J	J,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Benzo(a)anthracene	122	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Benzo(a)pyrene	161	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Benzo(b)fluoranthene	201	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Benzo(g,h,i)perylene	101J	J,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Benzo(k)fluoranthene	68.4J	J,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Chrysene	157	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Dibenzo(a,h)anthracene	ND	ND,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Fluoranthene	278	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Fluorene	ND	ND,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Indeno(1,2,3-cd)pyrene	134	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Naphthalene	57.2J	J,S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Phenanthrene	132	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A
Pyrene	195	S1	ug/kg	104	35.4	SW846 8270D	1	10/03/2022 10:13	S7M	A



Results

Client Sample ID	Rhinebeck 3A	Collected	09/29/2022 11:00
Lab Sample ID	3266432001	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			64.8%		19 - 132		10/03/2022 10:13		
2-Fluorobiphenyl	321-60-8			65.7%		40 - 110		10/03/2022 10:13		
2-Fluorophenol	367-12-4			55.4%		26 - 116		10/03/2022 10:13		
Nitrobenzene-d5	4165-60-0			60.4%		38 - 112		10/03/2022 10:13		
Phenol-d5	4165-62-2			61.2%		35 - 111		10/03/2022 10:13		
Terphenyl-d14	98904-43-9			73.9%		45 - 126		10/03/2022 10:13		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	See attached	1,S1	ug/L			EPA 1613B	1	11/18/2022 14:55	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,S1	ug/kg	4.9	1.2	SW846 8260C	1	10/03/2022 19:22	VLM	E
Ethylbenzene	ND	ND,S1	ug/kg	4.9	1.7	SW846 8260C	1	10/03/2022 19:22	VLM	E
Toluene	ND	ND,S1	ug/kg	4.9	1.7	SW846 8260C	1	10/03/2022 19:22	VLM	E
Total Xylenes	ND	ND,S1	ug/kg	14.8	3.5	SW846 8260C	1	10/03/2022 19:22	VLM	E

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			95.9%		56 - 124		10/03/2022 19:22		
4-Bromofluorobenzene	460-00-4			109%		51 - 128		10/03/2022 19:22		
Dibromofluoromethane	1868-53-7			105%		62 - 123		10/03/2022 19:22		
Toluene-d8	2037-26-5			98.8%		59 - 131		10/03/2022 19:22		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	52.0	S1	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	48.0	S1	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhinebeck 3B	Collected	09/29/2022 11:15
Lab Sample ID	3266432002	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	4.8	S2	mg/kg	2.4	0.79	SW846 6010D	1	10/19/2022 14:46	A1S	A1
Cadmium, Total	0.57J	J,S2	mg/kg	0.59	0.20	SW846 6010D	1	10/19/2022 14:46	A1S	A1
Copper, Total	16.0	S2	mg/kg	2.4	0.79	SW846 6010D	1	10/19/2022 14:46	A1S	A1
Lead, Total	19.5	S2	mg/kg	2.4	0.79	SW846 6010D	1	10/19/2022 14:46	A1S	A1
Mercury, Total	0.18	S2	mg/kg	0.065	0.021	SW846 7471B	1	10/07/2022 10:58	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,2,S2	ug/kg	11.4	7.4	SW846 8081B	5	10/06/2022 21:51	KJH	A
4,4'-DDE	ND	ND,3,S2	ug/kg	11.4	3.7	SW846 8081B	5	10/06/2022 21:51	KJH	A
4,4'-DDT	ND	ND,S2	ug/kg	11.4	3.3	SW846 8081B	5	10/06/2022 21:51	KJH	A
Chlordane	ND	ND,S2	ug/kg	235	39.6	SW846 8081B	5	10/06/2022 21:51	KJH	A
Dieldrin	ND	ND,4,S2	ug/kg	11.4	4.4	SW846 8081B	5	10/06/2022 21:51	KJH	A
Mirex	ND	ND,S2	ug/kg	11.4	3.6	SW846 8081B	5	10/06/2022 21:51	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	70%	30 - 135	10/06/2022 21:51	
Tetrachloro-m-xylene	877-09-8	72.9%	30 - 111	10/06/2022 21:51	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Acenaphthylene	ND	ND,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Anthracene	35.8J	J,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Benzo(a)anthracene	61.2	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Benzo(a)pyrene	65.9	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Benzo(b)fluoranthene	73.8	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Benzo(g,h,i)perylene	37.5J	J,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Benzo(k)fluoranthene	27.1J	J,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Chrysene	67.3	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Dibenzo(a,h)anthracene	ND	ND,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Fluoranthene	116	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Fluorene	ND	ND,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Naphthalene	40.6J	J,S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Phenanthrene	80.2	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A
Pyrene	99.0	S2	ug/kg	61.0	20.7	SW846 8270D	1	10/03/2022 10:38	S7M	A



Project CHPE Hudson 7
 Workorder 3266432

Results

Client Sample ID	Rhinebeck 3B	Collected	09/29/2022 11:15
Lab Sample ID	3266432002	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			65.1%		19 - 132		10/03/2022 10:38		
2-Fluorobiphenyl	321-60-8			69.4%		40 - 110		10/03/2022 10:38		
2-Fluorophenol	367-12-4			61.1%		26 - 116		10/03/2022 10:38		
Nitrobenzene-d5	4165-60-0			68.3%		38 - 112		10/03/2022 10:38		
Phenol-d5	4165-62-2			65.4%		35 - 111		10/03/2022 10:38		
Terphenyl-d14	98904-43-9			72.2%		45 - 126		10/03/2022 10:38		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	See attached	1,S2	ug/L			EPA 1613B	1	11/18/2022 14:56	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,S2	ug/kg	2.2	0.56	SW846 8260C	1	10/01/2022 02:17	VLM	D
Ethylbenzene	ND	ND,S2	ug/kg	2.2	0.76	SW846 8260C	1	10/01/2022 02:17	VLM	D
Toluene	ND	ND,S2	ug/kg	2.2	0.75	SW846 8260C	1	10/01/2022 02:17	VLM	D
Total Xylenes	ND	ND,S2	ug/kg	6.7	1.6	SW846 8260C	1	10/01/2022 02:17	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			94.3%		56 - 124		10/01/2022 02:17		
4-Bromofluorobenzene	460-00-4			103%		51 - 128		10/01/2022 02:17		
Dibromofluoromethane	1868-53-7			100%		62 - 123		10/01/2022 02:17		
Toluene-d8	2037-26-5			98.6%		59 - 131		10/01/2022 02:17		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	29.3	S2	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	70.7	S2	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhinebeck 4A	Collected	09/29/2022 09:50
Lab Sample ID	3266432003	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	9.7	S3	mg/kg	3.3	1.1	SW846 6010D	1	10/19/2022 14:47	A1S	A1
Cadmium, Total	0.91	S3	mg/kg	0.81	0.27	SW846 6010D	1	10/19/2022 14:47	A1S	A1
Copper, Total	34.6	S3	mg/kg	3.3	1.1	SW846 6010D	1	10/19/2022 14:47	A1S	A1
Lead, Total	52.9	S3	mg/kg	3.3	1.1	SW846 6010D	1	10/19/2022 14:47	A1S	A1
Mercury, Total	0.38	S3	mg/kg	0.083	0.027	SW846 7471B	1	10/07/2022 11:23	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,2,S3	ug/kg	14.0	9.0	SW846 8081B	5	10/06/2022 21:30	KJH	A
4,4'-DDE	ND	ND,3,S3	ug/kg	14.0	4.5	SW846 8081B	5	10/06/2022 21:30	KJH	A
4,4'-DDT	ND	ND,S3	ug/kg	14.0	4.0	SW846 8081B	5	10/06/2022 21:30	KJH	A
Chlordane	ND	ND,S3	ug/kg	287	48.4	SW846 8081B	5	10/06/2022 21:30	KJH	A
Dieldrin	ND	ND,4,S3	ug/kg	14.0	5.4	SW846 8081B	5	10/06/2022 21:30	KJH	A
Mirex	ND	ND,S3	ug/kg	14.0	4.4	SW846 8081B	5	10/06/2022 21:30	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	65.3%	30 - 135	10/06/2022 21:30	
Tetrachloro-m-xylene	877-09-8	72.8%	30 - 111	10/06/2022 21:30	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	45.6J	J,S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Acenaphthylene	91.4	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Anthracene	175	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Benzo(a)anthracene	357	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Benzo(a)pyrene	493	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Benzo(b)fluoranthene	426	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Benzo(g,h,i)perylene	218	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Benzo(k)fluoranthene	125	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Chrysene	380	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Dibenzo(a,h)anthracene	54.6J	J,S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Fluoranthene	458	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Fluorene	71.7J	J,S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Indeno(1,2,3-cd)pyrene	254	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Naphthalene	281	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Phenanthrene	334	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A
Pyrene	481	S3	ug/kg	77.2	26.3	SW846 8270D	1	10/03/2022 11:04	S7M	A



Results

Client Sample ID	Rhinebeck 4A	Collected	09/29/2022 09:50
Lab Sample ID	3266432003	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			62.6%		19 - 132		10/03/2022 11:04		
2-Fluorobiphenyl	321-60-8			71.2%		40 - 110		10/03/2022 11:04		
2-Fluorophenol	367-12-4			64.7%		26 - 116		10/03/2022 11:04		
Nitrobenzene-d5	4165-60-0			72.4%		38 - 112		10/03/2022 11:04		
Phenol-d5	4165-62-2			63.8%		35 - 111		10/03/2022 11:04		
Terphenyl-d14	98904-43-9			68.8%		45 - 126		10/03/2022 11:04		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	See attached	1,S3	ug/L			EPA 1613B	1	11/18/2022 14:56	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,S3	ug/kg	3.1	0.78	SW846 8260C	1	10/01/2022 02:42	VLM	D
Ethylbenzene	ND	ND,S3	ug/kg	3.1	1.1	SW846 8260C	1	10/01/2022 02:42	VLM	D
Toluene	ND	ND,S3	ug/kg	3.1	1.0	SW846 8260C	1	10/01/2022 02:42	VLM	D
Total Xylenes	ND	ND,S3	ug/kg	9.3	2.2	SW846 8260C	1	10/01/2022 02:42	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			91.6%		56 - 124		10/01/2022 02:42		
4-Bromofluorobenzene	460-00-4			105%		51 - 128		10/01/2022 02:42		
Dibromofluoromethane	1868-53-7			98.6%		62 - 123		10/01/2022 02:42		
Toluene-d8	2037-26-5			96%		59 - 131		10/01/2022 02:42		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	42.2	S3	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	57.8	S3	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhinebeck 4B	Collected	09/29/2022 10:10
Lab Sample ID	3266432004	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	3.4	S4	mg/kg	2.5	0.85	SW846 6010D	1	10/19/2022 14:50	A1S	A1
Cadmium, Total	ND	ND,S4	mg/kg	0.64	0.21	SW846 6010D	1	10/19/2022 14:50	A1S	A1
Copper, Total	9.0	S4	mg/kg	2.5	0.85	SW846 6010D	1	10/19/2022 14:50	A1S	A1
Lead, Total	9.2	S4	mg/kg	2.5	0.85	SW846 6010D	1	10/19/2022 14:50	A1S	A1
Mercury, Total	0.45	S4	mg/kg	0.067	0.022	SW846 7471B	1	10/07/2022 11:24	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,2,S4	ug/kg	11.9	7.7	SW846 8081B	5	10/06/2022 22:02	KJH	A
4,4'-DDE	ND	ND,3,S4	ug/kg	11.9	3.8	SW846 8081B	5	10/06/2022 22:02	KJH	A
4,4'-DDT	ND	ND,S4	ug/kg	11.9	3.4	SW846 8081B	5	10/06/2022 22:02	KJH	A
Chlordane	ND	ND,S4	ug/kg	244	41.1	SW846 8081B	5	10/06/2022 22:02	KJH	A
Dieldrin	ND	ND,4,S4	ug/kg	11.9	4.6	SW846 8081B	5	10/06/2022 22:02	KJH	A
Mirex	ND	ND,S4	ug/kg	11.9	3.7	SW846 8081B	5	10/06/2022 22:02	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	65%	30 - 135	10/06/2022 22:02	
Tetrachloro-m-xylene	877-09-8	68.6%	30 - 111	10/06/2022 22:02	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Acenaphthylene	ND	ND,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Anthracene	31.5J	J,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Benzo(a)anthracene	98.9	S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Benzo(a)pyrene	105	S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Benzo(b)fluoranthene	106	S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Benzo(g,h,i)perylene	42.0J	J,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Benzo(k)fluoranthene	36.8J	J,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Chrysene	82.2	S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Dibenzo(a,h)anthracene	ND	ND,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Fluoranthene	180	S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Fluorene	ND	ND,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Indeno(1,2,3-cd)pyrene	55.9J	J,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Naphthalene	46.8J	J,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Phenanthrene	55.5J	J,S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A
Pyrene	126	S4	ug/kg	68.0	23.1	SW846 8270D	1	10/03/2022 11:29	S7M	A



Project CHPE Hudson 7
 Workorder 3266432

Results

Client Sample ID	Rhinebeck 4B	Collected	09/29/2022 10:10
Lab Sample ID	3266432004	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			68.4%		19 - 132		10/03/2022 11:29		
2-Fluorobiphenyl	321-60-8			78.6%		40 - 110		10/03/2022 11:29		
2-Fluorophenol	367-12-4			74.3%		26 - 116		10/03/2022 11:29		
Nitrobenzene-d5	4165-60-0			79.3%		38 - 112		10/03/2022 11:29		
Phenol-d5	4165-62-2			73.8%		35 - 111		10/03/2022 11:29		
Terphenyl-d14	98904-43-9			76.1%		45 - 126		10/03/2022 11:29		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	See attached	1,S4	ug/L			EPA 1613B	1	11/18/2022 14:56	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,S4	ug/kg	2.4	0.60	SW846 8260C	1	10/01/2022 03:06	VLM	D
Ethylbenzene	ND	ND,S4	ug/kg	2.4	0.82	SW846 8260C	1	10/01/2022 03:06	VLM	D
Toluene	ND	ND,S4	ug/kg	2.4	0.81	SW846 8260C	1	10/01/2022 03:06	VLM	D
Total Xylenes	ND	ND,S4	ug/kg	7.2	1.7	SW846 8260C	1	10/01/2022 03:06	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			92.4%		56 - 124		10/01/2022 03:06		
4-Bromofluorobenzene	460-00-4			106%		51 - 128		10/01/2022 03:06		
Dibromofluoromethane	1868-53-7			99.9%		62 - 123		10/01/2022 03:06		
Toluene-d8	2037-26-5			98.6%		59 - 131		10/01/2022 03:06		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	31.9	S4	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	68.1	S4	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhinebeck 5A	Collected	09/29/2022 09:05
Lab Sample ID	3266432005	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	10.3	S5	mg/kg	3.4	1.1	SW846 6010D	1	10/19/2022 14:51	A1S	A1
Cadmium, Total	1.3	S5	mg/kg	0.85	0.28	SW846 6010D	1	10/19/2022 14:51	A1S	A1
Copper, Total	45.6	S5	mg/kg	3.4	1.1	SW846 6010D	1	10/19/2022 14:51	A1S	A1
Lead, Total	63.6	S5	mg/kg	3.4	1.1	SW846 6010D	1	10/19/2022 14:51	A1S	A1
Mercury, Total	0.50	S5	mg/kg	0.090	0.029	SW846 7471B	1	10/07/2022 11:30	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,2,S5	ug/kg	15.2	9.8	SW846 8081B	5	10/06/2022 21:41	KJH	A
4,4'-DDE	ND	ND,3,S5	ug/kg	15.2	4.9	SW846 8081B	5	10/06/2022 21:41	KJH	A
4,4'-DDT	ND	ND,S5	ug/kg	15.2	4.4	SW846 8081B	5	10/06/2022 21:41	KJH	A
Chlordane	ND	ND,S5	ug/kg	313	52.7	SW846 8081B	5	10/06/2022 21:41	KJH	A
Dieldrin	ND	ND,4,S5	ug/kg	15.2	5.9	SW846 8081B	5	10/06/2022 21:41	KJH	A
Mirex	ND	ND,S5	ug/kg	15.2	4.7	SW846 8081B	5	10/06/2022 21:41	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	65.8%	30 - 135	10/06/2022 21:41	
Tetrachloro-m-xylene	877-09-8	70.4%	30 - 111	10/06/2022 21:41	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	30.9J	J,S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Acenaphthylene	64.9J	J,S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Anthracene	174	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Benzo(a)anthracene	294	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Benzo(a)pyrene	355	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Benzo(b)fluoranthene	332	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Benzo(g,h,i)perylene	173	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Benzo(k)fluoranthene	127	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Chrysene	310	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Dibenzo(a,h)anthracene	46.3J	J,S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Fluoranthene	506	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Fluorene	61.2J	J,S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Naphthalene	168	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Phenanthrene	328	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A
Pyrene	505	S5	ug/kg	84.4	28.7	SW846 8270D	1	10/03/2022 11:55	S7M	A



