

ANALYTICAL RESULTS SUMMARY

VOLATILE ORGANICS
SEMI-VOLATILE ORGANICS

PROJECT NAME : CTO WE13

TETRA TECH NUS, INC.

661 Andersen Drive

Suite 200

Pittsburgh, PA - 15220-2745

Phone No: 412-921-7090

ORDER ID : P4438

ATTENTION : Ernie Wu



Laboratory Certification ID # 20012



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Cover Page

Order ID : P4438

Project ID : CTO WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

P4438-01
P4438-02
P4438-03
P4438-04
P4438-05
P4438-06
P4438-07

Client Sample Number

BP-VPB-190-TB-20241015
BP-VPB-190-EB-20241016
VPB190-HYD-20241016
BP-VPB-190-GW-58-60
BP-VPB-190-GW-98-100
BP-VPB-190-GW-158-160
BP-VPB-190-GW-198-200

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 10/26/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: CTO WE13

Project Manager : Ernie Wu

Chemtech Project # P4438

Test Name: VOCMS Group1

A. Number of Samples and Date of Receipt:

7 Water samples were received on 10/18/2024.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOC-SIMGroup1 and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:

The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868. The analysis of VOCMS Group1 was based on method 8260D.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements .

The Continuous Calibration File ID VN084428.D met the requirements except for 1,1,2-Trichloroethane,2-Hexanone,4-Methyl-2-Pentanone, and Dibromochloromethane are failing high but no positive hit in associate sample therefore no corrective action taken while Carbon Disulfide is failing marginally low therefore no corrective action taken. The Tuning criteria met requirements.

E. Additional Comments:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is)."

Samples for MS/MSD for VOC analysis were not provided with this set of samples. The Blank Spike Duplicate is reported with the data.

The not QT review data is reported in the Miscellaneous.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <20% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 20% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: CTO WE13

Project # N/A

Chemtech Project # P4438

Test Name: SVOC-SIMGroup1

A. Number of Samples and Date of Receipt:

7 Water samples were received on 10/18/2024.

B. Parameters

According to the Chain of Custody document, the following analyses were requested: SVOC-SIMGroup1 and VOCMS Group1. This data package contains results for SVOC-SIMGroup1.

C. Analytical Techniques:

The samples were analyzed on instrument BNA_N using GC Column ZB-SemiVolatiles Guardian which is 30 meters, 0.25 mm ID, 0.5 um df, Catalog # 7HG-G027-17-GGAThe analysis of SVOC-SIMGroup1 was based on method 8270-Modified and extraction was done based on method 3510.

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Surrogate recoveries met the acceptable criteria except for VPB190-HYD-20241016 [2-Methylnaphthalene-d10 - 4%,], VPB190-HYD-20241016RE [2-Methylnaphthalene-d10 - 4%,], Failure sample for surrogate was reanalyzed to confirm the failure and both run were reported in Hard Copy.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The RPD met criteria .

The Blank Spike met requirements for all samples .

The Blank Spike Duplicate met requirements for all samples .

The Blank analysis did not indicate the presence of lab contamination.

The Initial Calibration met the requirements .

The Continuous Calibration File ID BN034701.D met the requirements except for 2,4,6-Tribromophenol, The failure compound not associated with the client parameters list, therefore no corrective action was taken.

The Tuning criteria met requirements.



E. Additional Comments:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is)."

The Form 6 is not included in the data package because the Initial Calibration was performed using 7 points.

The not QT review data is reported in the Miscellaneous.

Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

F. Manual Integration Comments:

Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following “ Results Qualifiers” are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. “10 U”. This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as “12 B”.
E	Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a “P”.
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P4438

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 10/26/2024

LAB CHRONICLE

OrderID:	P4438	OrderDate:	10/18/2024 10:19:00 AM
Client:	Tetra Tech NUS, Inc.	Project:	CTO WE13
Contact:	Ernie Wu	Location:	K51,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4438-01	BP-VPB-190-TB-2024 1015	Water			10/15/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	
P4438-02	BP-VPB-190-EB-2024 1016	Water			10/16/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	
P4438-03	VPB190-HYD-202410 16	Water			10/16/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	
P4438-04	BP-VPB-190-GW-58-6 0	Water			10/15/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	
P4438-05	BP-VPB-190-GW-98-1 00	Water			10/16/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	
P4438-06	BP-VPB-190-GW-158- 160	Water			10/17/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	
P4438-07	BP-VPB-190-GW-198- 200	Water			10/17/24			10/18/24
			VOCMS Group1	8260-Low			10/21/24	

Hit Summary Sheet
SW-846

SDG No.: P4438
Client: Tetra Tech NUS, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID: P4438-03	VPB190-HYD-20241016 VPB190-HYD-2024 Water	Acetone		3.70	J	1.40	3.80	5.00	ug/L
		Total Voc :		3.70					
		Total Concentration:		3.70					
Client ID: P4438-04	BP-VPB-190-GW-58-60 BP-VPB-190-GW-5 Water	Acetone		5.20		1.40	3.80	5.00	ug/L
		Total Voc :		5.20					
		Total Concentration:		5.20					
Client ID: P4438-06	BP-VPB-190-GW-158-160 BP-VPB-190-GW-1 Water	Acetone		2.40	J	1.40	3.80	5.00	ug/L
		Total Voc :		2.40					
		Total Concentration:		2.40					
Client ID: P4438-07	BP-VPB-190-GW-198-200 BP-VPB-190-GW-1 Water	Acetone		2.50	J	1.40	3.80	5.00	ug/L
P4438-07	BP-VPB-190-GW-1 Water	Chloroform		0.36	J	0.26	0.50	1.00	ug/L
P4438-07	BP-VPB-190-GW-1 Water	Tetrachloroethene		0.51	J	0.25	0.50	1.00	ug/L
		Total Voc :		3.37					
		Total Concentration:		3.37					



SAMPLE DATA

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/15/24	
Project:	CTO WE13			Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-TB-20241015			SDG No.:	P4438	
Lab Sample ID:	P4438-01			Matrix:	Water	
Analytical Method:	SW8260			% Solid:	0	
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:			uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID :	0.25	Level :	LOW	
Prep Method :						

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084436.D	1		10/21/24 15:17	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	3.80	U	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/15/24		
Project:	CTO WE13			Date Received:	10/18/24		
Client Sample ID:	BP-VPB-190-TB-20241015			SDG No.:	P4438		
Lab Sample ID:	P4438-01			Matrix:	Water		
Analytical Method:	SW8260			% Solid:	0		
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL	
Soil Aliquot Vol:			uL	Test:	VOCMS Group1		
GC Column:	RXI-624	ID :	0.25	Level :	LOW		
Prep Method :							

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084436.D	1		10/21/24 15:17	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.3		81 - 118		95%	SPK: 50
1868-53-7	Dibromofluoromethane	50.1		80 - 119		100%	SPK: 50
2037-26-5	Toluene-d8	49.6		89 - 112		99%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.6		85 - 114		91%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	188000	8.224				
540-36-3	1,4-Difluorobenzene	319000	9.1				
3114-55-4	Chlorobenzene-d5	279000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	110000	13.788				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/15/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-TB-20241015		SDG No.:	P4438	
Lab Sample ID:	P4438-01		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084436.D	1		10/21/24 15:17	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/16/24	
Project:	CTO WE13			Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-EB-20241016			SDG No.:	P4438	
Lab Sample ID:	P4438-02			Matrix:	Water	
Analytical Method:	SW8260			% Solid:	0	
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:			uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID :	0.25	Level :	LOW	
Prep Method :						

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084438.D	1		10/21/24 16:05	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	3.80	U	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/16/24		
Project:	CTO WE13			Date Received:	10/18/24		
Client Sample ID:	BP-VPB-190-EB-20241016			SDG No.:	P4438		
Lab Sample ID:	P4438-02			Matrix:	Water		
Analytical Method:	SW8260			% Solid:	0		
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL	
Soil Aliquot Vol:			uL	Test:	VOCMS Group1		
GC Column:	RXI-624	ID :	0.25	Level :	LOW		
Prep Method :							

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084438.D	1		10/21/24 16:05	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.7		81 - 118		95%	SPK: 50
1868-53-7	Dibromofluoromethane	50.8		80 - 119		102%	SPK: 50
2037-26-5	Toluene-d8	49.2		89 - 112		98%	SPK: 50
460-00-4	4-Bromofluorobenzene	46.7		85 - 114		93%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	178000	8.224				
540-36-3	1,4-Difluorobenzene	306000	9.1				
3114-55-4	Chlorobenzene-d5	266000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	102000	13.788				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/16/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-EB-20241016		SDG No.:	P4438	
Lab Sample ID:	P4438-02		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084438.D	1		10/21/24 16:05	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/16/24	
Project:	CTO WE13			Date Received:	10/18/24	
Client Sample ID:	VPB190-HYD-20241016			SDG No.:	P4438	
Lab Sample ID:	P4438-03			Matrix:	Water	
Analytical Method:	SW8260			% Solid:	0	
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:			uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID :	0.25	Level :	LOW	
Prep Method :						

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084435.D	1		10/21/24 14:53	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	3.70	J	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/16/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	VPB190-HYD-20241016		SDG No.:	P4438	
Lab Sample ID:	P4438-03		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084435.D	1		10/21/24 14:53	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.8		81 - 118		96%	SPK: 50
1868-53-7	Dibromofluoromethane	49.9		80 - 119		100%	SPK: 50
2037-26-5	Toluene-d8	48.6		89 - 112		97%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.8		85 - 114		90%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	171000	8.224				
540-36-3	1,4-Difluorobenzene	299000	9.1				
3114-55-4	Chlorobenzene-d5	256000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	104000	13.794				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/16/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	VPB190-HYD-20241016		SDG No.:	P4438	
Lab Sample ID:	P4438-03		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084435.D	1		10/21/24 14:53	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/15/24	
Project:	CTO WE13			Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-58-60			SDG No.:	P4438	
Lab Sample ID:	P4438-04			Matrix:	Water	
Analytical Method:	SW8260			% Solid:	0	
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:			uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID :	0.25	Level :	LOW	
Prep Method :						