Results

Client Sample ID	Rhinebeck 5A	Collected	09/29/2022 09:05
Lab Sample ID	3266432005	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			63.6%		19 - 132		10/03/2022 11:55		
2-Fluorobiphenyl	321-60-8			66.6%		40 - 110		10/03/2022 11:55		
2-Fluorophenol	367-12-4			53.5%		26 - 116		10/03/2022 11:55		
Nitrobenzene-d5	4165-60-0			62.4%		38 - 112		10/03/2022 11:55		
Phenol-d5	4165-62-2			56%		35 - 111		10/03/2022 11:55		
Terphenyl-d14	98904-43-9			72%		45 - 126		10/03/2022 11:55		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	See attached	1,S5	ug/L			EPA 1613B	1	11/18/2022 14:57	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,S5	ug/kg	3.8	0.96	SW846 8260C	1	10/01/2022 03:30	VLM	D
Ethylbenzene	ND	ND,S5	ug/kg	3.8	1.3	SW846 8260C	1	10/01/2022 03:30	VLM	D
Toluene	ND	ND,S5	ug/kg	3.8	1.3	SW846 8260C	1	10/01/2022 03:30	VLM	D
Total Xylenes	ND	ND,S5	ug/kg	11.5	2.7	SW846 8260C	1	10/01/2022 03:30	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			88.7%		56 - 124		10/01/2022 03:30		
4-Bromofluorobenzene	460-00-4			103%		51 - 128		10/01/2022 03:30		
Dibromofluoromethane	1868-53-7			100%		62 - 123		10/01/2022 03:30		
Toluene-d8	2037-26-5			96.2%		59 - 131		10/01/2022 03:30		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	45.2	S5	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	54.8	S5	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Results

Client Sample ID	Rhinebeck 5B	Collected	09/29/2022 09:10
Lab Sample ID	3266432006	Lab Receipt	09/30/2022 08:30

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	4.7	S6	mg/kg	2.6	0.88	SW846 6010D	1	10/19/2022 14:52	A1S	A1
Cadmium, Total	ND	ND,S6	mg/kg	0.66	0.22	SW846 6010D	1	10/19/2022 14:52	A1S	A1
Copper, Total	11.8	S6	mg/kg	2.6	0.88	SW846 6010D	1	10/19/2022 14:52	A1S	A1
Lead, Total	17.4	S6	mg/kg	2.6	0.88	SW846 6010D	1	10/19/2022 14:52	A1S	A1
Mercury, Total	0.049J	J,S6	mg/kg	0.061	0.020	SW846 7471B	1	10/07/2022 11:31	WDA	A

PESTICIDES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
4,4'-DDD	ND	ND,2,S6	ug/kg	12.0	7.8	SW846 8081B	5	10/06/2022 22:13	KJH	A
4,4'-DDE	ND	ND,3,S6	ug/kg	12.0	3.9	SW846 8081B	5	10/06/2022 22:13	KJH	A
4,4'-DDT	ND	ND,S6	ug/kg	12.0	3.5	SW846 8081B	5	10/06/2022 22:13	KJH	A
Chlordane	ND	ND,S6	ug/kg	247	41.6	SW846 8081B	5	10/06/2022 22:13	KJH	A
Dieldrin	ND	ND,4,S6	ug/kg	12.0	4.7	SW846 8081B	5	10/06/2022 22:13	KJH	A
Mirex	ND	ND,S6	ug/kg	12.0	3.7	SW846 8081B	5	10/06/2022 22:13	KJH	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
Decachlorobiphenyl	2051-24-3	70.4%	30 - 135	10/06/2022 22:13	
Tetrachloro-m-xylene	877-09-8	79.5%	30 - 111	10/06/2022 22:13	

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Acenaphthylene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Anthracene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Benzo(a)anthracene	37.9J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Benzo(a)pyrene	35.6J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Benzo(b)fluoranthene	35.7J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Benzo(g,h,i)perylene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Benzo(k)fluoranthene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Chrysene	27.9J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Dibenzo(a,h)anthracene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Fluoranthene	52.0J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Fluorene	ND	ND,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Indeno(1,2,3-cd)pyrene	22.8J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Naphthalene	38.8J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Phenanthrene	33.8J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A
Pyrene	41.1J	J,S6	ug/kg	64.6	22.0	SW846 8270D	1	10/03/2022 12:20	S7M	A



Results

Client Sample ID	Rhinebeck 5B	Collected	09/29/2022 09:10
Lab Sample ID	3266432006	Lab Receipt	09/30/2022 08:30

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
<i>SURROGATES</i>										
Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
2,4,6-Tribromophenol	118-79-6			73.5%		19 - 132		10/03/2022 12:20		
2-Fluorobiphenyl	321-60-8			83.3%		40 - 110		10/03/2022 12:20		
2-Fluorophenol	367-12-4			77.7%		26 - 116		10/03/2022 12:20		
Nitrobenzene-d5	4165-60-0			85.5%		38 - 112		10/03/2022 12:20		
Phenol-d5	4165-62-2			76.6%		35 - 111		10/03/2022 12:20		
Terphenyl-d14	98904-43-9			79.4%		45 - 126		10/03/2022 12:20		

Sub'd-CASH Labs

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Dioxin	See attached	1,S6	ug/L			EPA 1613B	1	11/18/2022 14:57	SUB	G

VOLATILE ORGANICS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Benzene	ND	ND,S6	ug/kg	2.5	0.63	SW846 8260C	1	10/01/2022 03:55	VLM	D
Ethylbenzene	ND	ND,S6	ug/kg	2.5	0.85	SW846 8260C	1	10/01/2022 03:55	VLM	D
Toluene	ND	ND,S6	ug/kg	2.5	0.84	SW846 8260C	1	10/01/2022 03:55	VLM	D
Total Xylenes	ND	ND,S6	ug/kg	7.5	1.8	SW846 8260C	1	10/01/2022 03:55	VLM	D

SURROGATES

Compound	CAS No			Recovery		Limits(%)		Analysis Date/Time		Qualifiers
1,2-Dichloroethane-d4	17060-07-0			91.4%		56 - 124		10/01/2022 03:55		
4-Bromofluorobenzene	460-00-4			110%		51 - 128		10/01/2022 03:55		
Dibromofluoromethane	1868-53-7			101%		62 - 123		10/01/2022 03:55		
Toluene-d8	2037-26-5			98.4%		59 - 131		10/01/2022 03:55		

WET CHEMISTRY

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Moisture	30.9	S6	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A
Total Solids	69.1	S6	%	0.1	0.01	S2540G-11	1	10/06/2022 11:23	NXL	A



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3266432001	Rhinebeck 3A	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266432002	Rhinebeck 3B	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266432003	Rhinebeck 4A	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266432004	Rhinebeck 4B	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266432005	Rhinebeck 5A	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	
3266432006	Rhinebeck 5B	EPA 1613B	N/A	
		SW846 6010D	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8081B	SW846 3546	
		SW846 8270D	SW846 3546	
		SW846 8260C	SW846 5035A	
		S2540G-11	N/A	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3266432001	Rhinebeck 3A	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	886554	10/06/2022 10:15	WDA	SW846 7471B	888227
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	886593	09/29/2022 11:00	VLM	SW846 8260C	886594
3266432002	Rhinebeck 3B	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	886554	10/06/2022 10:15	WDA	SW846 7471B	888227
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 11:15	PDK	SW846 8260C	885655
3266432003	Rhinebeck 4A	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	887109	10/06/2022 10:15	WDA	SW846 7471B	888229
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 09:50	PDK	SW846 8260C	885655
3266432004	Rhinebeck 4B	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	887109	10/06/2022 10:15	WDA	SW846 7471B	888229
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 10:10	PDK	SW846 8260C	885655
3266432005	Rhinebeck 5A	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	887109	10/06/2022 10:15	WDA	SW846 7471B	888229
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 09:05	PDK	SW846 8260C	885655
3266432006	Rhinebeck 5B	N/A	N/A	N/A		EPA 1613B	
		SW846 3051A	887149	10/05/2022 18:55	ANN	SW846 6010D	891528
		SW846 7471B	887109	10/06/2022 10:15	WDA	SW846 7471B	888229
		SW846 3546	885620	10/02/2022 17:10	J1H	SW846 8081B	886401
		SW846 3546	885622	10/02/2022 16:35	J1H	SW846 8270D	886478
		SW846 5035A	885654	09/29/2022 09:10	PDK	SW846 8260C	885655
		N/A	N/A	N/A		S2540G-11	887530

11/18/2022 3:08 PM



3266432

Logged By: CXW
PM: SSL



301 Fulling Mill Rd, Suite A
Middletown, PA 17057
P. 717-944-5541

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: _____

ALS Quote #: 9046

Client Name: <u>Normandegu Assoc</u>		Container Type: <u>VOA GLGL</u>					Receipt Information (completed by receiving Lab)				
Address: <u>400 Old Reading Pike Stowe, PA 19464</u>		Container Size: <u>4qm 8oz 8oz</u>					Temp Taken By: <u>KSB</u>	Therm ID: <u>570</u>	WO Temp (°C): <u>4</u>		
		Preservative: <u>MeOH - -</u>					Receipt Info completed by: <u>KSB</u>	WV Containers 0-6°C Y N <u>NA</u>		Deviations? NO YES	

Contact: <u>DON NAZARIO</u>		ANALYSES/METHOD REQUESTED												
Phone#: <u>717-617-7076</u>		SDWA Sample Type (see key)	*C or C	**Matrix (See bottom of COC)	<u>VOCS, 90 most</u>	<u>PATHS METALS</u>	<u>PEST</u>	<u>DIOXIN</u>						
Project Name#: <u>CHPE Hudson 7</u>														
Bill To: <u>Normandegu</u>														
Purchase Order #: <u>24711.001</u>														
TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days. <input type="checkbox"/> Rush-Subject to ALS approval and surcharges.														

Sample Description/Location (as it will appear on the lab report)	Date Collected mm/dd/yy	Time hh:mm	SDWA Sample Type	*C or C	**Matrix (See bottom of COC)	Enter Number of Containers Per Sample or Field Results Below.				
1 Rhinebeck 3A	9/29/22	1100	G	S		4	1	1		
2 3B		1115				4	1	1		
3 4A		0950				4	1	1		
4 4B		1010				4	1	1		
5 5A		0905				4	1	1		
6 5B		0910				4	1	1		
7										
8										
9										
10										

Sample Label/COC Agree	Y	N	NA	Client contact: Date/Tech: _____
Adequate Sample Volumes	Y	N	NA	
VOA only: Headspace Present	Y	N	NA	
VOA only: Trip Blank	Y	N	NA	
NJ ≤ 4 days? Y N	Y	N		
Courier/Tracking #: <u>7700 5204 6133</u>				
Sample(s) for Radiation testing?	Y	N		Rad Screen (uCi) _____
Reportable SDWA Sample(s)?	Y	N		New Source? Y N
SDWA State of Origin?				New Source Contact: _____
PWSID # _____				
PWS Contact: _____				PWS Phone #: _____

SAMPLED BY (Please Print, if MD Include Sampler #): <u>DON NAZARIO</u>		Comments: _____												
Date:	Time	Relinquished By / Company Name	Received By / Company Name								Data Deliverables	State Samples Collected In		
9/29/22	1500	<u>Don Nazario / Normandegu</u>	<u>Feder</u>								<input type="checkbox"/> Standard Lvl 1	<input type="checkbox"/> CLP-like	<input type="checkbox"/> HSCA	<input type="checkbox"/> NY
9.30.22	830	<u>Feder</u>	<u>[Signature]</u>								<input type="checkbox"/> Standard Lvl 2	<input type="checkbox"/> DOD	<input type="checkbox"/> Landfill	<input type="checkbox"/> NJ
											<input type="checkbox"/> Standard Lvl 3	<input type="checkbox"/> NJ RED	<input type="checkbox"/> NJ GW	<input type="checkbox"/> PA
											<input type="checkbox"/> Standard Lvl 4	<input type="checkbox"/> NJ Full	<input type="checkbox"/>	<input type="checkbox"/> WV
											<input type="checkbox"/> Excel Summary	Sample Disposal		<input type="checkbox"/> FL
											<input type="checkbox"/> Equis	Lab <input type="checkbox"/>		
											<input type="checkbox"/> Custom	Special <input type="checkbox"/>		
											EDDS: Formal Type _____			other _____

* G=Grab; C=Composite **Matrix - A=Air; D=Drinking Water; GW=Groundwater; O=Oil; LW=Liquid Waste; S=Solid/Soil/Sludge; SW=Surface Water; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Suite A, Middletown, PA 17057

25 of 82



November 18, 2022

Service Request No:E2200963

Sarah Leung
ALS Environmental - Middletown
301 Fulling Mill Road
Middletown, PA 17057

Laboratory Results for: 3266432

Dear Sarah,

Enclosed are the results of the sample(s) submitted to our laboratory October 05, 2022
For your reference, these analyses have been assigned our service request number **E2200963**.

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

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
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
www.alsglobal.com

ALS Environmental

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request No.: E2200963
Date Received: 10/05/22

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.

Sample Receipt

Six samples were received for analysis at ALS Environmental in Houston on 10/05/22.

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:

EQ2200475: Laboratory Control Spike (LCS) sample was analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS is within quality control limits.

The batch precision (MS/DMS) measurements were determined on an unrelated sample in the extraction batch. The MS/DMS results are not included in this report.

B flags – Method Blanks

The Method Blank EQ2200475-01 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.

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.

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: ALS Environmental - Middletown
Project: 3266432

Service Request:E2200963

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E2200963-001	3266432-001 (Rhinebeck 3A)	9/29/2022	1100
E2200963-002	3266432-002 (Rhinebeck 3B)	9/29/2022	1145
E2200963-003	3266432-003 (Rhinebeck 4A)	9/29/2022	0950
E2200963-004	3266432-004 (Rhinebeck 4B)	9/29/2022	1010
E2200963-005	3266432-005 (Rhinebeck 5A)	9/29/2022	0905
E2200963-006	3266432-006 (Rhinebeck 5B)	9/29/2022	0918

Service Request Summary

Folder #: E2200963
Client Name: ALS Environmental - Middletown
Project Name: 3266432
Project Number:

Report To: Sarah Leung
 ALS Environmental - Middletown
 301 Fulling Mill Road
 Middletown, PA 17057
 USA

Phone Number: 717-944-5541

Cell Number:

Fax Number:

E-mail: sarah.leung@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/05/22
Internal Due Date: 11/9/2022
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 3266432
EDD: BASIC_WQC_CASNo

6 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 10B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON	
				PCDD PCDF/8290A	Total Solids/ALS SOP
E2200963-001	3266432-001 (Rhinebeck 3A)	Soil	09/29/22 1100		
E2200963-002	3266432-002 (Rhinebeck 3B)	Soil	09/29/22 1145		
E2200963-003	3266432-003 (Rhinebeck 4A)	Soil	09/29/22 0950		
E2200963-004	3266432-004 (Rhinebeck 4B)	Soil	09/29/22 1010		
E2200963-005	3266432-005 (Rhinebeck 5A)	Soil	09/29/22 0905		
E2200963-006	3266432-006 (Rhinebeck 5B)	Soil	09/29/22 0918		

Service Request Summary

Folder #: E2200963
Client Name: ALS Environmental - Middletown
Project Name: 3266432
Project Number:
Report To: Sarah Leung
ALS Environmental - Middletown
301 Fulling Mill Road
Middletown, PA 17057
USA
Phone Number: 717-944-5541
Cell Number:
Fax Number:
E-mail: sarah.leung@alsglobal.com

Project Chemist: James Guin
Originating Lab: HOUSTON
Logged By: JGUIN
Date Received: 10/05/22
Internal Due Date: 11/9/2022
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 3266432
EDD: BASIC_WQC_CASNo

6 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 10B
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	CONCetration
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

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

SR# Unique ID

E22-00963

DB-5MSUI

SPB-Octyl

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

Date:

11/18/22

Analyst:

gc

Samples:

001-006

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

Date:

11,18,22

Analyst:

SL

Samples:

-001, 002, 003, 004, 005, 006-



Chain of Custody

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



301 Fulling Mill Road
 Middletown, PA 17057
 P. 717-944-5541
 F. 717-944-1430

**CHAIN OF CUSTODY/
 REQUEST FOR ANALYSIS**

**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /
 SAMPLER. INSTRUCTIONS ON THE BACK.**

COC #:	1
ALS Quote #:	of 1

Client Name: ALS			Container Type	G											Receipt Information (completed by Receiving Lab)				
Address: 301 Fulling Mill Road Middletown PA 17057			Container Size	8oz											W.O. Temp: _____ Therm ID: _____				
Contact: Sarah Leung			Perservative	None											Courier/Tracking #:				
Phone#: (717) 702-2248			ANALYSES/METHOD REQUESTED										Purchase Order #: 3266432						
Project Name#: 3266432																			
Bill To:													Subcontract: ALS Houston						
TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days. <input type="checkbox"/> Rush-Subject to ALS approval and surcharges.													ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor <input type="checkbox"/> Composite Sampling <input type="checkbox"/> Rental Equipment Other: _____						
Date Required: _____ Approved? _____																			
Email? <input checked="" type="checkbox"/> -Y namdt.subcontract@alsglobal.com																			
Fax? <input type="checkbox"/> -Y No.:																			
Sample Description/Location (as it will appear on the lab report)		Date Collected mm/dd/yy	Time hh:mm	*G or C	**Matrix	Enter Number of Containers Per Sample or Field Results Below.										Sample/COC Comments			
1	3266432001 (Rhinebeck 3A)	9/29/22	1100	G	S	1													
2	3266432002 (Rhinebeck 3B)	9/29/22	1145	G	S	1													
3	3266432003 (Rhinebeck 4A)	9/29/22	0950	G	S	1													
4	3266432004 (Rhinebeck 4B)	9/29/22	1010	G	S	1													
5	3266432005 (Rhinebeck 5A)	9/29/22	0905	G	S	1													
6	3266432006 (Rhinebeck 5B)	9/29/22	0918	G	S	1													
7																			
8																			
9																			
10																			
SAMPLED BY (Please Print):				SAMPLER COMMENTS:										Data Deliverables		Special Processing		State Samples Collected In	
Relinquished By / Company Name				Date	Time	Received By / Company Name				Date	Time	<input type="checkbox"/> Standard <input type="checkbox"/> CLP-like <input type="checkbox"/> USACE/DOD <input checked="" type="checkbox"/> Level 2		USACE <input type="checkbox"/> Navy <input type="checkbox"/>		<input checked="" type="checkbox"/> NY <input type="checkbox"/> NJ			
1 <i>SLW</i>				10/4/22	1600	2 <i>ALS</i>				10/1/22	10:10	Reportable to PADEP? Yes <input type="checkbox"/> No <input type="checkbox"/>		Lab <input type="checkbox"/> Special <input type="checkbox"/>		<input type="checkbox"/> PA <input type="checkbox"/> NC <input type="checkbox"/> MD			
3						4						PWSID # _____		EDDS: Format Type- Excel		other			
5						6													
7						8													
9						10													

* G=Grab, C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS SHIPPING ADDRESS: 301 Fulling Mill Road, Middletown, PA 17057



Cooler Receipt Form

Project Chemist _____

Client/Project ALSM

Thermometer ID IR31

Date/Time Received: 10/5/22 1010

Initials: JG

Date/Time Logged in: 10/5/22 1300 Initials JG

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
If yes, how many and where?
Were they intact? Yes No N/A
Were they signed and dated? Yes No N/A

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	COCID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
<u>38571123 10201</u>		<u>10/5/22</u>	<u>1010</u>	<u>CG</u>	<u>1:6</u>	<input 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
T: +1 713 266 1599
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

11/18/2022 9:08 PM

Prep Run#: 408315
Team: Semivoa GCMS/TWOODS

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/18/22 11:46

	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2200962-001	3266431-001 Rhinebeck 1A	.01	8290A/PCDD PCDF			Soil	10.361g	dark mud
2	E2200962-002	3266431-002 Rhinebeck 1B	.01	8290A/PCDD PCDF			Soil	10.385g	dark mud
3	E2200962-003	3266431-003 Rhinebeck 2A	.01	8290A/PCDD PCDF			Soil	10.020g	dark mud
4	E2200962-004	3266431-004 Rhinebeck 2B	.01	8290A/PCDD PCDF			Soil	10.001g	dark mud
5	E2200963-001	3266432-001 (Rhinebeck 3A)	.01	8290A/PCDD PCDF			Soil	10.112g	dark mud and water
6	E2200963-002	3266432-002 (Rhinebeck 3B)	.01	8290A/PCDD PCDF			Soil	10.211g	dark mud and water
7	E2200963-003	3266432-003 (Rhinebeck 4A)	.01	8290A/PCDD PCDF			Soil	10.226g	dark mud and water
8	E2200963-004	3266432-004 (Rhinebeck 4B)	.01	8290A/PCDD PCDF			Soil	10.000g	dark mud and water
9	E2200963-005	3266432-005 (Rhinebeck 5A)	.01	8290A/PCDD PCDF			Soil	10.006g	dark mud and water
10	E2200963-006	3266432-006 (Rhinebeck 5B)	.01	8290A/PCDD PCDF			Soil	10.000g	dark mud and water
11	E2200969-001	2131544	.01	8290/PCDD PCDF			Soil	10.229g	dark sand and rocks
12	E2200969-002	2131545	.01	8290/PCDD PCDF			Soil	10.312g	dark sand and rocks
13	E2200969-003	2131546	.01	8290/PCDD PCDF			Soil	10.114g	dark soil
14	EQ2200475-01	MB		8290A/PCDD PCDF			Solid	10.000g	
15	EQ2200475-02	LCS		8290A/PCDD PCDF			Solid	10.000g	
16	EQ2200475-03	2131546 MS	.01	8290/PCDD PCDF			Solid	10.614g	
17	EQ2200475-04	2131546 DMS	.01	8290/PCDD PCDF			Solid	10.136g	

Spiking Solutions

Name: 1613B Matrix Working Standard	Inventory ID 225447	Logbook Ref: tw 10/12/22 225447	Expires On: 04/10/2023
--	----------------------------	--	-------------------------------

EQ2200475-02 100.00µL EQ2200475-02 100.00µL EQ2200475-03 100.00µL EQ2200475-04 100.00µL

Name: 8290/1613B Cleanup Working Standard	Inventory ID 225486	Logbook Ref: tw 10/14/22 225486	Expires On: 02/28/2023
--	----------------------------	--	-------------------------------

E2200962-001 100.00µL E2200962-002 100.00µL E2200962-003 100.00µL E2200962-004 100.00µL E2200963-001 100.00µL E2200963-002 100.00µL
 E2200963-003 100.00µL E2200963-004 100.00µL E2200963-005 100.00µL E2200963-006 100.00µL E2200969-001 100.00µL E2200969-002 100.00µL
 E2200969-003 100.00µL EQ2200475-01 100.00µL EQ2200475-01 100.00µL EQ2200475-02 100.00µL EQ2200475-02 100.00µL EQ2200475-03 100.00µL
 EQ2200475-04 100.00µL

Name: 1613B Labeled Working Standard	Inventory ID 225503	Logbook Ref: BF 10/17/2022 225503	Expires On: 04/10/2023
---	----------------------------	--	-------------------------------

E2200962-001 1,000.00µL E2200962-002 1,000.00µL E2200962-003 1,000.00µL E2200962-004 1,000.00µL E2200963-001 1,000.00µL E2200963-002 1,000.00µL
 E2200963-003 1,000.00µL E2200963-004 1,000.00µL E2200963-005 1,000.00µL E2200963-006 1,000.00µL E2200969-001 1,000.00µL E2200969-002 1,000.00µL
 E2200969-003 1,000.00µL EQ2200475-01 1,000.00µL EQ2200475-01 1,000.00µL EQ2200475-02 1,000.00µL EQ2200475-02 1,000.00µL EQ2200475-03 1,000.00µL
 EQ2200475-04 1,000.00µL

Preparation Information Benchsheet

11/18/2022 3:08 PM

Prep Run#: 408315
Team: Semivoa GCMS/TWOODS

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/18/22 11:46

Preparation Materials

Carbon, High Purity	tw 08/15/22 (224550)	Ethyl Acetate 99.9% Minimum EtOAc	Ethyl Acetate 6/30/22 (223782)	Glass Wool	TW 5/20/22 (225628)
Hexanes 95%	tw 10/18/22 hexane (225613)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	tw 10/04/22 (225325)	Sodium Hydroxide 1N NaOH	SN 4/26/22 (222726)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	SN 5/18/22 (223143)	Tridecane (n-Tridecane)	tw 08/15/22 (224552)	Silica Gel	tw 10/17/22 (225501)
sulfuric acid	tw 09/09/22 sulfuric (224982)	Toluene 99.9% Minimum	tw 10/03/22 (225319)		

Preparation Steps

Step: Extraction	Step: Acid Clean	Step: Silica Gel Clean	Step: Final Volume
Started: 10/18/22 11:46	Started: 10/25/22 10:00	Started: 10/25/22 12:00	Started: 10/26/22 11:00
Finished: 10/19/22 09:00	Finished: 10/25/22 11:00	Finished: 10/25/22 15:00	Finished: 10/26/22 14:00
By: TWOODS	By: TWOODS	By: TWOODS	By: TWOODS
Comments	Comments	Comments	Comments

Comments: _____

Reviewed By: _____ Date: _____

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: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 11:00
Date Received: 10/05/22 10:10

Sample Name: 3266432-001 (Rhinebeck 3A)
Lab Code: E2200963-001

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.112g

Data File Name: P540071
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 09:05
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.19	1.19			1
1,2,3,7,8-PeCDD	ND	U	0.643	5.46			1
1,2,3,6,7,8-HxCDD	1.13JK		0.479	5.46	0.83	1.000	1
1,2,3,4,7,8-HxCDD	0.595JK		0.538	5.46	0.93	1.000	1
1,2,3,7,8,9-HxCDD	1.17J		0.507	5.46	1.10	1.007	1
1,2,3,4,6,7,8-HpCDD	24.6K		0.929	5.46	0.87	1.000	1
OCDD	339		1.88	10.9	0.86	1.000	1
2,3,7,8-TCDF	ND	U	1.15	1.15			1
1,2,3,7,8-PeCDF	ND	U	0.856	5.46			1
2,3,4,7,8-PeCDF	ND	U	0.840	5.46			1
1,2,3,6,7,8-HxCDF	ND	U	0.426	5.46			1
1,2,3,7,8,9-HxCDF	ND	U	0.555	5.46			1
1,2,3,4,7,8-HxCDF	0.611J		0.380	5.46	1.41	1.000	1
2,3,4,6,7,8-HxCDF	0.433J		0.354	5.46	1.07	1.000	1
1,2,3,4,6,7,8-HpCDF	6.11		0.258	5.46	0.93	1.000	1
1,2,3,4,7,8,9-HpCDF	0.513J		0.298	5.46	0.98	1.001	1
OCDF	14.9K		1.77	10.9	0.74	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-001 (Rhinebeck 3A)
Lab Code: E2200963-001

Service Request: E2200963
Date Collected: 09/29/22 11:00
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.112g
Data File Name: P540071
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 09:05
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	1.19	1.19			1
Total Penta-Dioxins	ND	U	0.643	5.46			1
Total Hexa-Dioxins	6.11		0.507	5.46	1.26		1
Total Hepta-Dioxins	30.4		0.929	5.46	0.98		1
Total Tetra-Furans	ND	U	1.15	1.15			1
Total Penta-Furans	ND	U	0.848	5.46			1
Total Hexa-Furans	5.60		0.417	5.46	1.14		1
Total Hepta-Furans	6.62		0.277	5.46	0.93		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 11:00
Date Received: 10/05/22 10:10

Sample Name: 3266432-001 (Rhinebeck 3A)
Lab Code: E2200963-001

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.112g

Date Analyzed: 11/16/22 09:05
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540071
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	729.328	36	Y	40-135	0.78	1.023
13C-1,2,3,7,8-PeCDD	2000	645.382	32	Y	40-135	1.62	1.207
13C-1,2,3,4,7,8-HxCDD	2000	651.508	33	Y	40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	746.454	37	Y	40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	595.623	30	Y	40-135	1.05	1.068
13C-OCDD	4000	777.894	19	Y	40-135	0.90	1.140
13C-2,3,7,8-TCDF	2000	627.699	31	Y	40-135	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	601.655	30	Y	40-135	1.59	1.160
13C-2,3,4,7,8-PeCDF	2000	601.478	30	Y	40-135	1.57	1.196
13C-1,2,3,4,7,8-HxCDF	2000	693.535	35	Y	40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	604.912	30	Y	40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	578.926	29	Y	40-135	0.48	1.008
13C-2,3,4,6,7,8-HxCDF	2000	771.236	39	Y	40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	486.829	24	Y	40-135	0.41	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	520.208	26	Y	40-135	0.41	1.081
37Cl-2,3,7,8-TCDD	800	381.169	48		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 11:00
Date Received: 10/05/22 10:10

Sample Name: 3266432-001 (Rhinebeck 3A)
Lab Code: E2200963-001

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	1.19	1.19	1	1	
1,2,3,7,8-PeCDD	ND	0.643	5.46	1	1	
1,2,3,6,7,8-HxCDD	1.13	0.479	5.46	1	0.1	0.113
1,2,3,4,7,8-HxCDD	0.595	0.538	5.46	1	0.1	0.0595
1,2,3,7,8,9-HxCDD	1.17	0.507	5.46	1	0.1	0.117
1,2,3,4,6,7,8-HpCDD	24.6	0.929	5.46	1	0.01	0.246
OCDD	339	1.88	10.9	1	0.0003	0.102
2,3,7,8-TCDF	ND	1.15	1.15	1	0.1	
1,2,3,7,8-PeCDF	ND	0.856	5.46	1	0.03	
2,3,4,7,8-PeCDF	ND	0.840	5.46	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.426	5.46	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.555	5.46	1	0.1	
1,2,3,4,7,8-HxCDF	0.611	0.380	5.46	1	0.1	0.0611
2,3,4,6,7,8-HxCDF	0.433	0.354	5.46	1	0.1	0.0433
1,2,3,4,6,7,8-HpCDF	6.11	0.258	5.46	1	0.01	0.0611
1,2,3,4,7,8,9-HpCDF	0.513	0.298	5.46	1	0.01	0.00513
OCDF	14.9	1.77	10.9	1	0.0003	0.00447
Total TEQ						0.813

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-001 (Rhinebeck 3A)
Lab Code: E2200963-001

Service Request: E2200963
Date Collected: 09/29/22 11:00
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
3.8798g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	45.3		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 11:45
Date Received: 10/05/22 10:10