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084439.D	1		10/21/24 16:29	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	5.20		1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/15/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-58-60		SDG No.:	P4438	
Lab Sample ID:	P4438-04		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084439.D	1		10/21/24 16:29	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	48.3		81 - 118		97%	SPK: 50
1868-53-7	Dibromofluoromethane	51.9		80 - 119		104%	SPK: 50
2037-26-5	Toluene-d8	49.9		89 - 112		100%	SPK: 50
460-00-4	4-Bromofluorobenzene	48.9		85 - 114		98%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	170000	8.224				
540-36-3	1,4-Difluorobenzene	291000	9.1				
3114-55-4	Chlorobenzene-d5	254000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	107000	13.788				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/15/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-58-60		SDG No.:	P4438	
Lab Sample ID:	P4438-04		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084439.D	1		10/21/24 16:29	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
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 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/16/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-98-100		SDG No.:	P4438	
Lab Sample ID:	P4438-05		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084440.D	1		10/21/24 16:53	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	3.80	U	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/16/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-98-100		SDG No.:	P4438	
Lab Sample ID:	P4438-05		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084440.D	1		10/21/24 16:53	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	48.5		81 - 118		97%	SPK: 50
1868-53-7	Dibromofluoromethane	50.7		80 - 119		101%	SPK: 50
2037-26-5	Toluene-d8	50.3		89 - 112		101%	SPK: 50
460-00-4	4-Bromofluorobenzene	46.4		85 - 114		93%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	171000	8.224				
540-36-3	1,4-Difluorobenzene	296000	9.1				
3114-55-4	Chlorobenzene-d5	257000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	102000	13.788				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/16/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-98-100		SDG No.:	P4438	
Lab Sample ID:	P4438-05		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084440.D	1		10/21/24 16:53	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/17/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-158-160		SDG No.:	P4438	
Lab Sample ID:	P4438-06		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084441.D	1		10/21/24 17:17	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	2.40	J	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/17/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-158-160		SDG No.:	P4438	
Lab Sample ID:	P4438-06		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084441.D	1		10/21/24 17:17	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	48.9		81 - 118		98%	SPK: 50
1868-53-7	Dibromofluoromethane	51.9		80 - 119		104%	SPK: 50
2037-26-5	Toluene-d8	49.4		89 - 112		99%	SPK: 50
460-00-4	4-Bromofluorobenzene	46.0		85 - 114		92%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	169000	8.224				
540-36-3	1,4-Difluorobenzene	291000	9.1				
3114-55-4	Chlorobenzene-d5	252000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	98300	13.794				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/17/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-158-160		SDG No.:	P4438	
Lab Sample ID:	P4438-06		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084441.D	1		10/21/24 17:17	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	10/17/24	
Project:	CTO WE13			Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-198-200			SDG No.:	P4438	
Lab Sample ID:	P4438-07			Matrix:	Water	
Analytical Method:	SW8260			% Solid:	0	
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:			uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID :	0.25	Level :	LOW	
Prep Method :						

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084442.D	1		10/21/24 17:40	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	2.50	J	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.36	J	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/17/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-198-200		SDG No.:	P4438	
Lab Sample ID:	P4438-07		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084442.D	1		10/21/24 17:40	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.51	J	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.6		81 - 118		95%	SPK: 50
1868-53-7	Dibromofluoromethane	51.1		80 - 119		102%	SPK: 50
2037-26-5	Toluene-d8	49.4		89 - 112		99%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.7		85 - 114		89%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	168000	8.224				
540-36-3	1,4-Difluorobenzene	289000	9.1				
3114-55-4	Chlorobenzene-d5	245000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	95800	13.794				
TENTATIVE IDENTIFIED COMPOUNDS							
75-43-4	Dichlorofluoromethane	N.D					

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	10/17/24	
Project:	CTO WE13		Date Received:	10/18/24	
Client Sample ID:	BP-VPB-190-GW-198-200		SDG No.:	P4438	
Lab Sample ID:	P4438-07		Matrix:	Water	
Analytical Method:	SW8260		% Solid:	0	
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID : 0.25	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084442.D	1		10/21/24 17:40	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
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U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 () = Laboratory InHouse Limit
 A = Aldol-Condensation Reaction Products



QC SUMMARY

Surrogate Summary

SDG No.: P4438

Client: Tetra Tech NUS, Inc.

Analytical Method: SW8260-Low

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits	
						Low	High
P4438-01	BP-VPB-190-TB-20241015	1,2-Dichloroethane-d4	50	47.3	95	81	118
		Dibromofluoromethane	50	50.1	100	80	119
		Toluene-d8	50	49.6	99	89	112
		4-Bromofluorobenzene	50	45.6	91	85	114
P4438-02	BP-VPB-190-EB-20241016	1,2-Dichloroethane-d4	50	47.7	95	81	118
		Dibromofluoromethane	50	50.8	102	80	119
		Toluene-d8	50	49.2	98	89	112
		4-Bromofluorobenzene	50	46.7	93	85	114
P4438-03	VPB190-HYD-20241016	1,2-Dichloroethane-d4	50	47.8	96	81	118
		Dibromofluoromethane	50	49.9	100	80	119
		Toluene-d8	50	48.6	97	89	112
		4-Bromofluorobenzene	50	44.9	90	85	114
P4438-04	BP-VPB-190-GW-58-60	1,2-Dichloroethane-d4	50	48.3	97	81	118
		Dibromofluoromethane	50	51.9	104	80	119
		Toluene-d8	50	49.9	100	89	112
		4-Bromofluorobenzene	50	48.9	98	85	114
P4438-05	BP-VPB-190-GW-98-100	1,2-Dichloroethane-d4	50	48.5	97	81	118
		Dibromofluoromethane	50	50.7	101	80	119
		Toluene-d8	50	50.3	101	89	112
		4-Bromofluorobenzene	50	46.4	93	85	114
P4438-06	BP-VPB-190-GW-158-160	1,2-Dichloroethane-d4	50	48.9	98	81	118
		Dibromofluoromethane	50	51.9	104	80	119
		Toluene-d8	50	49.4	99	89	112
		4-Bromofluorobenzene	50	46.0	92	85	114
P4438-07	BP-VPB-190-GW-198-200	1,2-Dichloroethane-d4	50	47.6	95	81	118
		Dibromofluoromethane	50	51.1	102	80	119
		Toluene-d8	50	49.4	99	89	112
		4-Bromofluorobenzene	50	44.7	89	85	114
VN1021WBL01	VN1021WBL01	1,2-Dichloroethane-d4	50	48.6	97	81	118
		Dibromofluoromethane	50	51.1	102	80	119
		Toluene-d8	50	48.8	98	89	112
		4-Bromofluorobenzene	50	44.7	89	85	114
VN1021WBS01	VN1021WBS01	1,2-Dichloroethane-d4	50	50.5	101	81	118
		Dibromofluoromethane	50	54.3	109	80	119
		Toluene-d8	50	54.0	108	89	112
		4-Bromofluorobenzene	50	52.5	105	85	114
VN1021WBSD0	VN1021WBSD01	1,2-Dichloroethane-d4	50	51.1	102	81	118
		Dibromofluoromethane	50	52.8	106	80	119
		Toluene-d8	50	51.8	104	89	112
		4-Bromofluorobenzene	50	52.5	105	85	114

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P4438

Client: Tetra Tech NUS, Inc.

Analytical Method: SW8260-Low

Datafile : VN084433.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Low	Limits	RPD
									High	
VN1021WBS01	Chloromethane	20	16.1	ug/L	81			50	139	
	Vinyl chloride	20	16.7	ug/L	84			58	137	
	Bromomethane	20	16.5	ug/L	83			53	141	
	Chloroethane	20	15.0	ug/L	75			60	138	
	Trichlorofluoromethane	20	18.1	ug/L	91			65	141	
	1,1,2-Trichlorotrifluoroethane	20	18.1	ug/L	91			70	136	
	1,1-Dichloroethene	20	17.6	ug/L	88			71	131	
	Acetone	100	87.5	ug/L	88			39	160	
	Carbon disulfide	20	14.2	ug/L	71			64	133	
	Methyl tert-butyl Ether	20	18.1	ug/L	91			71	124	
	Methylene Chloride	20	18.6	ug/L	93			74	124	
	trans-1,2-Dichloroethene	20	17.4	ug/L	87			75	124	
	1,1-Dichloroethane	20	19.2	ug/L	96			77	125	
	2-Butanone	100	88.7	ug/L	89			56	143	
	Carbon Tetrachloride	20	18.9	ug/L	95			72	136	
	cis-1,2-Dichloroethene	20	18.2	ug/L	91			78	123	
	Chloroform	20	19.0	ug/L	95			79	124	
	1,1,1-Trichloroethane	20	18.7	ug/L	94			74	131	
	Methylcyclohexane	20	16.2	ug/L	81			72	132	
	Benzene	20	19.0	ug/L	95			79	120	
	1,2-Dichloroethane	20	18.9	ug/L	95			73	128	
	Trichloroethene	20	19.2	ug/L	96			79	123	
	1,2-Dichloropropane	20	19.6	ug/L	98			78	122	
	Bromodichloromethane	20	19.5	ug/L	98			79	125	
	4-Methyl-2-Pentanone	100	96.8	ug/L	97			67	130	
	Toluene	20	19.6	ug/L	98			80	121	
	t-1,3-Dichloropropene	20	18.5	ug/L	93			73	127	
	cis-1,3-Dichloropropene	20	18.9	ug/L	95			75	124	
	1,1,2-Trichloroethane	20	20.4	ug/L	102			80	119	
	2-Hexanone	100	96.1	ug/L	96			57	139	
	Dibromochloromethane	20	20.1	ug/L	101			74	126	
	Tetrachloroethene	20	18.9	ug/L	95			74	129	
	Chlorobenzene	20	19.2	ug/L	96			82	118	
	Ethyl Benzene	20	18.5	ug/L	93			79	121	
	m/p-Xylenes	40	38.5	ug/L	96			80	121	
	o-Xylene	20	20.0	ug/L	100			78	122	
	Styrene	20	19.5	ug/L	98			78	123	
	Bromoform	20	19.5	ug/L	98			66	130	
	Isopropylbenzene	20	18.2	ug/L	91			72	131	
	1,1,2,2-Tetrachloroethane	20	19.4	ug/L	97			71	121	
	1,3-Dichlorobenzene	20	18.6	ug/L	93			80	119	
	1,4-Dichlorobenzene	20	18.8	ug/L	94			79	118	
	1,2-Dichlorobenzene	20	18.3	ug/L	92			80	119	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P4438

Client: Tetra Tech NUS, Inc.