Sample Name: 3266432-002 (Rhinebeck 3B)
Lab Code: E2200963-002

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.211g
Data File Name: P540072
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 10:24
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.669	0.713			1
1,2,3,7,8-PeCDD	0.409JK		0.238	3.56	2.37	1.001	1
1,2,3,6,7,8-HxCDD	5.69		0.201	3.56	1.36	1.000	1
1,2,3,4,7,8-HxCDD	1.24JK		0.220	3.56	0.86	1.000	1
1,2,3,7,8,9-HxCDD	3.14J		0.210	3.56	1.25	1.006	1
1,2,3,4,6,7,8-HpCDD	153		1.45	3.56	1.06	1.000	1
OCDD	1360		5.05	7.13	0.88	1.000	1
2,3,7,8-TCDF	2.30		0.625	0.713	0.69	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.326	3.56			1
2,3,4,7,8-PeCDF	1.29J		0.312	3.56	1.68	1.001	1
1,2,3,6,7,8-HxCDF	0.941JK		0.201	3.56	1.54	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.250	3.56			1
1,2,3,4,7,8-HxCDF	0.927J		0.185	3.56	1.28	1.000	1
2,3,4,6,7,8-HxCDF	0.716JK		0.171	3.56	1.48	1.000	1
1,2,3,4,6,7,8-HpCDF	27.9		0.224	3.56	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	1.29J		0.255	3.56	1.07	1.000	1
OCDF	43.9		0.725	7.13	0.81	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-002 (Rhinebeck 3B)
Lab Code: E2200963-002

Service Request: E2200963
Date Collected: 09/29/22 11:45
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.211g
Data File Name: P540072
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 10:24
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	1.51		0.669	0.713	0.74		1
Total Penta-Dioxins	3.34J		0.238	3.56	1.73		1
Total Hexa-Dioxins	50.5		0.210	3.56	1.15		1
Total Hepta-Dioxins	297		1.45	3.56	1.06		1
Total Tetra-Furans	32.2		0.625	0.713	0.69		1
Total Penta-Furans	12.5		0.0893	3.56	1.41		1
Total Hexa-Furans	17.3		0.198	3.56	1.18		1
Total Hepta-Furans	65.4		0.239	3.56	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 11:45
Date Received: 10/05/22 10:10

Sample Name: 3266432-002 (Rhinebeck 3B)
Lab Code: E2200963-002

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.211g

Date Analyzed: 11/16/22 10:24
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540072
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	769.089	38	Y	40-135	0.80	1.024
13C-1,2,3,7,8-PeCDD	2000	924.375	46		40-135	1.62	1.207
13C-1,2,3,4,7,8-HxCDD	2000	915.336	46		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	992.267	50		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	900.065	45		40-135	1.08	1.068
13C-OCDD	4000	1293.209	32	Y	40-135	0.91	1.140
13C-2,3,7,8-TCDF	2000	626.271	31	Y	40-135	0.77	0.991
13C-1,2,3,7,8-PeCDF	2000	820.780	41		40-135	1.56	1.160
13C-2,3,4,7,8-PeCDF	2000	810.352	41		40-135	1.61	1.196
13C-1,2,3,4,7,8-HxCDF	2000	895.256	45		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	814.405	41		40-135	0.50	0.972
13C-1,2,3,7,8,9-HxCDF	2000	820.761	41		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1025.249	51		40-135	0.49	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	706.592	35	Y	40-135	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	788.313	39	Y	40-135	0.44	1.080
37Cl-2,3,7,8-TCDD	800	265.514	33	Y	40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 11:45
Date Received: 10/05/22 10:10

Sample Name: 3266432-002 (Rhinebeck 3B)
Lab Code: E2200963-002

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.669	0.713	1	1	
1,2,3,7,8-PeCDD	0.409	0.238	3.56	1	1	0.409
1,2,3,6,7,8-HxCDD	5.69	0.201	3.56	1	0.1	0.569
1,2,3,4,7,8-HxCDD	1.24	0.220	3.56	1	0.1	0.124
1,2,3,7,8,9-HxCDD	3.14	0.210	3.56	1	0.1	0.314
1,2,3,4,6,7,8-HpCDD	153	1.45	3.56	1	0.01	1.53
OCDD	1360	5.05	7.13	1	0.0003	0.408
2,3,7,8-TCDF	2.30	0.625	0.713	1	0.1	0.230
1,2,3,7,8-PeCDF	ND	0.326	3.56	1	0.03	
2,3,4,7,8-PeCDF	1.29	0.312	3.56	1	0.3	0.387
1,2,3,6,7,8-HxCDF	0.941	0.201	3.56	1	0.1	0.0941
1,2,3,7,8,9-HxCDF	ND	0.250	3.56	1	0.1	
1,2,3,4,7,8-HxCDF	0.927	0.185	3.56	1	0.1	0.0927
2,3,4,6,7,8-HxCDF	0.716	0.171	3.56	1	0.1	0.0716
1,2,3,4,6,7,8-HpCDF	27.9	0.224	3.56	1	0.01	0.279
1,2,3,4,7,8,9-HpCDF	1.29	0.255	3.56	1	0.01	0.0129
OCDF	43.9	0.725	7.13	1	0.0003	0.0132
Total TEQ						4.53

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-002 (Rhinebeck 3B)
Lab Code: E2200963-002

Service Request: E2200963
Date Collected: 09/29/22 11:45
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
8.5241g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	68.7		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:50
Date Received: 10/05/22 10:10

Sample Name: 3266432-003 (Rhinebeck 4A)
Lab Code: E2200963-003

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.226g

Data File Name: P540073
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 11:12
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.506	0.875			1
1,2,3,7,8-PeCDD	1.58JK		0.229	4.37	1.21	1.000	1
1,2,3,6,7,8-HxCDD	12.5		0.181	4.37	1.24	1.000	1
1,2,3,4,7,8-HxCDD	2.95J		0.199	4.37	1.06	1.000	1
1,2,3,7,8,9-HxCDD	8.37		0.190	4.37	1.24	1.007	1
1,2,3,4,6,7,8-HpCDD	311		0.957	4.37	1.01	1.000	1
OCDD	2370		6.80	8.75	0.88	1.000	1
2,3,7,8-TCDF	5.20K		0.370	0.875	0.62	1.001	1
1,2,3,7,8-PeCDF	1.21J		0.403	4.37	1.39	1.000	1
2,3,4,7,8-PeCDF	3.11J		0.421	4.37	1.36	1.001	1
1,2,3,6,7,8-HxCDF	2.93J		0.262	4.37	1.33	1.000	1
1,2,3,7,8,9-HxCDF	0.475JK		0.313	4.37	2.21	1.001	1
1,2,3,4,7,8-HxCDF	1.83J		0.246	4.37	1.05	1.000	1
2,3,4,6,7,8-HxCDF	1.96J		0.223	4.37	1.12	1.000	1
1,2,3,4,6,7,8-HpCDF	56.2		0.539	4.37	0.99	1.000	1
1,2,3,4,7,8,9-HpCDF	1.83J		0.628	4.37	1.03	1.000	1
OCDF	75.1		0.780	8.75	0.82	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:50
Date Received: 10/05/22 10:10

Sample Name: 3266432-003 (Rhinebeck 4A)
Lab Code: E2200963-003

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.226g

Date Analyzed: 11/16/22 11:12
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540073
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	6.09		0.506	0.875	0.82		1
Total Penta-Dioxins	15.5		0.229	4.37	1.39		1
Total Hexa-Dioxins	127		0.190	4.37	1.24		1
Total Hepta-Dioxins	610		0.957	4.37	1.04		1
Total Tetra-Furans	89.8		0.370	0.875	0.69		1
Total Penta-Furans	30.4		0.110	4.37	1.46		1
Total Hexa-Furans	46.5		0.257	4.37	1.19		1
Total Hepta-Furans	134		0.582	4.37	0.99		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:50
Date Received: 10/05/22 10:10

Sample Name: 3266432-003 (Rhinebeck 4A)
Lab Code: E2200963-003

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.226g
Data File Name: P540073
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 11:12
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

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	1215.169	61		40-135	0.80	1.023
13C-1,2,3,7,8-PeCDD	2000	1123.693	56		40-135	1.57	1.207
13C-1,2,3,4,7,8-HxCDD	2000	948.854	47		40-135	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1122.368	56		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	952.297	48		40-135	1.07	1.068
13C-OCDD	4000	1434.822	36	Y	40-135	0.90	1.140
13C-2,3,7,8-TCDF	2000	996.685	50		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1053.231	53		40-135	1.58	1.160
13C-2,3,4,7,8-PeCDF	2000	992.684	50		40-135	1.59	1.196
13C-1,2,3,4,7,8-HxCDF	2000	982.987	49		40-135	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	907.823	45		40-135	0.49	0.973
13C-1,2,3,7,8,9-HxCDF	2000	927.626	46		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1118.179	56		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	776.442	39	Y	40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	850.860	43		40-135	0.43	1.080
37Cl-2,3,7,8-TCDD	800	429.684	54		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:50
Date Received: 10/05/22 10:10

Sample Name: 3266432-003 (Rhinebeck 4A)
Lab Code: E2200963-003

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.506	0.875	1	1	
1,2,3,7,8-PeCDD	1.58	0.229	4.37	1	1	1.58
1,2,3,6,7,8-HxCDD	12.5	0.181	4.37	1	0.1	1.25
1,2,3,4,7,8-HxCDD	2.95	0.199	4.37	1	0.1	0.295
1,2,3,7,8,9-HxCDD	8.37	0.190	4.37	1	0.1	0.837
1,2,3,4,6,7,8-HpCDD	311	0.957	4.37	1	0.01	3.11
OCDD	2370	6.80	8.75	1	0.0003	0.711
2,3,7,8-TCDF	5.20	0.370	0.875	1	0.1	0.520
1,2,3,7,8-PeCDF	1.21	0.403	4.37	1	0.03	0.0363
2,3,4,7,8-PeCDF	3.11	0.421	4.37	1	0.3	0.933
1,2,3,6,7,8-HxCDF	2.93	0.262	4.37	1	0.1	0.293
1,2,3,7,8,9-HxCDF	0.475	0.313	4.37	1	0.1	0.0475
1,2,3,4,7,8-HxCDF	1.83	0.246	4.37	1	0.1	0.183
2,3,4,6,7,8-HxCDF	1.96	0.223	4.37	1	0.1	0.196
1,2,3,4,6,7,8-HpCDF	56.2	0.539	4.37	1	0.01	0.562
1,2,3,4,7,8,9-HpCDF	1.83	0.628	4.37	1	0.01	0.0183
OCDF	75.1	0.780	8.75	1	0.0003	0.0225
Total TEQ						10.6

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-003 (Rhinebeck 4A)
Lab Code: E2200963-003

Service Request: E2200963
Date Collected: 09/29/22 09:50
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
5.6395g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	55.9		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 10:10
Date Received: 10/05/22 10:10

Sample Name: 3266432-004 (Rhinebeck 4B)
Lab Code: E2200963-004

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/16/22 12:00
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540074
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	0.457	0.744			1
1,2,3,7,8-PeCDD	ND	U	0.153	3.72			1
1,2,3,6,7,8-HxCDD	0.274J		0.134	3.72	1.08	1.000	1
1,2,3,4,7,8-HxCDD	0.261J		0.149	3.72	1.33	1.000	1
1,2,3,7,8,9-HxCDD	0.149JK		0.141	3.72	0.64	1.006	1
1,2,3,4,6,7,8-HpCDD	2.83JK		0.274	3.72	1.32	1.000	1
OCDD	37.8		0.660	7.44	0.81	1.000	1
2,3,7,8-TCDF	ND	U	0.320	0.744			1
1,2,3,7,8-PeCDF	ND	U	0.205	3.72			1
2,3,4,7,8-PeCDF	ND	U	0.213	3.72			1
1,2,3,6,7,8-HxCDF	ND	U	0.111	3.72			1
1,2,3,7,8,9-HxCDF	0.203JK		0.141	3.72	0.91	1.001	1
1,2,3,4,7,8-HxCDF	0.191JK		0.101	3.72	1.58	1.000	1
2,3,4,6,7,8-HxCDF	ND	U	0.0965	3.72			1
1,2,3,4,6,7,8-HpCDF	0.850J		0.0600	3.72	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	0.142JK		0.0667	3.72	0.71	1.000	1
OCDF	13.0		0.659	7.44	0.79	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-004 (Rhinebeck 4B)
Lab Code: E2200963-004

Service Request: E2200963
Date Collected: 09/29/22 10:10
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g
Data File Name: P540074
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 12:00
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.457	0.744			1
Total Penta-Dioxins	ND	U	0.153	3.72			1
Total Hexa-Dioxins	1.44J		0.141	3.72	1.13		1
Total Hepta-Dioxins	3.22J		0.274	3.72	0.93		1
Total Tetra-Furans	ND	U	0.320	0.744			1
Total Penta-Furans	ND	U	0.209	3.72			1
Total Hexa-Furans	ND	U	0.110	3.72			1
Total Hepta-Furans	3.35J		0.0633	3.72	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 10:10
Date Received: 10/05/22 10:10

Sample Name: 3266432-004 (Rhinebeck 4B)
Lab Code: E2200963-004

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/16/22 12:00
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540074
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	983.623	49		40-135	0.80	1.023
13C-1,2,3,7,8-PeCDD	2000	884.618	44		40-135	1.58	1.207
13C-1,2,3,4,7,8-HxCDD	2000	801.434	40		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	898.261	45		40-135	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	754.646	38	Y	40-135	1.08	1.068
13C-OCDD	4000	1072.634	27	Y	40-135	0.90	1.140
13C-2,3,7,8-TCDF	2000	835.511	42		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	838.450	42		40-135	1.59	1.160
13C-2,3,4,7,8-PeCDF	2000	801.894	40		40-135	1.59	1.196
13C-1,2,3,4,7,8-HxCDF	2000	812.499	41		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	748.962	37	Y	40-135	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	744.405	37	Y	40-135	0.48	1.008
13C-2,3,4,6,7,8-HxCDF	2000	933.096	47		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	608.640	30	Y	40-135	0.44	1.044
13C-1,2,3,4,7,8,9-HpCDF	2000	668.584	33	Y	40-135	0.41	1.081
37Cl-2,3,7,8-TCDD	800	399.007	50		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 10:10
Date Received: 10/05/22 10:10

Sample Name: 3266432-004 (Rhinebeck 4B)
Lab Code: E2200963-004

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.457	0.744	1	1	
1,2,3,7,8-PeCDD	ND	0.153	3.72	1	1	
1,2,3,6,7,8-HxCDD	0.274	0.134	3.72	1	0.1	0.0274
1,2,3,4,7,8-HxCDD	0.261	0.149	3.72	1	0.1	0.0261
1,2,3,7,8,9-HxCDD	0.149	0.141	3.72	1	0.1	0.0149
1,2,3,4,6,7,8-HpCDD	2.83	0.274	3.72	1	0.01	0.0283
OCDD	37.8	0.660	7.44	1	0.0003	0.0113
2,3,7,8-TCDF	ND	0.320	0.744	1	0.1	
1,2,3,7,8-PeCDF	ND	0.205	3.72	1	0.03	
2,3,4,7,8-PeCDF	ND	0.213	3.72	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.111	3.72	1	0.1	
1,2,3,7,8,9-HxCDF	0.203	0.141	3.72	1	0.1	0.0203
1,2,3,4,7,8-HxCDF	0.191	0.101	3.72	1	0.1	0.0191
2,3,4,6,7,8-HxCDF	ND	0.0965	3.72	1	0.1	
1,2,3,4,6,7,8-HpCDF	0.850	0.0600	3.72	1	0.01	0.00850
1,2,3,4,7,8,9-HpCDF	0.142	0.0667	3.72	1	0.01	0.00142
OCDF	13.0	0.659	7.44	1	0.0003	0.00390
Total TEQ						0.161