Analytical Method: SW8260-Low

Datafile : VN084434.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Low	Limits High	RPD
VN1021WBSD01	Chloromethane	20	16.3	ug/L	81	0		50	139	20
	Vinyl chloride	20	17.1	ug/L	86	2		58	137	20
	Bromomethane	20	17.0	ug/L	85	2		53	141	20
	Chloroethane	20	16.0	ug/L	80	6		60	138	20
	Trichlorofluoromethane	20	19.0	ug/L	95	4		65	141	20
	1,1,2-Trichlorotrifluoroethane	20	19.3	ug/L	97	6		70	136	20
	1,1-Dichloroethene	20	17.7	ug/L	89	1		71	131	20
	Acetone	100	91.6	ug/L	92	4		39	160	20
	Carbon disulfide	20	14.5	ug/L	73	3		64	133	20
	Methyl tert-butyl Ether	20	19.8	ug/L	99	8		71	124	20
	Methylene Chloride	20	20.2	ug/L	101	8		74	124	20
	trans-1,2-Dichloroethene	20	18.4	ug/L	92	6		75	124	20
	1,1-Dichloroethane	20	19.6	ug/L	98	2		77	125	20
	2-Butanone	100	96.8	ug/L	97	9		56	143	20
	Carbon Tetrachloride	20	19.4	ug/L	97	2		72	136	20
	cis-1,2-Dichloroethene	20	19.2	ug/L	96	5		78	123	20
	Chloroform	20	20.1	ug/L	101	6		79	124	20
	1,1,1-Trichloroethane	20	19.8	ug/L	99	5		74	131	20
	Methylcyclohexane	20	17.0	ug/L	85	5		72	132	20
	Benzene	20	19.6	ug/L	98	3		79	120	20
	1,2-Dichloroethane	20	20.6	ug/L	103	8		73	128	20
	Trichloroethene	20	19.5	ug/L	98	2		79	123	20
	1,2-Dichloropropane	20	20.9	ug/L	104	6		78	122	20
	Bromodichloromethane	20	20.9	ug/L	104	6		79	125	20
	4-Methyl-2-Pentanone	100	100	ug/L	100	3		67	130	20
	Toluene	20	20.3	ug/L	102	4		80	121	20
	t-1,3-Dichloropropene	20	19.7	ug/L	99	6		73	127	20
	cis-1,3-Dichloropropene	20	20.0	ug/L	100	5		75	124	20
	1,1,2-Trichloroethane	20	22.5	ug/L	113	10		80	119	20
	2-Hexanone	100	100	ug/L	100	4		57	139	20
	Dibromochloromethane	20	21.8	ug/L	109	8		74	126	20
	Tetrachloroethene	20	19.3	ug/L	97	2		74	129	20
	Chlorobenzene	20	19.5	ug/L	98	2		82	118	20
	Ethyl Benzene	20	18.4	ug/L	92	1		79	121	20
	m/p-Xylenes	40	38.8	ug/L	97	1		80	121	20
	o-Xylene	20	18.8	ug/L	94	6		78	122	20
	Styrene	20	19.8	ug/L	99	1		78	123	20
	Bromoform	20	20.7	ug/L	104	6		66	130	20
	Isopropylbenzene	20	18.4	ug/L	92	1		72	131	20
	1,1,2,2-Tetrachloroethane	20	20.6	ug/L	103	6		71	121	20
	1,3-Dichlorobenzene	20	19.3	ug/L	97	4		80	119	20
	1,4-Dichlorobenzene	20	19.4	ug/L	97	3		79	118	20
	1,2-Dichlorobenzene	20	18.8	ug/L	94	2		80	119	20

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN1021WBL01

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM Case No.: P4438

SAS No.: P4438 SDG NO.: P4438

Lab File ID: VN084430.D

Lab Sample ID: VN1021WBL01

Date Analyzed: 10/21/2024

Time Analyzed: 12:36

GC Column: RXI-624 ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VN1021WBS01	VN1021WBS01	VN084433.D	10/21/2024
VN1021WBSD01	VN1021WBSD01	VN084434.D	10/21/2024
VPB190-HYD-20241016	P4438-03	VN084435.D	10/21/2024
BP-VPB-190-TB-20241015	P4438-01	VN084436.D	10/21/2024
BP-VPB-190-EB-20241016	P4438-02	VN084438.D	10/21/2024
BP-VPB-190-GW-58-60	P4438-04	VN084439.D	10/21/2024
BP-VPB-190-GW-98-100	P4438-05	VN084440.D	10/21/2024
BP-VPB-190-GW-158-160	P4438-06	VN084441.D	10/21/2024
BP-VPB-190-GW-198-200	P4438-07	VN084442.D	10/21/2024

COMMENTS: _____

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: TETR06
Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438
Lab File ID: VN084211.D BFB Injection Date: 09/30/2024
Instrument ID: MSVOA_N BFB Injection Time: 09:24
GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.9
75	30.0 - 60.0% of mass 95	53.9
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.6 (0.8) 1
174	50.0 - 100.0% of mass 95	71
175	5.0 - 9.0% of mass 174	5.5 (7.8) 1
176	95.0 - 101.0% of mass 174	69.7 (98.2) 1
177	5.0 - 9.0% of mass 176	4.9 (7) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC100	VSTDICC100	VN084213.D	09/30/2024	12:25
VSTDICCC050	VSTDICCC050	VN084214.D	09/30/2024	12:49
VSTDICC020	VSTDICC020	VN084215.D	09/30/2024	13:13
VSTDICC010	VSTDICC010	VN084216.D	09/30/2024	13:37
VSTDICC005	VSTDICC005	VN084217.D	09/30/2024	14:00
VSTDICC001	VSTDICC001	VN084218.D	09/30/2024	14:48

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: TETR06
Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438
Lab File ID: VN084427.D BFB Injection Date: 10/21/2024
Instrument ID: MSVOA_N BFB Injection Time: 11:14
GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17
75	30.0 - 60.0% of mass 95	51.2
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.7 (0.9) 1
174	50.0 - 100.0% of mass 95	72.7
175	5.0 - 9.0% of mass 174	5.1 (7) 1
176	95.0 - 101.0% of mass 174	70 (96.3) 1
177	5.0 - 9.0% of mass 176	4.6 (6.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VN084428.D	10/21/2024	11:38
VN1021WBL01	VN1021WBL01	VN084430.D	10/21/2024	12:36
VN1021WBS01	VN1021WBS01	VN084433.D	10/21/2024	13:48
VN1021WBSD01	VN1021WBSD01	VN084434.D	10/21/2024	14:22
VPB190-HYD-20241016	P4438-03	VN084435.D	10/21/2024	14:53
BP-VPB-190-TB-20241015	P4438-01	VN084436.D	10/21/2024	15:17
BP-VPB-190-EB-20241016	P4438-02	VN084438.D	10/21/2024	16:05
BP-VPB-190-GW-58-60	P4438-04	VN084439.D	10/21/2024	16:29
BP-VPB-190-GW-98-100	P4438-05	VN084440.D	10/21/2024	16:53
BP-VPB-190-GW-158-160	P4438-06	VN084441.D	10/21/2024	17:17
BP-VPB-190-GW-198-200	P4438-07	VN084442.D	10/21/2024	17:40
VSTDCCC050EC	VSTDCCC050	VN084448.D	10/21/2024	20:04

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: TETR06
Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438
Lab File ID: VN084428.D Date Analyzed: 10/21/2024
Instrument ID: MSVOA_N Time Analyzed: 11:38
GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	157355	8.22	262800	9.10	244635	11.87
UPPER LIMIT	314710	8.724	525600	9.6	489270	12.365
LOWER LIMIT	78677.5	7.724	131400	8.6	122318	11.365
EPA SAMPLE NO.						
BP-VPB-190-TB-20241015	187661	8.22	318658	9.10	278906	11.87
BP-VPB-190-EB-20241016	177555	8.22	306422	9.10	265983	11.87
VPB190-HYD-20241016	171057	8.22	299485	9.10	256223	11.87
BP-VPB-190-GW-58-60	169620	8.22	290778	9.10	254308	11.87
BP-VPB-190-GW-98-100	170565	8.22	295549	9.10	256680	11.87
BP-VPB-190-GW-158-160	169269	8.22	290609	9.10	252156	11.87
BP-VPB-190-GW-198-200	167949	8.22	288550	9.10	244682	11.87
VN1021WBL01	167468	8.22	295479	9.10	254088	11.87
VN1021WBS01	189913	8.22	322919	9.10	284161	11.87
VN1021WBSD01	163086	8.22	278516	9.10	255670	11.87

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: TETR06
Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438
Lab File ID: VN084428.D Date Analyzed: 10/21/2024
Instrument ID: MSVOA_N Time Analyzed: 11:38
GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	127638	13.788				
UPPER LIMIT	255276	14.288				
LOWER LIMIT	63819	13.288				
EPA SAMPLE NO.						
BP-VPB-190-TB-20241015	110339	13.79				
BP-VPB-190-EB-20241016	102477	13.79				
VPB190-HYD-20241016	104212	13.79				
BP-VPB-190-GW-58-60	106943	13.79				
BP-VPB-190-GW-98-100	102361	13.79				
BP-VPB-190-GW-158-160	98336	13.79				
BP-VPB-190-GW-198-200	95771	13.79				
VN1021WBL01	99954	13.79				
VN1021WBS01	138325	13.79				
VN1021WBSD01	124118	13.79				

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.



QC SAMPLE DATA

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	
Project:	CTO WE13		Date Received:	
Client Sample ID:	VN1021WBL01		SDG No.:	P4438
Lab Sample ID:	VN1021WBL01		Matrix:	Water
Analytical Method:	SW8260		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084430.D	1		10/21/24 12:36	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	0.50	U	0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	0.75	U	0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	3.80	U	1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	0.75	U	0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	0.50	U	0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.50	U	0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	0.75	U	0.26	0.75	1.00	ug/L
67-64-1	Acetone	3.80	U	1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	0.75	U	0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	0.50	U	0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	0.50	U	0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	0.50	U	0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	2.50	U	1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.50	U	0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	0.75	U	0.25	0.75	1.00	ug/L
67-66-3	Chloroform	0.50	U	0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.50	U	0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	0.50	U	0.19	0.50	1.00	ug/L
71-43-2	Benzene	0.50	U	0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	0.75	U	0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	0.50	U	0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	0.50	U	0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	2.50	U	0.75	2.50	5.00	ug/L
108-88-3	Toluene	0.50	U	0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.50	U	0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.50	U	0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	2.50	U	1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	
Project:	CTO WE13		Date Received:	
Client Sample ID:	VN1021WBL01		SDG No.:	P4438
Lab Sample ID:	VN1021WBL01		Matrix:	Water
Analytical Method:	SW8260		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084430.D	1		10/21/24 12:36	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	0.50	U	0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	0.50	U	0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	0.50	U	0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	0.50	U	0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	1.00	U	0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	0.50	U	0.14	0.50	1.00	ug/L
100-42-5	Styrene	0.50	U	0.16	0.50	1.00	ug/L
75-25-2	Bromoform	0.50	U	0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	0.50	U	0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.50	U	0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.50	U	0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.50	U	0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	48.6		81 - 118		97%	SPK: 50
1868-53-7	Dibromofluoromethane	51.1		80 - 119		102%	SPK: 50
2037-26-5	Toluene-d8	48.8		89 - 112		98%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.7		85 - 114		89%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	167000	8.224				
540-36-3	1,4-Difluorobenzene	295000	9.1				
3114-55-4	Chlorobenzene-d5	254000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	100000	13.788				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:		
Project:	CTO WE13			Date Received:		
Client Sample ID:	VN1021WBS01			SDG No.:	P4438	
Lab Sample ID:	VN1021WBS01			Matrix:	Water	
Analytical Method:	SW8260			% Solid:	0	
Sample Wt/Vol:	5	Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:			uL	Test:	VOCMS Group1	
GC Column:	RXI-624	ID :	0.25	Level :	LOW	
Prep Method :						