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-004 (Rhinebeck 4B)
Lab Code: E2200963-004

Service Request: E2200963
Date Collected: 09/29/22 10:10
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
5.9516g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	67.2		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-005 (Rhinebeck 5A)
Lab Code: E2200963-005

Service Request: E2200963
Date Collected: 09/29/22 09:05
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.006g
Data File Name: P540075
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 12:48
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.400	0.910			1
1,2,3,7,8-PeCDD	ND	U	0.239	4.55			1
1,2,3,6,7,8-HxCDD	2.96J		0.135	4.55	1.26	1.000	1
1,2,3,4,7,8-HxCDD	1.09JK		0.153	4.55	1.83	1.000	1
1,2,3,7,8,9-HxCDD	2.03JK		0.144	4.55	0.94	1.006	1
1,2,3,4,6,7,8-HpCDD	88.8		1.52	4.55	1.05	1.000	1
OCDD	789		4.04	9.10	0.87	1.000	1
2,3,7,8-TCDF	1.89		0.486	0.910	0.85	1.000	1
1,2,3,7,8-PeCDF	ND	U	0.323	4.55			1
2,3,4,7,8-PeCDF	0.650JK		0.326	4.55	1.03	1.001	1
1,2,3,6,7,8-HxCDF	0.588JK		0.198	4.55	0.96	1.001	1
1,2,3,7,8,9-HxCDF	0.397J		0.253	4.55	1.19	1.000	1
1,2,3,4,7,8-HxCDF	0.673J		0.181	4.55	1.24	1.000	1
2,3,4,6,7,8-HxCDF	0.325JK		0.169	4.55	1.75	1.000	1
1,2,3,4,6,7,8-HpCDF	9.32		0.132	4.55	0.96	1.000	1
1,2,3,4,7,8,9-HpCDF	0.719J		0.140	4.55	1.10	1.000	1
OCDF	37.1		1.28	9.10	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:05
Date Received: 10/05/22 10:10

Sample Name: 3266432-005 (Rhinebeck 5A)
Lab Code: E2200963-005

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.006g

Date Analyzed: 11/16/22 12:48
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540075
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.400	0.910			1
Total Penta-Dioxins	ND	U	0.239	4.55			1
Total Hexa-Dioxins	44.0		0.143	4.55	1.18		1
Total Hepta-Dioxins	208		1.52	4.55	1.06		1
Total Tetra-Furans	19.7		0.486	0.910	0.70		1
Total Penta-Furans	5.56		0.114	4.55	1.46		1
Total Hexa-Furans	7.74		0.196	4.55	1.15		1
Total Hepta-Furans	23.4		0.136	4.55	0.96		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:05
Date Received: 10/05/22 10:10

Sample Name: 3266432-005 (Rhinebeck 5A)
Lab Code: E2200963-005

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.006g

Date Analyzed: 11/16/22 12:48
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540075
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	864.729	43		40-135	0.80	1.024
13C-1,2,3,7,8-PeCDD	2000	828.034	41		40-135	1.61	1.207
13C-1,2,3,4,7,8-HxCDD	2000	733.176	37	Y	40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	833.887	42		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	696.859	35	Y	40-135	1.07	1.068
13C-OCDD	4000	880.414	22	Y	40-135	0.89	1.140
13C-2,3,7,8-TCDF	2000	741.260	37	Y	40-135	0.77	0.991
13C-1,2,3,7,8-PeCDF	2000	768.355	38	Y	40-135	1.57	1.160
13C-2,3,4,7,8-PeCDF	2000	736.677	37	Y	40-135	1.58	1.196
13C-1,2,3,4,7,8-HxCDF	2000	766.099	38	Y	40-135	0.49	0.970
13C-1,2,3,6,7,8-HxCDF	2000	680.829	34	Y	40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	664.970	33	Y	40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	858.769	43		40-135	0.50	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	542.492	27	Y	40-135	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	626.791	31	Y	40-135	0.41	1.080
37Cl-2,3,7,8-TCDD	800	397.242	50		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-005 (Rhinebeck 5A)
Lab Code: E2200963-005

Service Request: E2200963
Date Collected: 09/29/22 09:05
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.400	0.910	1	1	
1,2,3,7,8-PeCDD	ND	0.239	4.55	1	1	
1,2,3,6,7,8-HxCDD	2.96	0.135	4.55	1	0.1	0.296
1,2,3,4,7,8-HxCDD	1.09	0.153	4.55	1	0.1	0.109
1,2,3,7,8,9-HxCDD	2.03	0.144	4.55	1	0.1	0.203
1,2,3,4,6,7,8-HpCDD	88.8	1.52	4.55	1	0.01	0.888
OCDD	789	4.04	9.10	1	0.0003	0.237
2,3,7,8-TCDF	1.89	0.486	0.910	1	0.1	0.189
1,2,3,7,8-PeCDF	ND	0.323	4.55	1	0.03	
2,3,4,7,8-PeCDF	0.650	0.326	4.55	1	0.3	0.195
1,2,3,6,7,8-HxCDF	0.588	0.198	4.55	1	0.1	0.0588
1,2,3,7,8,9-HxCDF	0.397	0.253	4.55	1	0.1	0.0397
1,2,3,4,7,8-HxCDF	0.673	0.181	4.55	1	0.1	0.0673
2,3,4,6,7,8-HxCDF	0.325	0.169	4.55	1	0.1	0.0325
1,2,3,4,6,7,8-HpCDF	9.32	0.132	4.55	1	0.01	0.0932
1,2,3,4,7,8,9-HpCDF	0.719	0.140	4.55	1	0.01	0.00719
OCDF	37.1	1.28	9.10	1	0.0003	0.0111
Total TEQ						2.43

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-005 (Rhinebeck 5A)
Lab Code: E2200963-005

Service Request: E2200963
Date Collected: 09/29/22 09:05
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
5.6729g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	54.9		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-006 (Rhinebeck 5B)
Lab Code: E2200963-006

Service Request: E2200963
Date Collected: 09/29/22 09:18
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g
Data File Name: P540076
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 13:37
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.419	0.785			1
1,2,3,7,8-PeCDD	ND	U	0.239	3.92			1
1,2,3,6,7,8-HxCDD	ND	U	0.207	3.92			1
1,2,3,4,7,8-HxCDD	ND	U	0.231	3.92			1
1,2,3,7,8,9-HxCDD	ND	U	0.219	3.92			1
1,2,3,4,6,7,8-HpCDD	2.20JK		0.192	3.92	0.80	1.000	1
OCDD	27.1K		1.02	7.85	0.74	1.000	1
2,3,7,8-TCDF	ND	U	0.386	0.785			1
1,2,3,7,8-PeCDF	ND	U	0.168	3.92			1
2,3,4,7,8-PeCDF	ND	U	0.168	3.92			1
1,2,3,6,7,8-HxCDF	ND	U	0.0979	3.92			1
1,2,3,7,8,9-HxCDF	ND	U	0.139	3.92			1
1,2,3,4,7,8-HxCDF	ND	U	0.0913	3.92			1
2,3,4,6,7,8-HxCDF	ND	U	0.0833	3.92			1
1,2,3,4,6,7,8-HpCDF	0.668J		0.103	3.92	1.14	1.000	1
1,2,3,4,7,8,9-HpCDF	0.237J		0.125	3.92	1.03	1.000	1
OCDF	4.04J		0.716	7.85	0.91	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-006 (Rhinebeck 5B)
Lab Code: E2200963-006

Service Request: E2200963
Date Collected: 09/29/22 09:18
Date Received: 10/05/22 10:10
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g
Data File Name: P540076
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 13:37
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.419	0.785			1
Total Penta-Dioxins	ND	U	0.239	3.92			1
Total Hexa-Dioxins	ND	U	0.218	3.92			1
Total Hepta-Dioxins	2.54J		0.192	3.92	1.01		1
Total Tetra-Furans	ND	U	0.386	0.785			1
Total Penta-Furans	ND	U	0.168	3.92			1
Total Hexa-Furans	ND	U	0.0996	3.92			1
Total Hepta-Furans	0.905J		0.114	3.92	1.14		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:18
Date Received: 10/05/22 10:10

Sample Name: 3266432-006 (Rhinebeck 5B)
Lab Code: E2200963-006

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/16/22 13:37
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540067

Data File Name: P540076
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	840.359	42		40-135	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	711.521	36	Y	40-135	1.59	1.207
13C-1,2,3,4,7,8-HxCDD	2000	674.522	34	Y	40-135	1.31	0.991
13C-1,2,3,6,7,8-HxCDD	2000	777.433	39	Y	40-135	1.29	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	657.450	33	Y	40-135	1.07	1.068
13C-OCDD	4000	971.661	24	Y	40-135	0.85	1.140
13C-2,3,7,8-TCDF	2000	731.125	37	Y	40-135	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	684.982	34	Y	40-135	1.63	1.160
13C-2,3,4,7,8-PeCDF	2000	657.805	33	Y	40-135	1.56	1.196
13C-1,2,3,4,7,8-HxCDF	2000	703.739	35	Y	40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	634.529	32	Y	40-135	0.53	0.973
13C-1,2,3,7,8,9-HxCDF	2000	592.032	30	Y	40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	804.371	40		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	514.505	26	Y	40-135	0.42	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	552.494	28	Y	40-135	0.42	1.080
37Cl-2,3,7,8-TCDD	800	406.221	51		40-135	NA	1.025

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: 09/29/22 09:18
Date Received: 10/05/22 10:10

Sample Name: 3266432-006 (Rhinebeck 5B)
Lab Code: E2200963-006

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.419	0.785	1	1	
1,2,3,7,8-PeCDD	ND	0.239	3.92	1	1	
1,2,3,6,7,8-HxCDD	ND	0.207	3.92	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.231	3.92	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.219	3.92	1	0.1	
1,2,3,4,6,7,8-HpCDD	2.20	0.192	3.92	1	0.01	0.0220
OCDD	27.1	1.02	7.85	1	0.0003	0.00813
2,3,7,8-TCDF	ND	0.386	0.785	1	0.1	
1,2,3,7,8-PeCDF	ND	0.168	3.92	1	0.03	
2,3,4,7,8-PeCDF	ND	0.168	3.92	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0979	3.92	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.139	3.92	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0913	3.92	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0833	3.92	1	0.1	
1,2,3,4,6,7,8-HpCDF	0.668	0.103	3.92	1	0.01	0.00668
1,2,3,4,7,8,9-HpCDF	0.237	0.125	3.92	1	0.01	0.00237
OCDF	4.04	0.716	7.85	1	0.0003	0.00121
Total TEQ						0.0404

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil
Sample Name: 3266432-006 (Rhinebeck 5B)
Lab Code: E2200963-006

Service Request: E2200963
Date Collected: 09/29/22 09:18
Date Received: 10/05/22 10:10
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
5.3168g

Date Analyzed: 10/17/22 17:22
NA
E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	63.7		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200475-01

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g
Data File Name: P540057
ICAL Date: 01/18/22

Date Analyzed: 11/15/22 21:32
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0483	0.500			1
1,2,3,7,8-PeCDD	ND	U	0.0370	2.50			1
1,2,3,6,7,8-HxCDD	0.0575JK		0.0221	2.50	0.96	1.000	1
1,2,3,4,7,8-HxCDD	0.165J		0.0251	2.50	1.12	1.000	1
1,2,3,7,8,9-HxCDD	0.0249JK		0.0235	2.50	4.45	1.007	1
1,2,3,4,6,7,8-HpCDD	0.407J		0.00740	2.50	1.13	1.000	1
OCDD	2.59J		0.166	5.00	0.87	1.000	1
2,3,7,8-TCDF	ND	U	0.0404	0.500			1
1,2,3,7,8-PeCDF	ND	U	0.0384	2.50			1
2,3,4,7,8-PeCDF	ND	U	0.0386	2.50			1
1,2,3,6,7,8-HxCDF	0.0614J		0.00540	2.50	1.13	1.000	1
1,2,3,7,8,9-HxCDF	0.0537JK		0.00700	2.50	2.25	1.001	1
1,2,3,4,7,8-HxCDF	0.0332JK		0.00500	2.50	1.50	1.000	1
2,3,4,6,7,8-HxCDF	0.0228JK		0.00480	2.50	2.65	1.000	1
1,2,3,4,6,7,8-HpCDF	0.0631JK		0.00930	2.50	0.44	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0394JK		0.0107	2.50	0.49	1.000	1
OCDF	0.306JK		0.0517	5.00	0.63	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200475-01

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/15/22 21:32
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540057
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.0483	0.500			1
Total Penta-Dioxins	ND	U	0.0370	2.50			1
Total Hexa-Dioxins	0.279J		0.0235	2.50	1.21		1
Total Hepta-Dioxins	0.407J		0.00740	2.50	1.13		1
Total Tetra-Furans	ND	U	0.0404	0.500			1
Total Penta-Furans	ND	U	0.0385	2.50			1
Total Hexa-Furans	0.125J		0.00540	2.50	1.14		1
Total Hepta-Furans	0.178J		0.0100	2.50	1.12		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ2200475-01

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Data File Name: P540057
ICAL Date: 01/18/22

Date Analyzed: 11/15/22 21:32
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

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	1329.581	66		40-135	0.79	1.024
13C-1,2,3,7,8-PeCDD	2000	1054.932	53		40-135	1.59	1.207
13C-1,2,3,4,7,8-HxCDD	2000	1002.880	50		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1176.697	59		40-135	1.24	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	997.424	50		40-135	1.06	1.068
13C-OCDD	4000	1435.843	36	Y	40-135	0.91	1.140
13C-2,3,7,8-TCDF	2000	1129.052	56		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1043.840	52		40-135	1.57	1.160
13C-2,3,4,7,8-PeCDF	2000	959.091	48		40-135	1.57	1.196
13C-1,2,3,4,7,8-HxCDF	2000	1102.154	55		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	983.824	49		40-135	0.50	0.973
13C-1,2,3,7,8,9-HxCDF	2000	984.524	49		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1192.728	60		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	794.857	40		40-135	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	923.312	46		40-135	0.43	1.080
37Cl-2,3,7,8-TCDD	800	672.315	84		40-135	NA	1.025



Accuracy & Precision

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Analyzed: 11/16/22
Date Extracted: 10/18/22

Lab Control Sample Summary

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method

Units: ng/Kg
Basis: Dry
Analysis Lot: 785745

Lab Control Sample
EQ2200475-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,2,3,4,6,7,8-HpCDD	94.6	100	95	70-130
1,2,3,4,7,8-HxCDD	100	100	100	70-130
1,2,3,6,7,8-HxCDD	89.0	100	89	70-130
1,2,3,7,8,9-HxCDD	97.7	100	98	70-130
1,2,3,7,8-PeCDD	95.4	100	95	70-130
2,3,7,8-TCDD	15.4	20.0	77	70-130
OCDD	196	200	98	70-130
1,2,3,4,6,7,8-HpCDF	95.7	100	96	70-130
1,2,3,4,7,8,9-HpCDF	90.3	100	90	70-130
1,2,3,4,7,8-HxCDF	89.9	100	90	70-130
1,2,3,6,7,8-HxCDF	97.9	100	98	70-130
1,2,3,7,8,9-HxCDF	95.1	100	95	70-130
1,2,3,7,8-PeCDF	93.0	100	93	70-130
2,3,4,6,7,8-HxCDF	82.7	100	83	70-130
2,3,4,7,8-PeCDF	101	100	101	70-130
2,3,7,8-TCDF	19.5	20.0	98	70-130
OCDF	187	200	93	70-130

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200475-02

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Data File Name: P540063
ICAL Date: 01/18/22