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084433.D	1		10/21/24 13:48	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	16.1		0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	16.7		0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	16.5		1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	15.0		0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	18.1		0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	18.1		0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	17.6		0.26	0.75	1.00	ug/L
67-64-1	Acetone	87.5		1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	14.2		0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	18.1		0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	18.6		0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	17.4		0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	19.2		0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	88.7		1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	18.9		0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	18.2		0.25	0.75	1.00	ug/L
67-66-3	Chloroform	19.0		0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	18.7		0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	16.2		0.19	0.50	1.00	ug/L
71-43-2	Benzene	19.0		0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	18.9		0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	19.2		0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	19.6		0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	19.5		0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	96.8		0.75	2.50	5.00	ug/L
108-88-3	Toluene	19.6		0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	18.5		0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	18.9		0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	20.4		0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	96.1		1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	
Project:	CTO WE13		Date Received:	
Client Sample ID:	VN1021WBS01		SDG No.:	P4438
Lab Sample ID:	VN1021WBS01		Matrix:	Water
Analytical Method:	SW8260		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084433.D	1		10/21/24 13:48	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	20.1		0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	18.9		0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	19.2		0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	18.5		0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	38.5		0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	20.0		0.14	0.50	1.00	ug/L
100-42-5	Styrene	19.5		0.16	0.50	1.00	ug/L
75-25-2	Bromoform	19.5		0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	18.2		0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	19.4		0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	18.6		0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	18.8		0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	18.3		0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	50.5		81 - 118		101%	SPK: 50
1868-53-7	Dibromofluoromethane	54.3		80 - 119		109%	SPK: 50
2037-26-5	Toluene-d8	53.9		89 - 112		108%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.5		85 - 114		105%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	190000	8.224				
540-36-3	1,4-Difluorobenzene	323000	9.1				
3114-55-4	Chlorobenzene-d5	284000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	138000	13.788				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	
Project:	CTO WE13		Date Received:	
Client Sample ID:	VN1021WBSD01		SDG No.:	P4438
Lab Sample ID:	VN1021WBSD01		Matrix:	Water
Analytical Method:	SW8260		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084434.D	1		10/21/24 14:22	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
74-87-3	Chloromethane	16.3		0.35	0.50	1.00	ug/L
75-01-4	Vinyl Chloride	17.1		0.34	0.75	1.00	ug/L
74-83-9	Bromomethane	17.0		1.40	3.80	5.00	ug/L
75-00-3	Chloroethane	16.0		0.56	0.75	1.00	ug/L
75-69-4	Trichlorofluoromethane	19.0		0.34	0.50	1.00	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	19.3		0.25	0.50	1.00	ug/L
75-35-4	1,1-Dichloroethene	17.7		0.26	0.75	1.00	ug/L
67-64-1	Acetone	91.6		1.40	3.80	5.00	ug/L
75-15-0	Carbon Disulfide	14.5		0.32	0.75	1.00	ug/L
1634-04-4	Methyl tert-butyl Ether	19.8		0.16	0.50	1.00	ug/L
75-09-2	Methylene Chloride	20.2		0.32	0.50	1.00	ug/L
156-60-5	trans-1,2-Dichloroethene	18.4		0.25	0.50	1.00	ug/L
75-34-3	1,1-Dichloroethane	19.6		0.23	0.50	1.00	ug/L
78-93-3	2-Butanone	96.8		1.30	2.50	5.00	ug/L
56-23-5	Carbon Tetrachloride	19.4		0.25	0.50	1.00	ug/L
156-59-2	cis-1,2-Dichloroethene	19.2		0.25	0.75	1.00	ug/L
67-66-3	Chloroform	20.1		0.26	0.50	1.00	ug/L
71-55-6	1,1,1-Trichloroethane	19.8		0.19	0.50	1.00	ug/L
108-87-2	Methylcyclohexane	17.0		0.19	0.50	1.00	ug/L
71-43-2	Benzene	19.6		0.16	0.50	1.00	ug/L
107-06-2	1,2-Dichloroethane	20.6		0.24	0.50	1.00	ug/L
79-01-6	Trichloroethene	19.5		0.32	0.75	1.00	ug/L
78-87-5	1,2-Dichloropropane	20.9		0.19	0.50	1.00	ug/L
75-27-4	Bromodichloromethane	20.9		0.24	0.50	1.00	ug/L
108-10-1	4-Methyl-2-Pentanone	100		0.75	2.50	5.00	ug/L
108-88-3	Toluene	20.3		0.18	0.50	1.00	ug/L
10061-02-6	t-1,3-Dichloropropene	19.7		0.21	0.50	1.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	20.0		0.18	0.50	1.00	ug/L
79-00-5	1,1,2-Trichloroethane	22.5		0.21	0.50	1.00	ug/L
591-78-6	2-Hexanone	100		1.10	2.50	5.00	ug/L

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:	
Project:	CTO WE13		Date Received:	
Client Sample ID:	VN1021WBSD01		SDG No.:	P4438
Lab Sample ID:	VN1021WBSD01		Matrix:	Water
Analytical Method:	SW8260		% Solid:	0
Sample Wt/Vol:	5	Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:		uL	Test:	VOCMS Group1
GC Column:	RXI-624	ID : 0.25	Level :	LOW
Prep Method :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN084434.D	1		10/21/24 14:22	VN102124

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
124-48-1	Dibromochloromethane	21.8		0.18	0.50	1.00	ug/L
127-18-4	Tetrachloroethene	19.3		0.25	0.50	1.00	ug/L
108-90-7	Chlorobenzene	19.5		0.13	0.50	1.00	ug/L
100-41-4	Ethyl Benzene	18.4		0.16	0.50	1.00	ug/L
179601-23-1	m/p-Xylenes	38.8		0.31	1.00	2.00	ug/L
95-47-6	o-Xylene	18.8		0.14	0.50	1.00	ug/L
100-42-5	Styrene	19.8		0.16	0.50	1.00	ug/L
75-25-2	Bromoform	20.7		0.21	0.50	1.00	ug/L
98-82-8	Isopropylbenzene	18.4		0.13	0.50	1.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	20.6		0.27	0.50	1.00	ug/L
541-73-1	1,3-Dichlorobenzene	19.3		0.24	0.50	1.00	ug/L
106-46-7	1,4-Dichlorobenzene	19.4		0.27	0.50	1.00	ug/L
95-50-1	1,2-Dichlorobenzene	18.8		0.19	0.50	1.00	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	51.1		81 - 118		102%	SPK: 50
1868-53-7	Dibromofluoromethane	52.8		80 - 119		106%	SPK: 50
2037-26-5	Toluene-d8	51.8		89 - 112		104%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.4		85 - 114		105%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	163000	8.224				
540-36-3	1,4-Difluorobenzene	279000	9.1				
3114-55-4	Chlorobenzene-d5	256000	11.865				
3855-82-1	1,4-Dichlorobenzene-d4	124000	13.788				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products



CALIBRATION SUMMARY

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: TETR06
Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438
Instrument ID: MSVOA_N Calibration Date(s): 09/30/2024 09/30/2024
Heated Purge: (Y/N) N Calibration Time(s): 12:25 14:48
GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID:	RRF100 = VN084213.D	RRF050 = VN084214.D	RRF020 = VN084215.D	RRF010 = VN084216.D	RRF005 = VN084217.D	RRF001 = VN084218.D		
COMPOUND	RRF100	RRF050	RRF020	RRF010	RRF005	RRF001	RRF	% RSD
Chloromethane	0.619	0.671	0.677	0.648	0.747	0.690	0.675	6.4
Vinyl Chloride	0.611	0.667	0.665	0.641	0.724	0.617	0.654	6.4
Bromomethane	0.368	0.432	0.432	0.424	0.501		0.431	10.9
Chloroethane	0.375	0.419	0.430	0.433	0.522	0.632	0.468	19.9
Trichlorofluoromethane	0.953	1.060	1.047	0.959	1.113	0.978	1.019	6.4
1,1,2-Trichlorotrifluoroethane	0.542	0.590	0.603	0.532	0.633	0.602	0.584	6.7
1,1-Dichloroethene	0.538	0.587	0.596	0.533	0.631	0.493	0.563	8.9
Acetone	0.299	0.342	0.337	0.298	0.336	0.299	0.318	6.8
Carbon Disulfide	1.588	1.723	1.746	1.650	1.908	2.080	1.782	10.2
Methyl tert-butyl Ether	1.825	2.033	2.035	1.802	2.049	1.656	1.900	8.6
Methylene Chloride	0.594	0.655	0.661	0.618	0.669	0.686	0.647	5.3
trans-1,2-Dichloroethene	0.555	0.622	0.619	0.570	0.627	0.546	0.590	6.2
1,1-Dichloroethane	1.075	1.193	1.163	1.084	1.226	1.046	1.131	6.4
2-Butanone	0.395	0.452	0.465	0.419	0.467	0.404	0.434	7.3
Carbon Tetrachloride	0.515	0.549	0.553	0.508	0.545	0.482	0.525	5.4
cis-1,2-Dichloroethene	0.670	0.741	0.741	0.655	0.767	0.703	0.713	6.2
Chloroform	1.083	1.204	1.205	1.117	1.259	1.181	1.175	5.5
1,1,1-Trichloroethane	0.997	1.102	1.089	1.018	1.154	0.972	1.055	6.7
Methylcyclohexane	0.567	0.583	0.577	0.507	0.534	0.428	0.533	11
Benzene	1.434	1.553	1.559	1.410	1.574	1.421	1.492	5.2
1,2-Dichloroethane	0.480	0.528	0.524	0.498	0.544	0.460	0.506	6.3
Trichloroethene	0.334	0.362	0.361	0.329	0.379	0.325	0.348	6.3
1,2-Dichloropropane	0.346	0.375	0.380	0.339	0.388	0.289	0.353	10.4
Bromodichloromethane	0.521	0.557	0.556	0.497	0.570	0.475	0.529	7.2
4-Methyl-2-Pentanone	0.449	0.508	0.510	0.468	0.484	0.387	0.468	9.9
Toluene	0.904	0.970	0.963	0.861	0.920	0.840	0.910	5.8
t-1,3-Dichloropropene	0.562	0.590	0.573	0.517	0.564	0.430	0.539	10.9
cis-1,3-Dichloropropene	0.592	0.638	0.608	0.569	0.606	0.469	0.580	10.2
1,1,2-Trichloroethane	0.317	0.349	0.347	0.316	0.340	0.288	0.326	7.3
2-Hexanone	0.341	0.387	0.387	0.340	0.357	0.285	0.349	10.8

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: MSVOA_N Calibration Date(s): 09/30/2024 09/30/2024