Date Analyzed: 11/16/22 02:22
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	15.4		0.213	0.500	0.77	1.001	1
1,2,3,7,8-PeCDD	95.4		0.192	2.50	1.63	1.001	1
1,2,3,6,7,8-HxCDD	89.0		0.0488	2.50	1.25	1.000	1
1,2,3,4,7,8-HxCDD	100		0.0553	2.50	1.27	1.000	1
1,2,3,7,8,9-HxCDD	97.7		0.0519	2.50	1.23	1.006	1
1,2,3,4,6,7,8-HpCDD	94.6		0.0987	2.50	1.06	1.000	1
OCDD	196		1.24	5.00	0.90	1.000	1
2,3,7,8-TCDF	19.5		0.209	0.500	0.69	1.001	1
1,2,3,7,8-PeCDF	93.0		0.148	2.50	1.52	1.001	1
2,3,4,7,8-PeCDF	101		0.158	2.50	1.52	1.000	1
1,2,3,6,7,8-HxCDF	97.9		0.0448	2.50	1.20	1.000	1
1,2,3,7,8,9-HxCDF	95.1		0.0553	2.50	1.22	1.000	1
1,2,3,4,7,8-HxCDF	89.9		0.0408	2.50	1.20	1.000	1
2,3,4,6,7,8-HxCDF	82.7		0.0392	2.50	1.16	1.000	1
1,2,3,4,6,7,8-HpCDF	95.7		0.359	2.50	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	90.3		0.469	2.50	0.97	1.000	1
OCDF	187		0.406	5.00	0.84	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200475-02

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/16/22 02:22
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540063
ICAL Date: 01/18/22

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	15.4		0.213	0.500	0.77		1
Total Penta-Dioxins	95.4		0.192	2.50	1.63		1
Total Hexa-Dioxins	287		0.0518	2.50	1.27		1
Total Hepta-Dioxins	94.6		0.0987	2.50	1.06		1
Total Tetra-Furans	19.7		0.209	0.500	0.65		1
Total Penta-Furans	196		0.153	2.50	1.44		1
Total Hexa-Furans	366		0.0443	2.50	1.20		1
Total Hepta-Furans	186		0.410	2.50	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Middletown
Project: 3266432
Sample Matrix: Soil

Service Request: E2200963
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ2200475-02

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A
Prep Method: Method
Sample Amount: 10.000g

Date Analyzed: 11/16/22 02:22
Date Extracted: 10/18/22
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P540057
Cal Ver. File Name: P540054

Data File Name: P540063
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	975.817	49		40-135	0.81	1.024
13C-1,2,3,7,8-PeCDD	2000	757.465	38	Y	40-135	1.60	1.207
13C-1,2,3,4,7,8-HxCDD	2000	822.384	41		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	943.724	47		40-135	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	858.033	43		40-135	1.08	1.068
13C-OCDD	4000	1511.573	38	Y	40-135	0.89	1.140
13C-2,3,7,8-TCDF	2000	870.260	44		40-135	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	791.600	40		40-135	1.62	1.160
13C-2,3,4,7,8-PeCDF	2000	714.295	36	Y	40-135	1.59	1.197
13C-1,2,3,4,7,8-HxCDF	2000	923.728	46		40-135	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	814.235	41		40-135	0.48	0.973
13C-1,2,3,7,8,9-HxCDF	2000	815.907	41		40-135	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1008.007	50		40-135	0.49	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	751.549	38	Y	40-135	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	756.913	38	Y	40-135	0.43	1.080
37Cl-2,3,7,8-TCDD	800	301.287	38	Y	40-135	NA	1.025



ANALYTICAL REPORT

Lab Number:	L2254040
Client:	Normandeau Associates, Inc. 600 Beach Road West Haverstraw, NY 10993
ATTN:	Mike Taylor
Phone:	(603) 637-1193
Project Name:	CHPE HUDSON 7
Project Number:	24711.001
Report Date:	10/28/22

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2254040-01	RHINEBECK 1A	SEDIMENT	KINGSTON, NY	09/29/22 12:30	09/30/22
L2254040-02	RHINEBECK 1B	SEDIMENT	KINGSTON, NY	09/29/22 12:40	09/30/22
L2254040-03	RHINEBECK 2A	SEDIMENT	KINGSTON, NY	09/29/22 11:50	09/30/22
L2254040-04	RHINEBECK 2B	SEDIMENT	KINGSTON, NY	09/29/22 12:00	09/30/22
L2254040-05	RHINEBECK 3A	SEDIMENT	KINGSTON, NY	09/29/22 11:00	09/30/22
L2254040-06	RHINEBECK 3B	SEDIMENT	KINGSTON, NY	09/29/22 11:15	09/30/22
L2254040-07	RHINEBECK 4A	SEDIMENT	KINGSTON, NY	09/29/22 09:50	09/30/22
L2254040-08	RHINEBECK 4B	SEDIMENT	KINGSTON, NY	09/29/22 10:10	09/30/22
L2254040-09	RHINEBECK 5A	SEDIMENT	KINGSTON, NY	09/29/22 09:05	09/30/22
L2254040-10	RHINEBECK 5B	SEDIMENT	KINGSTON, NY	09/29/22 09:10	09/30/22

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Case Narrative (continued)

Report Submission


All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

PCB Congeners

L2254040: The sediment samples were frozen upon receipt in order to arrest the holding time.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Elizabeth Porta

Title: Technical Director/Representative

Date: 10/28/22

ORGANICS

PCBS

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-01
 Client ID: RHINEBECK 1A
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 12:30
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/25/22 15:15
 Analyst: PS
 Percent Solids: 73%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	2.33		ug/kg	0.545	0.272	1
CI3-BZ#18	1.85		ug/kg	0.545	0.272	1
CI3-BZ#28	1.49		ug/kg	0.545	0.272	1
CI4-BZ#44	0.456	J	ug/kg	0.545	0.272	1
CI4-BZ#49	1.04		ug/kg	0.545	0.272	1
CI4-BZ#52	1.21		ug/kg	0.545	0.272	1
CI4-BZ#66	0.504	J	ug/kg	0.545	0.272	1
CI5-BZ#87	ND		ug/kg	0.545	0.272	1
CI5-BZ#101	0.273	J	ug/kg	0.545	0.272	1
CI5-BZ#105	ND		ug/kg	0.545	0.272	1
CI5-BZ#118	ND		ug/kg	0.545	0.272	1
CI6-BZ#128	ND		ug/kg	0.545	0.272	1
CI6-BZ#138	ND		ug/kg	0.545	0.272	1
CI6-BZ#153	ND		ug/kg	0.545	0.272	1
CI7-BZ#170	ND		ug/kg	0.545	0.272	1
CI7-BZ#180	ND		ug/kg	0.545	0.272	1
CI7-BZ#183	ND		ug/kg	0.545	0.272	1
CI7-BZ#184	ND		ug/kg	0.545	0.272	1
CI7-BZ#187	ND		ug/kg	0.545	0.272	1
CI8-BZ#195	ND		ug/kg	0.545	0.272	1
CI9-BZ#206	ND		ug/kg	0.545	0.272	1
CI10-BZ#209	ND		ug/kg	0.545	0.272	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	74		50-125
BZ 198	176	Q	50-125

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-02
 Client ID: RHINEBECK 1B
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 12:40
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/25/22 15:47
 Analyst: PS
 Percent Solids: 73%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	ND		ug/kg	0.526	0.263	1
CI3-BZ#18	ND		ug/kg	0.526	0.263	1
CI3-BZ#28	ND		ug/kg	0.526	0.263	1
CI4-BZ#44	ND		ug/kg	0.526	0.263	1
CI4-BZ#49	ND		ug/kg	0.526	0.263	1
CI4-BZ#52	ND		ug/kg	0.526	0.263	1
CI4-BZ#66	ND		ug/kg	0.526	0.263	1
CI5-BZ#87	ND		ug/kg	0.526	0.263	1
CI5-BZ#101	ND		ug/kg	0.526	0.263	1
CI5-BZ#105	ND		ug/kg	0.526	0.263	1
CI5-BZ#118	ND		ug/kg	0.526	0.263	1
CI6-BZ#128	ND		ug/kg	0.526	0.263	1
CI6-BZ#138	ND		ug/kg	0.526	0.263	1
CI6-BZ#153	ND		ug/kg	0.526	0.263	1
CI7-BZ#170	ND		ug/kg	0.526	0.263	1
CI7-BZ#180	ND		ug/kg	0.526	0.263	1
CI7-BZ#183	ND		ug/kg	0.526	0.263	1
CI7-BZ#184	ND		ug/kg	0.526	0.263	1
CI7-BZ#187	ND		ug/kg	0.526	0.263	1
CI8-BZ#195	ND		ug/kg	0.526	0.263	1
CI9-BZ#206	ND		ug/kg	0.526	0.263	1
CI10-BZ#209	ND		ug/kg	0.526	0.263	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	54		50-125
BZ 198	115		50-125

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-03
 Client ID: RHINEBECK 2A
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 11:50
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/25/22 16:19
 Analyst: PS
 Percent Solids: 58%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	11.1		ug/kg	0.665	0.332	1
CI3-BZ#18	12.8		ug/kg	0.665	0.332	1
CI3-BZ#28	11.8		ug/kg	0.665	0.332	1
CI4-BZ#44	4.31		ug/kg	0.665	0.332	1
CI4-BZ#49	10.0		ug/kg	0.665	0.332	1
CI4-BZ#52	11.0		ug/kg	0.665	0.332	1
CI4-BZ#66	5.38		ug/kg	0.665	0.332	1
CI5-BZ#87	1.17		ug/kg	0.665	0.332	1
CI5-BZ#101	3.85		ug/kg	0.665	0.332	1
CI5-BZ#105	1.17		ug/kg	0.665	0.332	1
CI5-BZ#118	2.56		ug/kg	0.665	0.332	1
CI6-BZ#128	0.816		ug/kg	0.665	0.332	1
CI6-BZ#138	4.61		ug/kg	0.665	0.332	1
CI6-BZ#153	1.73		ug/kg	0.665	0.332	1
CI7-BZ#170	0.746		ug/kg	0.665	0.332	1
CI7-BZ#180	0.779		ug/kg	0.665	0.332	1
CI7-BZ#183	ND		ug/kg	0.665	0.332	1
CI7-BZ#184	ND		ug/kg	0.665	0.332	1
CI7-BZ#187	0.564	J	ug/kg	0.665	0.332	1
CI8-BZ#195	ND		ug/kg	0.665	0.332	1
CI9-BZ#206	0.565	J	ug/kg	0.665	0.332	1
CI10-BZ#209	0.408	J	ug/kg	0.665	0.332	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	53		50-125
BZ 198	99		50-125

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-04
 Client ID: RHINEBECK 2B
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 12:00
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/27/22 16:57
 Analyst: PS
 Percent Solids: 60%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	5.89		ug/kg	0.630	0.315	1
CI3-BZ#18	6.41		ug/kg	0.630	0.315	1
CI3-BZ#28	6.91		ug/kg	0.630	0.315	1
CI4-BZ#44	4.50		ug/kg	0.630	0.315	1
CI4-BZ#49	7.64		ug/kg	0.630	0.315	1
CI4-BZ#52	13.8		ug/kg	0.630	0.315	1
CI4-BZ#66	4.17		ug/kg	0.630	0.315	1
CI5-BZ#87	2.94		ug/kg	0.630	0.315	1
CI5-BZ#101	9.56		ug/kg	0.630	0.315	1
CI5-BZ#105	2.03		ug/kg	0.630	0.315	1
CI5-BZ#118	5.81		ug/kg	0.630	0.315	1
CI6-BZ#128	1.57		ug/kg	0.630	0.315	1
CI6-BZ#138	6.94		ug/kg	0.630	0.315	1
CI6-BZ#153	4.67		ug/kg	0.630	0.315	1
CI7-BZ#170	0.787		ug/kg	0.630	0.315	1
CI7-BZ#180	1.92		ug/kg	0.630	0.315	1
CI7-BZ#183	0.572	J	ug/kg	0.630	0.315	1
CI7-BZ#184	ND		ug/kg	0.630	0.315	1
CI7-BZ#187	1.04		ug/kg	0.630	0.315	1
CI8-BZ#195	ND		ug/kg	0.630	0.315	1
CI9-BZ#206	1.22		ug/kg	0.630	0.315	1
CI10-BZ#209	2.10		ug/kg	0.630	0.315	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	34	Q	50-125
BZ 198	81		50-125

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-05
 Client ID: RHINEBECK 3A
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 11:00
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/25/22 17:24
 Analyst: PS
 Percent Solids: 53%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	11.3		ug/kg	0.729	0.364	1
CI3-BZ#18	12.8		ug/kg	0.729	0.364	1
CI3-BZ#28	13.5		ug/kg	0.729	0.364	1
CI4-BZ#44	4.41		ug/kg	0.729	0.364	1
CI4-BZ#49	10.6		ug/kg	0.729	0.364	1
CI4-BZ#52	11.2		ug/kg	0.729	0.364	1
CI4-BZ#66	5.87		ug/kg	0.729	0.364	1
CI5-BZ#87	1.53		ug/kg	0.729	0.364	1
CI5-BZ#101	5.21		ug/kg	0.729	0.364	1
CI5-BZ#105	1.18		ug/kg	0.729	0.364	1
CI5-BZ#118	3.22		ug/kg	0.729	0.364	1
CI6-BZ#128	1.02		ug/kg	0.729	0.364	1
CI6-BZ#138	3.04		ug/kg	0.729	0.364	1
CI6-BZ#153	2.24		ug/kg	0.729	0.364	1
CI7-BZ#170	0.650	J	ug/kg	0.729	0.364	1
CI7-BZ#180	0.751		ug/kg	0.729	0.364	1
CI7-BZ#183	ND		ug/kg	0.729	0.364	1
CI7-BZ#184	ND		ug/kg	0.729	0.364	1
CI7-BZ#187	0.439	J	ug/kg	0.729	0.364	1
CI8-BZ#195	ND		ug/kg	0.729	0.364	1
CI9-BZ#206	0.512	J	ug/kg	0.729	0.364	1
CI10-BZ#209	0.667	J	ug/kg	0.729	0.364	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	49	Q	50-125
BZ 198	107		50-125

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-06
 Client ID: RHINEBECK 3B
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 11:15
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/27/22 15:54
 Analyst: PS
 Percent Solids: 73%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	37.6		ug/kg	0.530	0.265	1
CI3-BZ#18	64.0		ug/kg	0.530	0.265	1
CI3-BZ#28	39.1		ug/kg	0.530	0.265	1
CI4-BZ#44	17.7		ug/kg	0.530	0.265	1
CI4-BZ#49	45.3		ug/kg	0.530	0.265	1
CI4-BZ#52	51.0		ug/kg	0.530	0.265	1
CI4-BZ#66	18.1		ug/kg	0.530	0.265	1
CI5-BZ#87	2.93		ug/kg	0.530	0.265	1
CI5-BZ#101	14.5		ug/kg	0.530	0.265	1
CI5-BZ#105	2.67		ug/kg	0.530	0.265	1
CI5-BZ#118	8.69		ug/kg	0.530	0.265	1
CI6-BZ#128	1.65		ug/kg	0.530	0.265	1
CI6-BZ#138	7.44		ug/kg	0.530	0.265	1
CI6-BZ#153	5.45		ug/kg	0.530	0.265	1
CI7-BZ#170	1.70		ug/kg	0.530	0.265	1
CI7-BZ#180	2.16		ug/kg	0.530	0.265	1
CI7-BZ#183	0.624		ug/kg	0.530	0.265	1
CI7-BZ#184	ND		ug/kg	0.530	0.265	1
CI7-BZ#187	1.68		ug/kg	0.530	0.265	1
CI8-BZ#195	0.296	J	ug/kg	0.530	0.265	1
CI9-BZ#206	1.15		ug/kg	0.530	0.265	1
CI10-BZ#209	1.02		ug/kg	0.530	0.265	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	43	Q	50-125
BZ 198	103		50-125