Heated Purge: (Y/N) N Calibration Time(s): 12:25 14:48

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID:		RRF100 = VN084213.D		RRF050 = VN084214.D		RRF020 = VN084215.D			
		RRF010 = VN084216.D		RRF005 = VN084217.D		RRF001 = VN084218.D			
COMPOUND	RRF100	RRF050	RRF020	RRF010	RRF005	RRF001	RRF	% RSD	
Dibromochloromethane	0.384	0.418	0.409	0.374	0.396	0.330	0.385	8.1	
Tetrachloroethene	0.323	0.359	0.351	0.338	0.373	0.346	0.348	5	
Chlorobenzene	1.068	1.170	1.143	1.069	1.173	1.028	1.109	5.5	
Ethyl Benzene	1.988	2.121	2.028	1.840	2.030	1.756	1.961	6.9	
m/p-Xylenes	0.741	0.806	0.779	0.695	0.729	0.600	0.725	10	
o-Xylene	0.714	0.774	0.738	0.666	0.734	0.491	0.686	14.9	
Styrene	1.234	1.312	1.238	1.112	1.159	0.918	1.162	11.9	
Bromoform	0.282	0.315	0.303	0.260	0.288	0.239	0.281	10	
Isopropylbenzene	3.737	4.132	4.055	3.677	3.864	3.428	3.815	6.8	
1,1,2,2-Tetrachloroethane	1.001	1.183	1.187	1.127	1.291	1.095	1.147	8.5	
1,3-Dichlorobenzene	1.624	1.787	1.780	1.646	1.843	1.679	1.727	5.1	
1,4-Dichlorobenzene	1.628	1.784	1.734	1.638	1.889	1.789	1.744	5.7	
1,2-Dichlorobenzene	1.555	1.710	1.740	1.613	1.769	1.770	1.693	5.3	
1,2-Dichloroethane-d4	0.673	0.737	0.764	0.712	0.821		0.741	7.5	
Dibromofluoromethane	0.308	0.324	0.341	0.316	0.359		0.330	6.1	
Toluene-d8	1.189	1.243	1.242	1.148	1.242		1.213	3.5	
4-Bromofluorobenzene	0.447	0.452	0.449	0.406	0.456		0.442	4.6	

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: MSVOA_N Calibration Date/Time: 10/21/2024 11:38

Lab File ID: VN084428.D Init. Calib. Date(s): 09/30/2024 09/30/2024

Heated Purge: (Y/N) N Init. Calib. Time(s): 12:25 14:48

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Chloromethane	0.675	0.602	0.1	-10.81	20
Vinyl Chloride	0.654	0.597		-8.72	20
Bromomethane	0.431	0.370		-14.15	20
Chloroethane	0.468	0.401		-14.32	20
Trichlorofluoromethane	1.019	1.044		2.45	20
1,1,2-Trichlorotrifluoroethane	0.584	0.603		3.25	20
1,1-Dichloroethene	0.563	0.566		0.53	20
Acetone	0.318	0.317		-0.31	20
Carbon Disulfide	1.782	1.424		-20.09	20
Methyl tert-butyl Ether	1.900	2.031		6.89	20
Methylene Chloride	0.647	0.671		3.71	20
trans-1,2-Dichloroethene	0.590	0.593		0.51	20
1,1-Dichloroethane	1.131	1.189	0.1	5.13	20
2-Butanone	0.434	0.467		7.6	20
Carbon Tetrachloride	0.525	0.569		8.38	20
cis-1,2-Dichloroethene	0.713	0.752		5.47	20
Chloroform	1.175	1.280		8.94	20
1,1,1-Trichloroethane	1.055	1.115		5.69	20
Methylcyclohexane	0.533	0.522		-2.06	20
Benzene	1.492	1.635		9.58	20
1,2-Dichloroethane	0.506	0.549		8.5	20
Trichloroethene	0.348	0.375		7.76	20
1,2-Dichloropropane	0.353	0.401		13.6	20
Bromodichloromethane	0.529	0.606		14.56	20
4-Methyl-2-Pentanone	0.468	0.576		23.08	20
Toluene	0.910	1.023		12.42	20
t-1,3-Dichloropropene	0.539	0.601		11.5	20
cis-1,3-Dichloropropene	0.580	0.651		12.24	20
1,1,2-Trichloroethane	0.326	0.397		21.78	20
2-Hexanone	0.349	0.426		22.06	20
Dibromochloromethane	0.385	0.466		21.04	20
Tetrachloroethene	0.348	0.366		5.17	20
Chlorobenzene	1.109	1.181	0.3	6.49	20
Ethyl Benzene	1.961	2.070		5.56	20
m/p-Xylenes	0.725	0.807		11.31	20
o-Xylene	0.686	0.765		11.52	20
Styrene	1.162	1.354		16.52	20
Bromoform	0.281	0.332	0.1	18.15	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: MSVOA_N Calibration Date/Time: 10/21/2024 11:38

Lab File ID: VN084428.D Init. Calib. Date(s): 09/30/2024 09/30/2024

Heated Purge: (Y/N) N Init. Calib. Time(s): 12:25 14:48

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Isopropylbenzene	3.815	3.797		-0.47	20
1,1,2,2-Tetrachloroethane	1.147	1.198	0.3	4.45	20
1,3-Dichlorobenzene	1.727	1.778		2.95	20
1,4-Dichlorobenzene	1.744	1.755		0.63	20
1,2-Dichlorobenzene	1.693	1.727		2.01	20
1,2-Dichloroethane-d4	0.741	0.791		6.75	20
Dibromofluoromethane	0.330	0.387		17.27	20
Toluene-d8	1.213	1.431		17.97	20
4-Bromofluorobenzene	0.442	0.522		18.1	20

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: MSVOA_N Calibration Date/Time: 10/21/2024 20:04

Lab File ID: VN084448.D Init. Calib. Date(s): 09/30/2024 09/30/2024

Heated Purge: (Y/N) N Init. Calib. Time(s): 12:25 14:48

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Chloromethane	0.675	0.575	0.1	-14.81	50
Vinyl Chloride	0.654	0.580		-11.31	50
Bromomethane	0.431	0.354		-17.86	50
Chloroethane	0.468	0.379		-19.02	50
Trichlorofluoromethane	1.019	0.994		-2.45	50
1,1,2-Trichlorotrifluoroethane	0.584	0.582		-0.34	50
1,1-Dichloroethene	0.563	0.556		-1.24	50
Acetone	0.318	0.255		-19.81	50
Carbon Disulfide	1.782	1.354		-24.02	50
Methyl tert-butyl Ether	1.900	1.972		3.79	50
Methylene Chloride	0.647	0.658		1.7	50
trans-1,2-Dichloroethene	0.590	0.582		-1.36	50
1,1-Dichloroethane	1.131	1.157	0.1	2.3	50
2-Butanone	0.434	0.406		-6.45	50
Carbon Tetrachloride	0.525	0.534		1.71	50
cis-1,2-Dichloroethene	0.713	0.722		1.26	50
Chloroform	1.175	1.226		4.34	50
1,1,1-Trichloroethane	1.055	1.082		2.56	50
Methylcyclohexane	0.533	0.493		-7.51	50
Benzene	1.492	1.520		1.88	50
1,2-Dichloroethane	0.506	0.507		0.2	50
Trichloroethene	0.348	0.353		1.44	50
1,2-Dichloropropane	0.353	0.379		7.36	50
Bromodichloromethane	0.529	0.566		6.99	50
4-Methyl-2-Pentanone	0.468	0.503		7.48	50
Toluene	0.910	0.953		4.72	50
t-1,3-Dichloropropene	0.539	0.551		2.23	50
cis-1,3-Dichloropropene	0.580	0.604		4.14	50
1,1,2-Trichloroethane	0.326	0.361		10.74	50
2-Hexanone	0.349	0.364		4.3	50
Dibromochloromethane	0.385	0.434		12.73	50
Tetrachloroethene	0.348	0.341		-2.01	50
Chlorobenzene	1.109	1.111	0.3	0.18	50
Ethyl Benzene	1.961	2.021		3.06	50
m/p-Xylenes	0.725	0.758		4.55	50
o-Xylene	0.686	0.734		7	50
Styrene	1.162	1.285		10.59	50
Bromoform	0.281	0.306	0.1	8.9	50

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: MSVOA_N Calibration Date/Time: 10/21/2024 20:04

Lab File ID: VN084448.D Init. Calib. Date(s): 09/30/2024 09/30/2024

Heated Purge: (Y/N) N Init. Calib. Time(s): 12:25 14:48

GC Column: RXI-624 ID: 0.25 (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Isopropylbenzene	3.815	3.702		-2.96	50
1,1,2,2-Tetrachloroethane	1.147	1.151	0.3	0.35	50
1,3-Dichlorobenzene	1.727	1.669		-3.36	50
1,4-Dichlorobenzene	1.744	1.676		-3.9	50
1,2-Dichlorobenzene	1.693	1.649		-2.6	50
1,2-Dichloroethane-d4	0.741	0.710		-4.18	50
Dibromofluoromethane	0.330	0.343		3.94	50
Toluene-d8	1.213	1.259		3.79	50
4-Bromofluorobenzene	0.442	0.461		4.3	50

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

LAB CHRONICLE

OrderID:	P4438	OrderDate:	10/18/2024 10:19:00 AM
Client:	Tetra Tech NUS, Inc.	Project:	CTO WE13
Contact:	Ernie Wu	Location:	K51,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4438-03	VPB190-HYD-20241016	Water			10/16/24			10/18/24
			SVOC-SIMGroup1	8270-Modified		10/21/24	10/25/24	
P4438-03RE	VPB190-HYD-20241016RE	Water			10/16/24			10/18/24
			SVOC-SIMGroup1	8270-Modified		10/21/24	10/25/24	
P4438-04	BP-VPB-190-GW-58-60	Water			10/15/24			10/18/24
			SVOC-SIMGroup1	8270-Modified		10/21/24	10/25/24	
P4438-05	BP-VPB-190-GW-98-100	Water			10/16/24			10/18/24
			SVOC-SIMGroup1	8270-Modified		10/21/24	10/25/24	
P4438-06	BP-VPB-190-GW-158-160	Water			10/17/24			10/18/24
			SVOC-SIMGroup1	8270-Modified		10/21/24	10/25/24	
P4438-07	BP-VPB-190-GW-198-200	Water			10/17/24			10/18/24
			SVOC-SIMGroup1	8270-Modified		10/21/24	10/25/24	



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: P4438
Client: Tetra Tech NUS, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID :				0.000					
Total Svoc :					0.00				
Total Concentration:					0.00				



SAMPLE DATA

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/16/24
Project:	CTO WE13	Date Received:	10/18/24
Client Sample ID:	VPB190-HYD-20241016	SDG No.:	P4438
Lab Sample ID:	P4438-03	Matrix:	Water
Analytical Method:	SW8270SIM	% Solid:	0
Sample Wt/Vol:	970 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-SIMGroup1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034712.D	1	10/21/24 08:45	10/25/24 03:38	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.21	U	0.070	0.21	0.21	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.016	*	30 - 150		4%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.13		30 - 150		34%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.29		55 - 111		74%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.29		53 - 106		73%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.37		58 - 132		93%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	5470	7.712				
1146-65-2	Naphthalene-d8	15200	10.479				
15067-26-2	Acenaphthene-d10	6820	14.329				
1517-22-2	Phenanthrene-d10	12500	17.056				
1719-03-5	Chrysene-d12	7480	21.241				
1520-96-3	Perylene-d12	6570	23.461				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/16/24
Project:	CTO WE13	Date Received:	10/18/24
Client Sample ID:	VPB190-HYD-20241016RE	SDG No.:	P4438
Lab Sample ID:	P4438-03RE	Matrix:	Water
Analytical Method:	SW8270SIM	% Solid:	0
Sample Wt/Vol:	970 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-SIMGroup1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034723.D	1	10/21/24 08:45	10/25/24 10:58	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.21	U	0.070	0.21	0.21	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.016	*	30 - 150		4%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.14		30 - 150		36%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.30		55 - 111		75%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.29		53 - 106		72%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.38		58 - 132		94%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	6300	7.712				
1146-65-2	Naphthalene-d8	18300	10.479				
15067-26-2	Acenaphthene-d10	8750	14.318				
1517-22-2	Phenanthrene-d10	16300	17.057				
1719-03-5	Chrysene-d12	11500	21.241				
1520-96-3	Perylene-d12	12000	23.461				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/15/24
Project:	CTO WE13	Date Received:	10/18/24
Client Sample ID:	BP-VPB-190-GW-58-60	SDG No.:	P4438
Lab Sample ID:	P4438-04	Matrix:	Water
Analytical Method:	SW8270SIM	% Solid:	0
Sample Wt/Vol:	740 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-SIMGroup1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034713.D	1	10/21/24 08:45	10/25/24 04:14	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.27	U	0.090	0.27	0.27	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.23		30 - 150		57%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.35		30 - 150		87%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.24		55 - 111		60%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.24		53 - 106		60%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.34		58 - 132		85%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	5390	7.712				
1146-65-2	Naphthalene-d8	15400	10.479				
15067-26-2	Acenaphthene-d10	6960	14.325				
1517-22-2	Phenanthrene-d10	13000	17.064				
1719-03-5	Chrysene-d12	8750	21.239				
1520-96-3	Perylene-d12	8540	23.459				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/16/24
Project:	CTO WE13	Date Received:	10/18/24
Client Sample ID:	BP-VPB-190-GW-98-100	SDG No.:	P4438
Lab Sample ID:	P4438-05	Matrix:	Water
Analytical Method:	SW8270SIM	% Solid:	0
Sample Wt/Vol:	700 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-SIMGroup1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034714.D	1	10/21/24 08:45	10/25/24 04:51	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.29	U	0.10	0.29	0.29	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.26		30 - 150		65%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.37		30 - 150		91%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.29		55 - 111		72%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.28		53 - 106		70%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.41		58 - 132		103%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	5400	7.712				
1146-65-2	Naphthalene-d8	15500	10.479				
15067-26-2	Acenaphthene-d10	6990	14.318				
1517-22-2	Phenanthrene-d10	12900	17.057				
1719-03-5	Chrysene-d12	8220	21.241				
1520-96-3	Perylene-d12	7510	23.458				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/17/24
Project:	CTO WE13	Date Received:	10/18/24
Client Sample ID:	BP-VPB-190-GW-158-160	SDG No.:	P4438
Lab Sample ID:	P4438-06	Matrix:	Water
Analytical Method:	SW8270SIM	% Solid:	0
Sample Wt/Vol:	960 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-SIMGroup1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034715.D	1	10/21/24 08:45	10/25/24 05:27	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.21	U	0.070	0.21	0.21	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.28		30 - 150		70%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.36		30 - 150		90%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.30		55 - 111		75%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.30		53 - 106		75%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.42		58 - 132		105%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	5650	7.712				
1146-65-2	Naphthalene-d8	16200	10.479				
15067-26-2	Acenaphthene-d10	7340	14.318				
1517-22-2	Phenanthrene-d10	13700	17.057				
1719-03-5	Chrysene-d12	8530	21.241				
1520-96-3	Perylene-d12	7650	23.461				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	10/17/24
Project:	CTO WE13	Date Received:	10/18/24
Client Sample ID:	BP-VPB-190-GW-198-200	SDG No.:	P4438
Lab Sample ID:	P4438-07	Matrix:	Water
Analytical Method:	SW8270SIM	% Solid:	0
Sample Wt/Vol:	780 Units: mL	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOC-SIMGroup1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :
Prep Method :	SW3510C		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034716.D	1	10/21/24 08:45	10/25/24 06:03	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.26	U	0.090	0.26	0.26	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.30		30 - 150		75%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.39		30 - 150		97%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.32		55 - 111		80%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.33		53 - 106		83%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.41		58 - 132		102%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	5400	7.712				
1146-65-2	Naphthalene-d8	15500	10.479				
15067-26-2	Acenaphthene-d10	7120	14.318				
1517-22-2	Phenanthrene-d10	13300	17.057				
1719-03-5	Chrysene-d12	8720	21.241				
1520-96-3	Perylene-d12	8100	23.461				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products



QC SUMMARY

Surrogate Summary

SW-846

SDG No.: P4438

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%)	
							Low	High
P4438-03	VPB190-HYD-20241016	2-Methylnaphthalene-d10	0.4	0.016	4	*	30	150
		Fluoranthene-d10	0.4	0.13	34		30	150
		Nitrobenzene-d5	0.4	0.29	74		55	111
		2-Fluorobiphenyl	0.4	0.29	73		53	106
		Terphenyl-d14	0.4	0.37	93		58	132
P4438-03RE	VPB190-HYD-20241016RE	2-Methylnaphthalene-d10	0.4	0.016	4	*	30	150
		Fluoranthene-d10	0.4	0.14	36		30	150
		Nitrobenzene-d5	0.4	0.30	75		55	111
		2-Fluorobiphenyl	0.4	0.29	72		53	106
		Terphenyl-d14	0.4	0.38	94		58	132
P4438-04	BP-VPB-190-GW-58-60	2-Methylnaphthalene-d10	0.4	0.23	57		30	150
		Fluoranthene-d10	0.4	0.35	87		30	150
		Nitrobenzene-d5	0.4	0.24	60		55	111
		2-Fluorobiphenyl	0.4	0.24	60		53	106
		Terphenyl-d14	0.4	0.34	85		58	132
P4438-05	BP-VPB-190-GW-98-100	2-Methylnaphthalene-d10	0.4	0.26	65		30	150
		Fluoranthene-d10	0.4	0.37	91		30	150
		Nitrobenzene-d5	0.4	0.29	72		55	111
		2-Fluorobiphenyl	0.4	0.28	70		53	106
		Terphenyl-d14	0.4	0.41	103		58	132
P4438-06	BP-VPB-190-GW-158-160	2-Methylnaphthalene-d10	0.4	0.28	70		30	150
		Fluoranthene-d10	0.4	0.36	90		30	150
		Nitrobenzene-d5	0.4	0.30	75		55	111
		2-Fluorobiphenyl	0.4	0.30	75		53	106
		Terphenyl-d14	0.4	0.42	105		58	132
P4438-07	BP-VPB-190-GW-198-200	2-Methylnaphthalene-d10	0.4	0.30	75		30	150
		Fluoranthene-d10	0.4	0.39	97		30	150
		Nitrobenzene-d5	0.4	0.32	80		55	111
		2-Fluorobiphenyl	0.4	0.33	83		53	106
		Terphenyl-d14	0.4	0.41	102		58	132
PB164282BL	PB164282BL	2-Methylnaphthalene-d10	0.4	0.33	83		30	150
		Fluoranthene-d10	0.4	0.34	86		30	150
		Nitrobenzene-d5	0.4	0.34	85		55	111
		2-Fluorobiphenyl	0.4	0.37	91		53	106
		Terphenyl-d14	0.4	0.39	97		58	132
PB164282BS	PB164282BS	2-Methylnaphthalene-d10	0.4	0.50	125		30	150
		Fluoranthene-d10	0.4	0.34	84		30	150
		Nitrobenzene-d5	0.4	0.34	84		55	111
		2-Fluorobiphenyl	0.4	0.36	90		53	106
		Terphenyl-d14	0.4	0.36	91		58	132
PB164282BSD	PB164282BSD	2-Methylnaphthalene-d10	0.4	0.50	125		30	150
		Fluoranthene-d10	0.4	0.33	83		30	150
		Nitrobenzene-d5	0.4	0.34	84		55	111
		2-Fluorobiphenyl	0.4	0.36	89		53	106
		Terphenyl-d14	0.4	0.37	93		58	132

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P4438

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified DataFile: BN034706.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD	Low	Limits	RPD
								Qual		High	
PB164282BS	1,4-Dioxane	0.4	0.30	ug/L	75				70	130	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P4438

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified DataFile: BN034711.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD	Low	Limits	RPD
								Qual		High	
PB164282BSD	1,4-Dioxane	0.4	0.31	ug/L	78	3			70	130	20

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB164282BL

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM Case No.: P4438

SAS No.: P4438 SDG NO.: P4438

Lab File ID: BN034705.D

Lab Sample ID: PB164282BL

Instrument ID: BNA_N

Date Extracted: 10/21/2024

Matrix: (soil/water) Water

Date Analyzed: 10/24/2024

Level: (low/med) LOW

Time Analyzed: 23:26

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
BP-VPB-190-GW-98-100	P4438-05	BN034714.D	10/25/2024
BP-VPB-190-GW-158-160	P4438-06	BN034715.D	10/25/2024
BP-VPB-190-GW-198-200	P4438-07	BN034716.D	10/25/2024
PB164282BS	PB164282BS	BN034706.D	10/25/2024
PB164282BSD	PB164282BSD	BN034711.D	10/25/2024
VPB190-HYD-20241016	P4438-03	BN034712.D	10/25/2024
BP-VPB-190-GW-58-60	P4438-04	BN034713.D	10/25/2024

COMMENTS: _____

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P4438 SDG NO.: P4438

Lab File ID: BN034683.D

DFTPP Injection Date: 10/24/2024

Instrument ID: BNA_N

DFTPP Injection Time: 07:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	66.1
68	Less than 2.0% of mass 69	0.9 (1.7) 1
69	Mass 69 relative abundance	54.4
70	Less than 2.0% of mass 69	0.3 (0.5) 1
127	10.0 - 80.0% of mass 198	60.3
197	Less than 2.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	20.6
365	Greater than 1% of mass 198	2.5
441	Present, but less than mass 443	7.8
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	9.1 (18.6) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDICC0.1	SSTDICC0.1	BN034684.D	10/24/2024	09:11
SSTDICC0.2	SSTDICC0.2	BN034685.D	10/24/2024	09:47
SSTDICCC0.4	SSTDICCC0.4	BN034686.D	10/24/2024	10:23
SSTDICC0.8	SSTDICC0.8	BN034687.D	10/24/2024	10:59
SSTDICC1.6	SSTDICC1.6	BN034688.D	10/24/2024	11:35
SSTDICC3.2	SSTDICC3.2	BN034689.D	10/24/2024	12:11
SSTDICC5.0	SSTDICC5.0	BN034690.D	10/24/2024	12:48
SSTDCCC0.4EC	SSTDCCC0.4	BN034699.D	10/24/2024	19:06