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-07
 Client ID: RHINEBECK 4A
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 09:50
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/27/22 17:29
 Analyst: PS
 Percent Solids: 62%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	10.4		ug/kg	0.633	0.316	1
CI3-BZ#18	29.2		ug/kg	0.633	0.316	1
CI3-BZ#28	33.2		ug/kg	0.633	0.316	1
CI4-BZ#44	26.2		ug/kg	0.633	0.316	1
CI4-BZ#49	31.7		ug/kg	0.633	0.316	1
CI4-BZ#52	42.4		ug/kg	0.633	0.316	1
CI4-BZ#66	23.9		ug/kg	0.633	0.316	1
CI5-BZ#87	8.78		ug/kg	0.633	0.316	1
CI5-BZ#101	34.6		ug/kg	0.633	0.316	1
CI5-BZ#105	6.56		ug/kg	0.633	0.316	1
CI5-BZ#118	21.6		ug/kg	0.633	0.316	1
CI6-BZ#128	5.76		ug/kg	0.633	0.316	1
CI6-BZ#138	23.7		ug/kg	0.633	0.316	1
CI6-BZ#153	17.4		ug/kg	0.633	0.316	1
CI7-BZ#170	4.47		ug/kg	0.633	0.316	1
CI7-BZ#180	5.36		ug/kg	0.633	0.316	1
CI7-BZ#183	1.41		ug/kg	0.633	0.316	1
CI7-BZ#184	ND		ug/kg	0.633	0.316	1
CI7-BZ#187	3.54		ug/kg	0.633	0.316	1
CI8-BZ#195	ND		ug/kg	0.633	0.316	1
CI9-BZ#206	1.56		ug/kg	0.633	0.316	1
CI10-BZ#209	1.68		ug/kg	0.633	0.316	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	46	Q	50-125
BZ 198	103		50-125



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-08
 Client ID: RHINEBECK 4B
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 10:10
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/27/22 16:25
 Analyst: PS
 Percent Solids: 71%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	ND		ug/kg	0.544	0.272	1
CI3-BZ#18	ND		ug/kg	0.544	0.272	1
CI3-BZ#28	ND		ug/kg	0.544	0.272	1
CI4-BZ#44	ND		ug/kg	0.544	0.272	1
CI4-BZ#49	ND		ug/kg	0.544	0.272	1
CI4-BZ#52	ND		ug/kg	0.544	0.272	1
CI4-BZ#66	ND		ug/kg	0.544	0.272	1
CI5-BZ#87	ND		ug/kg	0.544	0.272	1
CI5-BZ#101	ND		ug/kg	0.544	0.272	1
CI5-BZ#105	ND		ug/kg	0.544	0.272	1
CI5-BZ#118	ND		ug/kg	0.544	0.272	1
CI6-BZ#128	ND		ug/kg	0.544	0.272	1
CI6-BZ#138	ND		ug/kg	0.544	0.272	1
CI6-BZ#153	ND		ug/kg	0.544	0.272	1
CI7-BZ#170	ND		ug/kg	0.544	0.272	1
CI7-BZ#180	ND		ug/kg	0.544	0.272	1
CI7-BZ#183	ND		ug/kg	0.544	0.272	1
CI7-BZ#184	ND		ug/kg	0.544	0.272	1
CI7-BZ#187	ND		ug/kg	0.544	0.272	1
CI8-BZ#195	ND		ug/kg	0.544	0.272	1
CI9-BZ#206	ND		ug/kg	0.544	0.272	1
CI10-BZ#209	ND		ug/kg	0.544	0.272	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	46	Q	50-125
BZ 198	114		50-125

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-09
 Client ID: RHINEBECK 5A
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 09:05
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/27/22 18:00
 Analyst: PS
 Percent Solids: 62%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	41.4		ug/kg	0.609	0.304	1
CI3-BZ#18	116		ug/kg	0.609	0.304	1
CI3-BZ#28	142		ug/kg	0.609	0.304	1
CI4-BZ#44	53.8		ug/kg	0.609	0.304	1
CI4-BZ#49	102		ug/kg	0.609	0.304	1
CI4-BZ#52	111		ug/kg	0.609	0.304	1
CI4-BZ#66	54.8		ug/kg	0.609	0.304	1
CI5-BZ#87	10.4		ug/kg	0.609	0.304	1
CI5-BZ#101	56.2		ug/kg	0.609	0.304	1
CI5-BZ#105	10.4		ug/kg	0.609	0.304	1
CI5-BZ#118	34.1		ug/kg	0.609	0.304	1
CI6-BZ#128	9.06		ug/kg	0.609	0.304	1
CI6-BZ#138	33.3		ug/kg	0.609	0.304	1
CI6-BZ#153	26.5		ug/kg	0.609	0.304	1
CI7-BZ#170	6.08		ug/kg	0.609	0.304	1
CI7-BZ#180	8.86		ug/kg	0.609	0.304	1
CI7-BZ#183	2.27		ug/kg	0.609	0.304	1
CI7-BZ#184	ND		ug/kg	0.609	0.304	1
CI7-BZ#187	6.74		ug/kg	0.609	0.304	1
CI8-BZ#195	1.19		ug/kg	0.609	0.304	1
CI9-BZ#206	3.13		ug/kg	0.609	0.304	1
CI10-BZ#209	2.02		ug/kg	0.609	0.304	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	49	Q	50-125
BZ 198	110		50-125



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-10
 Client ID: RHINEBECK 5B
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 09:10
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Sediment
 Analytical Method: 105,8270E-SIM/680(M)
 Analytical Date: 10/27/22 15:22
 Analyst: PS
 Percent Solids: 67%

Extraction Method: EPA 3570
 Extraction Date: 10/20/22 17:25
 Cleanup Method: EPA 3630
 Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Congeners (NOAA List) - Mansfield Lab						
CI2-BZ#8	ND		ug/kg	0.582	0.291	1
CI3-BZ#18	ND		ug/kg	0.582	0.291	1
CI3-BZ#28	ND		ug/kg	0.582	0.291	1
CI4-BZ#44	ND		ug/kg	0.582	0.291	1
CI4-BZ#49	ND		ug/kg	0.582	0.291	1
CI4-BZ#52	ND		ug/kg	0.582	0.291	1
CI4-BZ#66	ND		ug/kg	0.582	0.291	1
CI5-BZ#87	ND		ug/kg	0.582	0.291	1
CI5-BZ#101	ND		ug/kg	0.582	0.291	1
CI5-BZ#105	ND		ug/kg	0.582	0.291	1
CI5-BZ#118	ND		ug/kg	0.582	0.291	1
CI6-BZ#128	ND		ug/kg	0.582	0.291	1
CI6-BZ#138	ND		ug/kg	0.582	0.291	1
CI6-BZ#153	ND		ug/kg	0.582	0.291	1
CI7-BZ#170	ND		ug/kg	0.582	0.291	1
CI7-BZ#180	ND		ug/kg	0.582	0.291	1
CI7-BZ#183	ND		ug/kg	0.582	0.291	1
CI7-BZ#184	ND		ug/kg	0.582	0.291	1
CI7-BZ#187	ND		ug/kg	0.582	0.291	1
CI8-BZ#195	ND		ug/kg	0.582	0.291	1
CI9-BZ#206	ND		ug/kg	0.582	0.291	1
CI10-BZ#209	ND		ug/kg	0.582	0.291	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
DBOB	37	Q	50-125
BZ 198	87		50-125



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270E-SIM/680(M)
Analytical Date: 10/25/22 13:39
Analyst: PS

Extraction Method: EPA 3570
Extraction Date: 10/20/22 17:25
Cleanup Method: EPA 3630
Cleanup Date: 10/25/22

Parameter	Result	Qualifier	Units	RL	MDL
PCB Congeners (NOAA List) - Mansfield Lab for sample(s): 01-10 Batch: WG1701954-1					
CI2-BZ#8	ND		ug/kg	0.400	0.200
CI3-BZ#18	ND		ug/kg	0.400	0.200
CI3-BZ#28	ND		ug/kg	0.400	0.200
CI4-BZ#44	ND		ug/kg	0.400	0.200
CI4-BZ#49	ND		ug/kg	0.400	0.200
CI4-BZ#52	ND		ug/kg	0.400	0.200
CI4-BZ#66	ND		ug/kg	0.400	0.200
CI5-BZ#87	ND		ug/kg	0.400	0.200
CI5-BZ#101	ND		ug/kg	0.400	0.200
CI5-BZ#105	ND		ug/kg	0.400	0.200
CI5-BZ#118	ND		ug/kg	0.400	0.200
CI6-BZ#128	ND		ug/kg	0.400	0.200
CI6-BZ#138	ND		ug/kg	0.400	0.200
CI6-BZ#153	ND		ug/kg	0.400	0.200
CI7-BZ#170	ND		ug/kg	0.400	0.200
CI7-BZ#180	ND		ug/kg	0.400	0.200
CI7-BZ#183	ND		ug/kg	0.400	0.200
CI7-BZ#184	ND		ug/kg	0.400	0.200
CI7-BZ#187	ND		ug/kg	0.400	0.200
CI8-BZ#195	ND		ug/kg	0.400	0.200
CI9-BZ#206	ND		ug/kg	0.400	0.200
CI10-BZ#209	ND		ug/kg	0.400	0.200

Surrogate	%Recovery	Qualifier	Acceptance Criteria
DBOB	42	Q	50-125
BZ 198	98		50-125



Lab Control Sample Analysis

Batch Quality Control

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-10 Batch: WG1701954-2 WG1701954-3								
Cl2-BZ#8	75		68		40-140	10		30
Cl3-BZ#18	71		67		40-140	6		30
Cl3-BZ#28	75		71		40-140	5		30
Cl4-BZ#44	73		71		40-140	3		30
Cl4-BZ#49	72		70		40-140	3		30
Cl4-BZ#52	72		68		40-140	6		30
Cl4-BZ#66	85		82		40-140	4		30
Cl5-BZ#87	71		70		40-140	1		30
Cl5-BZ#101	69		69		40-140	0		30
Cl5-BZ#105	74		73		40-140	1		30
Cl5-BZ#118	70		68		40-140	3		30
Cl6-BZ#128	73		73		40-140	0		30
Cl6-BZ#138	71		71		40-140	0		30
Cl6-BZ#153	71		70		40-140	1		30
Cl7-BZ#170	76		75		40-140	1		30
Cl7-BZ#180	69		68		40-140	1		30
Cl7-BZ#183	69		68		40-140	1		30
Cl7-BZ#184	69		68		40-140	1		30
Cl7-BZ#187	72		70		40-140	3		30
Cl8-BZ#195	83		82		40-140	1		30
Cl9-BZ#206	102		100		40-140	2		30
Cl10-BZ#209	117		114		40-140	3		30

Lab Control Sample Analysis Batch Quality Control

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
PCB Congeners (NOAA List) - Mansfield Lab Associated sample(s): 01-10 Batch: WG1701954-2 WG1701954-3								

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
DBOB	49	Q	44	Q	50-125
BZ 198	107		106		50-125

INORGANICS & MISCELLANEOUS

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-01
Client ID: RHINEBECK 1A
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 12:30
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	73.0		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-02
Client ID: RHINEBECK 1B
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 12:40
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	73.4		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-03
Client ID: RHINEBECK 2A
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 11:50
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	58.2		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-04
Client ID: RHINEBECK 2B
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 12:00
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	60.3		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-05
Client ID: RHINEBECK 3A
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 11:00
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	53.4		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-06
Client ID: RHINEBECK 3B
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 11:15
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	72.7		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-07
Client ID: RHINEBECK 4A
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 09:50
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	62.4		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-08
 Client ID: RHINEBECK 4B
 Sample Location: KINGSTON, NY

Date Collected: 09/29/22 10:10
 Date Received: 09/30/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	71.2		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-09
Client ID: RHINEBECK 5A
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 09:05
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	62.2		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

SAMPLE RESULTS

Lab ID: L2254040-10
Client ID: RHINEBECK 5B
Sample Location: KINGSTON, NY

Date Collected: 09/29/22 09:10
Date Received: 09/30/22
Field Prep: Not Specified

Sample Depth:
Matrix: Sediment

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	67.4		%	0.100	0.100	1	-	10/06/22 13:11	121,2540G	VM



Lab Duplicate Analysis

Batch Quality Control

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG1696293-1 QC Sample: L2253770-22 Client ID: DUP Sample						
Solids, Total	90.3	91.1	%	1		10

Serial_No:10282211:11
 Lab Number: L2254040
 Report Date: 10/28/22

Project Name: CHPE HUDSON 7
 Project Number: 24711.001

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information
 Cooler A
 Custody Seal Absent

Container Information		Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
Container ID	Container Type							
L2254040-01A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-02A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-03A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-04A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-05A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-06A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-07A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-08A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-09A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)
L2254040-10A	Glass 120ml/4oz unpreserved	NA	4.9	4.9	Y	Absent		A2-TS(7),A2-PCBCONG-8270-NOAA(14)

*Values in parentheses indicate holding time in days



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: CHPE HUDSON 7
Project Number: 24711.001

Lab Number: L2254040
Report Date: 10/28/22

REFERENCES

- 105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with NOAA Technical Memorandum NMFS-NWFSC-59: Extraction, Cleanup and GC/MS Analysis of Sediments and Tissues for Organic Contaminants, March 2004 and the Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680, EPA 01A0005295, November 1985.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpeneol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpeneol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

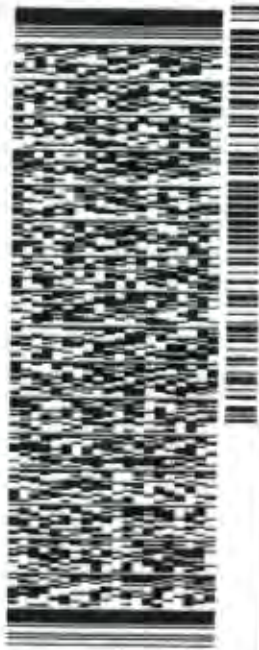
ORIGIN ID: OICA (717) 817-7076
DONALD MAZARIO - RM 159
NORMANDEAU CO QUALITY INN
114 ROUTE 28
KINGSTON
KINGSTON, NY 12401
UNITED STATES US

SHIP DATE: 29SEP22
ACTWGT: 40.00 LB
CAD: 5720875MNET4530
DIMS: 18x14x14 IN
BILL SENDER

TO **SAMPLE RECEIPT**
ALPHA ANALYTICAL
8 WALKUP DRIVE

WESTBOROUGH MA 01581
(508) 898-9220
REV 2/7/11 001/PAK/10 001

DEF1



TRK# 7700 5210 8728
0201

FRI - 30 SEP 10:30A
PRIORITY OVERNIGHT

EM BBFA

01581
MA-US **BOS**



3811E0XCFE2D

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Field Data Sheets

FIELD DATA SHEET

Project Name: CHPE Hudson River	Proj. #: 24711.001
Site Name: Hudson River	Task #: 10
City: Poughkeepsie State: NY	Date: 9/18/20

Field Team Leader(s): MM Field Team Safety Coordinator: MM
 Field Crew: DDN CCB Arrival & Departure Times: 0824 - 0845
 Station ID #: RHINEBECK 5 Weather: Clear Cloudy Rain Temp —
 Photos: Y (N) File Name: — Wind Conditions (Speed/Direction): 5-10 SW

FIELD DATA
 Water Depth: 33 ft. Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: NA

SAMPLE/PUSH #1
 Core ID#: RHINE 5 Coring Time: 0834 Penetration Depth: 8 ft. Core Recovery: 7' 5" ft
 Sample Method: Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" (3") 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: (Y) N

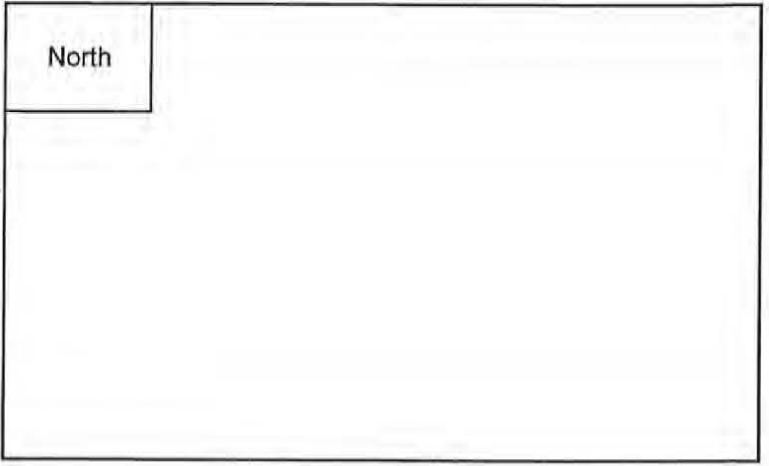
SAMPLE/PUSH #2
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