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P4438 SDG NO.: P4438

Lab File ID: BN034700.D

DFTPP Injection Date: 10/24/2024

Instrument ID: BNA_N

DFTPP Injection Time: 20:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	73.1
68	Less than 2.0% of mass 69	0.9 (1.6) 1
69	Mass 69 relative abundance	59.5
70	Less than 2.0% of mass 69	0.3 (0.5) 1
127	10.0 - 80.0% of mass 198	65.2
197	Less than 2.0% of mass 198	0.5
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	20.7
365	Greater than 1% of mass 198	2.6
441	Present, but less than mass 443	7.2
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	9.2 (21.6) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC0.4	SSTDCCC0.4	BN034701.D	10/24/2024	21:01
PB164282BL	PB164282BL	BN034705.D	10/24/2024	23:26
PB164282BS	PB164282BS	BN034706.D	10/25/2024	00:02
PB164282BSD	PB164282BSD	BN034711.D	10/25/2024	03:02
VPB190-HYD-20241016	P4438-03	BN034712.D	10/25/2024	03:38
BP-VPB-190-GW-58-60	P4438-04	BN034713.D	10/25/2024	04:14
BP-VPB-190-GW-98-100	P4438-05	BN034714.D	10/25/2024	04:51
BP-VPB-190-GW-158-160	P4438-06	BN034715.D	10/25/2024	05:27
BP-VPB-190-GW-198-200	P4438-07	BN034716.D	10/25/2024	06:03
SSTDCCC0.4EC	SSTDCCC0.4	BN034719.D	10/25/2024	07:51

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P4438

SDG NO.: P4438

Lab File ID: BN034720.D

DFTPP Injection Date: 10/25/2024

Instrument ID: BNA_N

DFTPP Injection Time: 09:07

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	66.6
68	Less than 2.0% of mass 69	0.9 (1.6) 1
69	Mass 69 relative abundance	56.4
70	Less than 2.0% of mass 69	0.2 (0.4) 1
127	10.0 - 80.0% of mass 198	61.5
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	21
365	Greater than 1% of mass 198	2.8
441	Present, but less than mass 443	7.4
442	Greater than 50% of mass 198	100
443	15.0 - 24.0% of mass 442	9.5 (19.4) 2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
SSTDCCC0.4	SSTDCCC0.4	BN034721.D	10/25/2024	09:46
VPB190-HYD-20241016RE	P4438-03RE	BN034723.D	10/25/2024	10:58
SSTDCCC0.4EC	SSTDCCC0.4	BN034732.D	10/25/2024	20:41

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 10/24/2024

Lab File ID: BN034701.D Time Analyzed: 21:01

Instrument ID: BNA_N GC Column: ZB-GR ID: 0.25 (mm)

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	5885	7.712	17350	10.48	8078	14.33
UPPER LIMIT	11770	8.212	34700	10.979	16156	14.825
LOWER LIMIT	2942.5	7.212	8675	9.979	4039	13.825
EPA SAMPLE NO.						
01 VPB190-HYD-20241016	5474	7.71	15229	10.48	6821	14.33
02 BP-VPB-190-GW-58-60	5389	7.71	15449	10.48	6955	14.33
03 BP-VPB-190-GW-98-100	5399	7.71	15483	10.48	6989	14.32
04 BP-VPB-190-GW-158-160	5652	7.71	16161	10.48	7343	14.32
05 BP-VPB-190-GW-198-200	5401	7.71	15487	10.48	7119	14.32
06 PB164282BL	6454	7.71	17746	10.48	7655	14.33
07 PB164282BS	6277	7.71	17435	10.48	7557	14.32
08 PB164282BSD	5974	7.71	16564	10.48	7143	14.33

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 10/24/2024

Lab File ID: BN034701.D Time Analyzed: 21:01

Instrument ID: BNA_N GC Column: ZB-GR ID: 0.25 (mm)

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	14577	17.064	8841	21.248	8336	23.464
UPPER LIMIT	29154	17.564	17682	21.748	16672	23.964
LOWER LIMIT	7288.5	16.564	4420.5	20.748	4168	22.964
EPA SAMPLE NO.						
01 VPB190-HYD-20241016	12490	17.06	7477	21.24	6569	23.46
02 BP-VPB-190-GW-58-60	13023	17.06	8752	21.24	8544	23.46
03 BP-VPB-190-GW-98-100	12939	17.06	8218	21.24	7509	23.46
04 BP-VPB-190-GW-158-160	13707	17.06	8531	21.24	7647	23.46
05 BP-VPB-190-GW-198-200	13329	17.06	8718	21.24	8097	23.46
06 PB164282BL	13670	17.07	7475	21.24	6736	23.46
07 PB164282BS	13505	17.06	7661	21.24	6455	23.46
08 PB164282BSD	13002	17.06	7027	21.24	5873	23.46

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 10/25/2024

Lab File ID: BN034721.D Time Analyzed: 09:46

Instrument ID: BNA_N GC Column: ZB-GR ID: 0.25 (mm)

	IS1 (DCB) AREA #	RT #	IS2 (NPT) AREA #	RT #	IS3 (ANT) AREA #	RT #
12 HOUR STD	6565	7.705	19566	10.48	9604	14.33
UPPER LIMIT	13130	8.205	39132	10.979	19208	14.825
LOWER LIMIT	3282.5	7.205	9783	9.979	4802	13.825
EPA SAMPLE NO.						
01 VPB190-HYD-20241016RE	6301	7.71	18338	10.48	8748	14.32

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG NO.: P4438

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 10/25/2024

Lab File ID: BN034721.D Time Analyzed: 09:46

Instrument ID: BNA_N GC Column: ZB-GR ID: 0.25 (mm)

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
12 HOUR STD	17577	17.064	13068	21.248	14018	23.459
UPPER LIMIT	35154	17.564	26136	21.748	28036	23.959
LOWER LIMIT	8788.5	16.564	6534	20.748	7009	22.959
EPA SAMPLE NO.						
01 VPB190-HYD-20241016RE	16277	17.06	11538	21.24	11967	23.46

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT UPPER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.



QC SAMPLE DATA

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:		
Project:	CTO WE13		Date Received:		
Client Sample ID:	PB164282BL		SDG No.:	P4438	
Lab Sample ID:	PB164282BL		Matrix:	Water	
Analytical Method:	SW8270SIM		% Solid:	0	
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1000	uL
Soil Aliquot Vol:		uL	Test:	SVOC-SIMGroup1	
Extraction Type :		Decanted : N	Level :	LOW	
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N	PH :
Prep Method :	SW3510C				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034705.D	1	10/21/24 08:45	10/24/24 23:26	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.20	U	0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.33		30 - 150		83%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.34		30 - 150		86%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.34		55 - 111		85%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.37		53 - 106		91%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.39		58 - 132		97%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	6450	7.712				
1146-65-2	Naphthalene-d8	17700	10.479				
15067-26-2	Acenaphthene-d10	7660	14.329				
1517-22-2	Phenanthrene-d10	13700	17.069				
1719-03-5	Chrysene-d12	7480	21.241				
1520-96-3	Perylene-d12	6740	23.461				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:		
Project:	CTO WE13		Date Received:		
Client Sample ID:	PB164282BS		SDG No.:	P4438	
Lab Sample ID:	PB164282BS		Matrix:	Water	
Analytical Method:	SW8270SIM		% Solid:	0	
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1000	uL
Soil Aliquot Vol:		uL	Test:	SVOC-SIMGroup1	
Extraction Type :		Decanted : N	Level :	LOW	
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N	PH :
Prep Method :	SW3510C				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034706.D	1	10/21/24 08:45	10/25/24 00:02	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.30		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.50		30 - 150		125%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.34		30 - 150		84%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.34		55 - 111		84%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.36		53 - 106		90%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.36		58 - 132		91%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	6280	7.712				
1146-65-2	Naphthalene-d8	17400	10.479				
15067-26-2	Acenaphthene-d10	7560	14.318				
1517-22-2	Phenanthrene-d10	13500	17.056				
1719-03-5	Chrysene-d12	7660	21.241				
1520-96-3	Perylene-d12	6460	23.461				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.		Date Collected:		
Project:	CTO WE13		Date Received:		
Client Sample ID:	PB164282BSD		SDG No.:	P4438	
Lab Sample ID:	PB164282BSD		Matrix:	Water	
Analytical Method:	SW8270SIM		% Solid:	0	
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1000	uL
Soil Aliquot Vol:		uL	Test:	SVOC-SIMGroup1	
Extraction Type :		Decanted : N	Level :	LOW	
Injection Volume :		GPC Factor : 1.0	GPC Cleanup :	N	PH :
Prep Method :	SW3510C				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN034711.D	1	10/21/24 08:45	10/25/24 03:02	PB164282

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.31		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.50		30 - 150		125%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.33		30 - 150		83%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.34		55 - 111		84%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.36		53 - 106		89%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.37		58 - 132		93%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	5970	7.712				
1146-65-2	Naphthalene-d8	16600	10.479				
15067-26-2	Acenaphthene-d10	7140	14.329				
1517-22-2	Phenanthrene-d10	13000	17.057				
1719-03-5	Chrysene-d12	7030	21.241				
1520-96-3	Perylene-d12	5870	23.458				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products



CALIBRATION SUMMARY

Method Path : Z:\svoasrv\HPCHEM1\BNA_N\Methods\
 Method File : 8270-SIM-BN102424.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Thu Oct 24 13:17:02 2024
 Response Via : Initial Calibration