DGPS DATA
 Operator: MM
 File Name: RHINE 5
 Lat / N: 41.92840770
 Lon / E: 73.95933125
 PDOP or SVs: 10

Coordinate Units: Lat/Lon Feet
 Datum: WGS 84 N Other
 Proj.:
 GPS GeoXH 6000 Series S/N# 5108400788 Serial #:

COMMENTS / NOTES



Feet of Tubing 10
 Preparer's Initial: MM

FIELD DATA SHEET

Project Name: CHPE Hudson River	Proj. #: 24711.001
Site Name: Hudson River	Task #: 10
City: Poughkeepsie State: NY	Date: 9/28/12

Field Team Leader(s): MM Field Team Safety Coordinator: MM
 Field Crew: DJW CLB Arrival & Departure Times: 0832-0910
 Station ID #: RHINEBECK 4 Weather: Clear Cloudy Rain Temp -
 Photos: Y File Name: - Wind Conditions (Speed/Direction): 5-105

FIELD DATA

Water Depth: 32 ft Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H²O Temp.: N/A Air Temp.: NA

SAMPLE/PUSH #1
 Core ID#: RHINECK 4 Coring Time: 0903 Penetration Depth: 9 ft. Core Recovery: 8' 1" ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #2
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

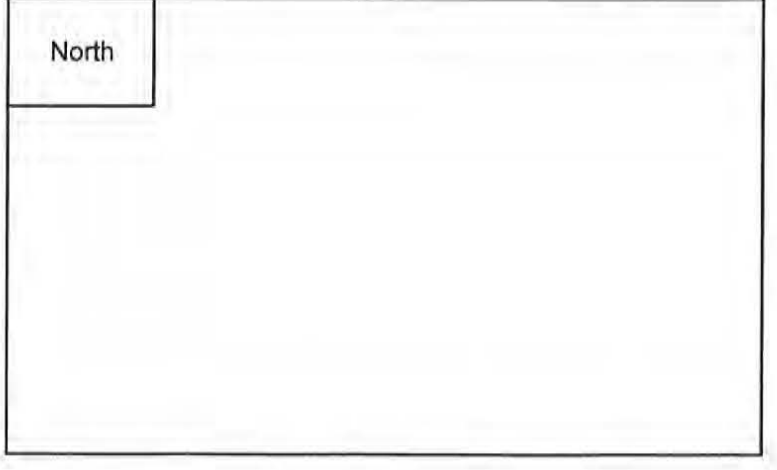
SAMPLE/PUSH #3
 Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

DGPS DATA

Operator: MM Coordinate Units: Lat/Lon Feet
 File Name: RHINECK 4 Datum: N Other NAD 84
 Lat / N: 41.93014929 Proj.:
 Lon / E: 73.96003174 GPS GeoXH 6000 Series S/N# 5108400788 Serial #:
 PDOP or SVs: 10

COMMENTS / NOTES

Feet of Tubing 10
 Preparer's Initial: MM



FIELD DATA SHEET

Project Name: CHPE Hudson River	Proj. #: 24711.001
Site Name: Hudson River	Task #: 10
City: Poughkeepsie State: NY	Date: 9/28/22

Field Team Leader(s): MM Field Team Safety Coordinator: MM
 Field Crew: DNV CCB Arrival & Departure Times: 1002 - 1017
 Station ID #: RHINE BECK 3 Weather: Clear Cloudy Rain Temp -
 Photos: Y N File Name: - Wind Conditions (Speed/Direction): 5-10 SW

FIELD DATA

Water Depth: 32 ft. Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: NA

SAMPLE/PUSH #1

Core ID#: RHINE 3 Coring Time: 1010 Penetration Depth: 10 ft. Core Recovery: 9' 9" ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Decconned or Replaced: N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Decconned or Replaced: Y N

SAMPLE/PUSH #3

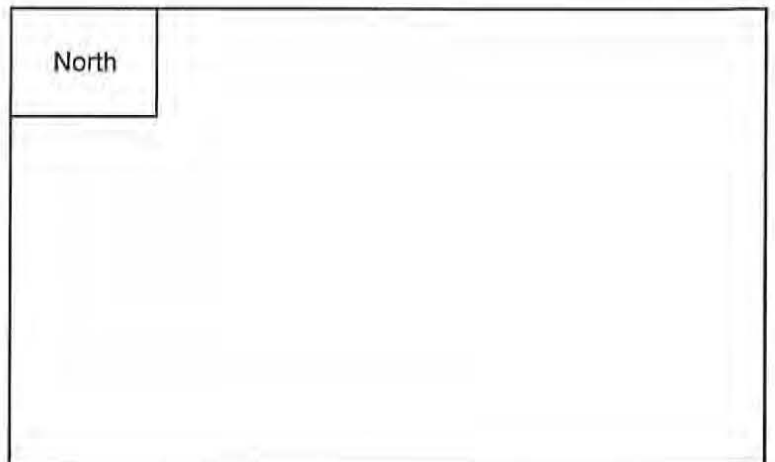
Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Decconned or Replaced: Y N

DGPS DATA

Operator: MM
 File Name: RHINE 3
 Lat / N: 41.93369481
 Lon / E: 73.96103980
 PDOP or SVs: 11

Coordinate Units: Lat/Lon Feet
 Datum: N Other NAD83
 Proj.:
 GPS GeoXH 6000 Series S/N# 5108400788 Serial #:

COMMENTS / NOTES



Feet of Tubing 10
 Preparer's Initial: MM

FIELD DATA SHEET

Project Name: CHPE Hudson River	Proj. #: 24711.001
Site Name: Hudson River	Task #: 10
City: Poughkeepsie State: NY	Date: 9/28/22

Field Team Leader(s): MM Field Team Safety Coordinator: MM
 Field Crew: DDV CCP Arrival & Departure Times: 1030-1105
 Station ID #: RHINEBECK 2 Weather: Clear Cloudy Rain Temp _____
 Photos: Y N File Name: _____ Wind Conditions (Speed/Direction): 5-10 SW

FIELD DATA

Water Depth: 33 ft. Tide: Ebb Flood Low Slack High Slack Other N/A
 PID: N/A Redox Potential: N/A pH: N/A H₂O Temp.: N/A Air Temp.: NA

SAMPLE/PUSH #1

Core ID#: RHINE 2 Coring Time: 1043 Penetration Depth: 7 ft. Core Recovery: 6'4" ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: N

SAMPLE/PUSH #2

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

SAMPLE/PUSH #3

Core ID#: _____ Coring Time: _____ Penetration Depth: _____ ft. Core Recovery: _____ ft
 Sample Method: Ponar / Vibracore / Piston Core / Manual Coring Material: CAB / Aluminum / SS Core Diameter (OD): 2" 3" 4"
 Vibracore Type: Rossfelder / PVL / Portable Clamp-on / Mini Sampling Equipment Deconned or Replaced: Y N

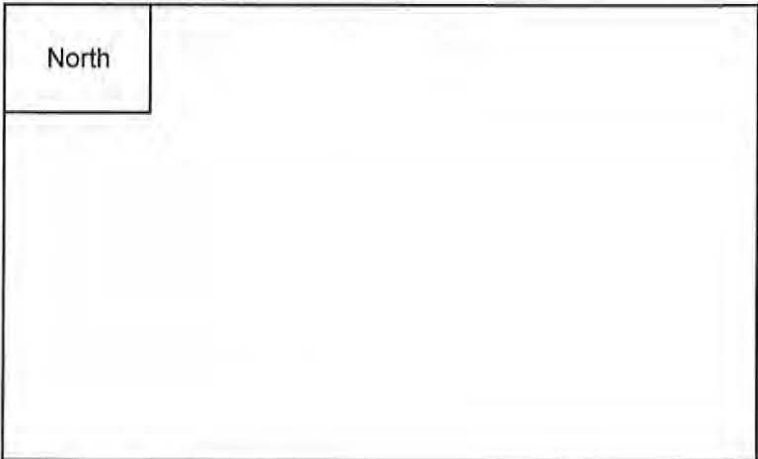
DGPS DATA

Operator: MM Coordinate Units: Lat/Lon Feet
 File Name: RHINE 2 Datum: Y N Other NAD83
 Lat / N: 41.93547552 Proj.: _____
 Lon / E: 73.96148400 GPS GeoXH 6000 Series S/N# 5108400788 Serial #: _____
 PDOP or SVs: 10

COMMENTS / NOTES

Feet of Tubing 10

Preparer's Initial: MM




Soil Boring Logs

Collected: Date 9/29/22 Time _____

PROJECT NUMBER <u>24791.001, Task 10</u>	BORING NUMBER <u>Rhine 5</u>
SHEET <u>1</u> OF <u>5</u>	
<h2 style="margin: 0;">Soil Boring Log</h2>	

PROJECT : <u>CHPE Hudson River</u>	LOCATION : <u>Poughkeepsie, NY</u>
ELEVATION :	DRILLING CONTRACTOR : <u>Normandeau Associates, Inc.</u>
DRILLING METHOD AND EQUIPMENT USED : <u>Mini-Vibracore sediment sampling, 3 inch CAB tubing</u>	
WATER LEVELS : <u>33</u>	START : <u>0900</u> END : <u>0925</u> LOGGER : <u>DJN</u>

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	RECOVERY (FT)	#/TYPE			
0				Homogeneous Throughout very soft to soft very wet to wet GLEY 1/3/10Y Low plasticity cohesive, Sandy silt with clay fine to medium grain Sands increase with depth. No odor, No sheen	Rhinebeck 5A VOA taken at 2 ft at 0905 2 x 8oz. jars 1 VOA kit 1 x 4oz. jars
4					Rhinebeck 5B VOA taken at 6ft at 0910 2 x 8oz. jars 1 VOA kit 1 x 4oz. jars
7.5 ft					

Collected: Date 9/29/22 Time

PROJECT NUMBER 24711.001 , Task 10	BORING NUMBER Rhine 4 SHEET <u>2</u> OF <u>5</u>
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Soil Boring Log


PROJECT: CHPE Hudson River	LOCATION: Poughkeepsie, NY
ELEVATION:	DRILLING CONTRACTOR: Normandeau Associates, Inc.
DRILLING METHOD AND EQUIPMENT USED: Mini-Vibracore sediment sampling, 3 inch CAB tubing	START: 0940 END: 1040 LOGGER: DTN
WATER LEVELS: 32	

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	RECOVERY (FT)	#/TYPE			
0				Homogeneous throughout very soft to soft very wet to wet GLE 1/3/10Y Low plasticity Cohesive, sandy Silt with clay fine to medium grain sands increase with depth. NO odor, no sheen	Rhinebeck 4A VOA taken at 2ft at 0950. 2 x 8 oz. jars 1 VOA kit 1 x 4oz. jar
4				↓	Rhinebeck 4B VOA taken at 6ft. at 1010 2 x 8 oz. jars 1 VOA kit 1 x 4oz. jar
8 1/2					

Collected: Date 9/29/22 Time

PROJECT NUMBER <u>24711.001, Task 10</u>	BORING NUMBER <u>Rhine 3</u>
SHEET <u>3</u> OF <u>5</u>	
<h2 style="margin: 0;">Soil Boring Log</h2>	

PROJECT : CHPE Hudson River LOCATION : Poughkeepsie, NY
 ELEVATION : DRILLING CONTRACTOR : Normandeau Associates/Inc.
 DRILLING METHOD AND EQUIPMENT USED : Mini-Vibracore sediment sampling, 3 inch CAB tubing
 WATER LEVELS : 32 START : 1055 END : 1130 LOGGER : JSW

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	RECOVERY (FT)	#/TYPE			
0				Homogeneous throughout very soft to soft very wet to wet GLEY (1/3) 10Y Low plasticity cohesive, sandy silt with clay. Fine to medium grain sands increase with depth NO odor, NO sheen	Rhinebeck 3A VOA taken at 2ft. at 1100 2 x 8 oz. jars 1 VOA kit 1 x 4 oz. jar
4					Rhinebeck 3B VOA taken at 6.5 ft at 1115 2 x 8 oz. jars 1 VOA kit 1 x 4 oz jar
9					

Collected: Date 9/29/22 Time

PROJECT NUMBER <u>24711.001 , Task 10</u>	BORING NUMBER <u>Rhine 2</u>
SHEET <u>4</u> OF <u>5</u>	
<h1>Soil Boring Log</h1>	

PROJECT : CHPE Hudson River LOCATION : Poughkeepsie, NY
 ELEVATION : DRILLING CONTRACTOR : Normandeau Associates, Inc.
 DRILLING METHOD AND EQUIPMENT USED : Mini-Vibracore sediment sampling, 3 inch CAB tubing
 WATER LEVELS : 33 START : 1135 END : 1210 LOGGER : DTN

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	RECOVERY (FT)	#/TYPE			
0				Homogeneous Throughout very soft to soft very wet to wet GLE4 1/3 104 Low plasticity cohesive, sandy silt with clay. Fine to medium grain sands increase with depth. No odor, No Sheen	Rhinebeck 2A VOA taken at 2ft. at 1150 2 x 8 oz. jars 1 VOA kit 1 x 4 oz. jar
4				↓	Rhinebeck 2B VOA taken at 5ft. at 1200 2 x 8 oz. jars 1 VOA kit 1 x 4 oz. jar
6' ¹¹ / ₄					

Collected: Date 9/29/22 Time

PROJECT NUMBER <u>24711-001 , Task 10</u>	BORING NUMBER <u>Rhine 1</u>
SHEET <u>5</u> OF <u>5</u>	

Soil Boring Log

PROJECT : <u>CHPE Hudson River</u>	LOCATION : <u>Poughkeepsie, NY</u>
ELEVATION :	DRILLING CONTRACTOR : <u>Normandeau Associates, Inc.</u>
DRILLING METHOD AND EQUIPMENT USED : <u>Mini-Vibracore sediment sampling, 3 inch CAB tubing</u>	
WATER LEVELS : <u>31</u>	START : <u>1220</u> END : <u>1300</u> LOGGER : <u>DJW</u>

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)		STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION	COMMENTS
	RECOVERY (FT)	#/TYPE			
0				Homogeneous throughout very soft to soft very wet to wet GLE Y 1 / 3 / 10 Y Low plasticity cohesive, sandy silt with clay. Fine to medium grain sands increase with depth. No odor, No Sheen	Rhine 1A VOA taken at 2ft. at 1230 2 x 8 oz. jars 1 VOA kit 1 x 4 oz. jar
4				↓	Rhine 1B VOA taken at 5ft. at 1240 2 x 8 oz. jars 1 VOA kit 1 x 4 oz. jar
6 1/4					

Sediment Core Photos

CHPE Hudson River
Location – Rhinebeck
Project No. 24711.001, Task 10

Rhinebeck 5
← Top Bottom →
9.29.22
24711.001 CHPE Hudson 7



Rhinebeck 5

← Top

Bottom →

9.29.22

24711.001 CHPE Hudson 7



Rhinebeck 5
← Top Bottom →
9.29.22
24711.001 CHPE Hudson 7



Rhinebeck 4
← Top Bottom →
9.29.22
24711.001 CHPE Hudson 7



Rhinebeck 4

← Top Bottom →

9.29.22

24711.001 CHPE Hudson 7



Rhinebeck 4

← Top

Bottom →

9.29.22

24711.001 CHPE Hudson 7



Rhinebeck 3
← Top Bottom →
9.29.22
24711.001 CHPE Hudson 7



Rhinebeck 3
← Top Bottom →
9.29.22
24711.001 CHPE Hudson 7