Calibration Files

0.1 =BN034684.D 0.2 =BN034685.D 0.4 =BN034686.D 0.8 =BN034687.D 1.6 =BN034688.D 3.2 =BN034689.D 5.0 =BN034690.D

	Compound	0.1	0.2	0.4	0.8	1.6	3.2	5.0	Avg	%RSD

1) I	1,4-Dichlorobenzen...	-----ISTD-----								
2)	1,4-Dioxane	0.621	0.564	0.485	0.545	0.530	0.503	0.479	0.532	9.40
3)	n-Nitrosodimet...	0.775	0.766	0.704	0.842	0.827	0.761	0.749	0.775	6.06
4) S	2-Fluorophenol	1.188	1.202	1.070	1.268	1.253	1.168	1.177	1.189	5.46
5) S	Phenol-d6	1.556	1.554	1.386	1.658	1.657	1.569	1.597	1.568	5.85
6)	bis(2-Chloroet...	1.306	1.281	1.140	1.380	1.346	1.243	1.220	1.274	6.37
7) I	Naphthalene-d8	-----ISTD-----								
8) S	Nitrobenzene-d5	0.345	0.323	0.294	0.354	0.349	0.337	0.348	0.336	6.27
9)	Naphthalene	1.126	1.100	0.987	1.182	1.157	1.094	1.101	1.107	5.61
10)	Hexachlorobuta...	0.175	0.169	0.149	0.178	0.170	0.160	0.159	0.166	6.23
11) SURR2	Methylnaphth...	0.542	0.534	0.481	0.583	0.586	0.557	0.566	0.550	6.53
12)	2-Methylnaphth...	0.675	0.670	0.600	0.729	0.730	0.697	0.705	0.687	6.50
13) I	Acenaphthene-d10	-----ISTD-----								
14) S	2,4,6-Tribromo...	0.110	0.118	0.096	0.127	0.133	0.136	0.146	0.124	13.66
15) S	2-Fluorobiphenyl	1.661	1.577	1.379	1.703	1.666	1.540	1.601	1.590	6.84
16)	Acenaphthylene	1.900	1.860	1.581	2.040	2.038	1.964	2.064	1.921	8.76
17)	Acenaphthene	1.318	1.286	1.122	1.435	1.407	1.329	1.370	1.324	7.79
18)	Fluorene	1.598	1.609	1.388	1.764	1.750	1.663	1.663	1.634	7.68
19) I	Phenanthrene-d10	-----ISTD-----								
20)	4,6-Dinitro-2-...	0.048	0.043	0.055	0.059	0.063	0.067	0.056		16.66
21)	4-Bromophenyl-...	0.217	0.211	0.190	0.224	0.221	0.212	0.219	0.213	5.22
22)	Hexachlorobenzene	0.238	0.234	0.211	0.243	0.238	0.226	0.229	0.231	4.55
23)	Atrazine	0.151	0.158	0.140	0.183	0.181	0.181	0.179	0.168	10.55
24)	Pentachlorophenol	0.065	0.064	0.064	0.083	0.087	0.092	0.100	0.082	17.73
25)	Phenanthrene	1.214	1.208	1.065	1.273	1.244	1.191	1.215	1.202	5.49
26)	Anthracene	1.006	1.043	0.931	1.124	1.127	1.102	1.131	1.067	7.17
27) SURR	Fluoranthene-d10	0.870	0.885	0.784	0.994	0.951	0.913	0.910	0.901	7.35
28)	Fluoranthene	1.188	1.222	1.092	1.380	1.333	1.290	1.269	1.253	7.66
29) I	Chrysene-d12	-----ISTD-----								
30)	Pyrene	2.066	2.035	1.880	2.152	2.164	2.039	2.048	2.055	4.57
31) S	Terphenyl-d14	0.813	0.797	0.740	0.867	0.865	0.820	0.820	0.817	5.27
32)	Benzo(a)anthra...	1.502	1.445	1.373	1.640	1.613	1.553	1.570	1.528	6.19
33)	Chrysene	1.642	1.568	1.442	1.709	1.643	1.533	1.531	1.581	5.68
34)	Bis(2-ethylhex...	0.901	0.779	0.722	0.843	0.878	0.915	1.030	0.867	11.48
35) I	Perylene-d12	-----ISTD-----								

Method Path : Z:\svoasrv\HPCHEM1\BNA_N\Methods\

Method File : 8270-SIM-BN102424.M

36)	Indeno(1,2,3-c...	1.562	1.447	1.418	1.596	1.620	1.517	1.624	1.541	5.39
37)	Benzo(b)fluora...	1.543	1.516	1.481	1.714	1.699	1.614	1.615	1.597	5.57
38)	Benzo(k)fluora...	1.511	1.491	1.386	1.723	1.712	1.596	1.613	1.576	7.75
39) C	Benzo(a)pyrene	1.203	1.188	1.157	1.369	1.383	1.323	1.350	1.282	7.45
40)	Dibenzo(a,h)an...	1.236	1.139	1.113	1.246	1.283	1.201	1.288	1.215	5.58
41)	Benzo(g,h,i)pe...	1.397	1.287	1.262	1.377	1.387	1.290	1.378	1.340	4.28

(#) = Out of Range

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: BNA_N Calibration Date/Time: 10/24/2024 21:01

Lab File ID: BN034701.D Init. Calib. Date(s): 10/24/2024 10/24/2024

EPA Sample No.: SSTDCCC0.4 Init. Calib. Time(s): 09:11 12:48

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.550	0.473		-14.0	20.0
Fluoranthene-d10	0.901	0.768		-14.8	20.0
2-Fluorophenol	1.189	1.172		-1.4	20.0
Phenol-d6	1.568	1.616		3.1	20.0
Nitrobenzene-d5	0.336	0.290		-13.7	20.0
2-Fluorobiphenyl	1.590	1.425		-10.4	20.0
2,4,6-Tribromophenol	0.124	0.096		-22.6	20.0
Terphenyl-d14	0.817	0.690		-15.5	20.0
1,4-Dioxane	0.532	0.489		-8.1	20.0

All other compounds must meet a minimum RRF of 0.010.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: BNA_N Calibration Date/Time: 10/25/2024 07:51

Lab File ID: BN034719.D Init. Calib. Date(s): 10/24/2024 10/24/2024

EPA Sample No.: SSTDCCC0.4EC Init. Calib. Time(s): 09:11 12:48

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.550	0.486		-11.6	50.0
Fluoranthene-d10	0.901	0.942		4.6	50.0
2-Fluorophenol	1.189	1.294		8.8	50.0
Phenol-d6	1.568	1.736		10.7	50.0
Nitrobenzene-d5	0.336	0.300		-10.7	50.0
2-Fluorobiphenyl	1.590	1.367		-14.0	50.0
2,4,6-Tribromophenol	0.124	0.113		-8.9	50.0
Terphenyl-d14	0.817	0.696		-14.8	50.0
1,4-Dioxane	0.532	0.475		-10.7	50.0

All other compounds must meet a minimum RRF of 0.010.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: BNA_N Calibration Date/Time: 10/25/2024 09:46

Lab File ID: BN034721.D Init. Calib. Date(s): 10/24/2024 10/24/2024

EPA Sample No.: SSTDCCC0.4 Init. Calib. Time(s): 09:11 12:48

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.550	0.491		-10.7	20.0
Fluoranthene-d10	0.901	0.834		-7.4	20.0
2-Fluorophenol	1.189	1.280		7.7	20.0
Phenol-d6	1.568	1.733		10.5	20.0
Nitrobenzene-d5	0.336	0.300		-10.7	20.0
2-Fluorobiphenyl	1.590	1.396		-12.2	20.0
2,4,6-Tribromophenol	0.124	0.119		-4.0	20.0
Terphenyl-d14	0.817	0.690		-15.5	20.0
1,4-Dioxane	0.532	0.460		-13.5	20.0

All other compounds must meet a minimum RRF of 0.010.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4438 SAS No.: P4438 SDG No.: P4438

Instrument ID: BNA_N Calibration Date/Time: 10/25/2024 20:41

Lab File ID: BN034732.D Init. Calib. Date(s): 10/24/2024 10/24/2024

EPA Sample No.: SSTDCCC0.4EC Init. Calib. Time(s): 09:11 12:48

GC Column: ZB-GR ID: 0.25 (mm)

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.550	0.499		-9.3	50.0
Fluoranthene-d10	0.901	0.778		-13.7	50.0
2-Fluorophenol	1.189	1.284		8.0	50.0
Phenol-d6	1.568	1.673		6.7	50.0
Nitrobenzene-d5	0.336	0.311		-7.4	50.0
2-Fluorobiphenyl	1.590	1.375		-13.5	50.0
2,4,6-Tribromophenol	0.124	0.129		4.0	50.0
Terphenyl-d14	0.817	0.831		1.7	50.0
1,4-Dioxane	0.532	0.481		-9.6	50.0

All other compounds must meet a minimum RRF of 0.010.



SHIPPING DOCUMENTS

CHEMTECH CHAIN OF CUSTODY RECORD		284 Sheffield Street, Mountainside, NJ 07092 (908) 789-8900 Fax: (908) 78-8922 www.chemtech.net		Chemtech Project Number: P4438/39																																											
				COC Number:																																											
CLIENT INFORMATION			PROJECT INFORMATION					BILLING INFORMATION																																							
COMPANY: Tetra Tech			PROJECT NAME: NWIRP Bethpage					BILL TO: SEE CONTRACT					PO#																																		
ADDRESS: 4433 Corporation Lane Suite 300			PROJECT #: 112G08005-WE13 LOCATION: VPB-189					ADDRESS:																																							
CITY: Virginia Beach STATE: VA ZIP: 23462			PROJECT MANAGER: Ernie Wu					CITY:					STATE: ZIP:																																		
ATTENTION: Ernie Wu			E-MAIL: ernie.wu@tetratech.com					ATTENTION:					PHONE:																																		
PHONE: 757-466-4901 FAX: 757-461-4148			PHONE: 757-466-4901 FAX: 757-461-4148					ANALYSIS																																							
DATA TURNAROUND INFORMATION			DATA DELIVERABLE INFORMATION					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC(SW846-8260B)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1,4 Dioxane (8270 SIM)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1,4 Dioxane (822 PREC)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td><td style="text-align: center;">5</td><td style="text-align: center;">6</td><td style="text-align: center;">7</td><td style="text-align: center;">8</td><td style="text-align: center;">9</td><td colspan="6"></td> </tr> </table>										VOC(SW846-8260B)	1,4 Dioxane (8270 SIM)	1,4 Dioxane (822 PREC)													1	2	3	4	5	6	7	8	9						
VOC(SW846-8260B)	1,4 Dioxane (8270 SIM)	1,4 Dioxane (822 PREC)																																													
1	2	3	4	5	6	7	8	9																																							
FAX: 2 & 10 DAYS* HARD COPY: 2 & 10 DAYS* EDD: 2 & 10 DAYS* * TO BE APPROVED BY CHEMTECH STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS			☐ RESULTS ONLY ☐ USEPA CLP ☐ RESULTS + QC ☐ New York State ASP "B" ☐ New Jersey REDUCED ☐ New York State ASP "A" ☐ New Jersey CLP ☐ Other _____ ☐ EDD Format _____																																												
CHEMTECH SAMPLE ID			PROJECT SAMPLE IDENTIFICATION		SAMPLE MATRIX		SAMPLE TYPE		SAMPLE COLLECTION		# of Bottles	PRESERVATIVES									COMMENTS																										
							COMP	GRAB	DATE	TIME		A											<-- Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other																								
1.			BP-VPB-190-TB-20241015		QA			X	10/15/24	8:00	2	2											Trip Blank																								
2.			BP-VPB-190-EB-20241016		QA			X	10/16/24	11:00	2	2											Equipment Blank																								
3.			VPB190-HYD-20241016		QA			X	10/16/24	9:20	5	2	1	2									Hydrant Sample																								
4.			BP-VPB-190-GW-58-60		AQ			X	10/15/24	13:25	3	2	1																																		
5.			BP-VPB-190-GW-98-100		AQ			X	10/16/24	10:15	3	2	1																																		
6.			BP-VPB-190-GW-158-160		AQ			X	10/17/24	10:15	3	2	1																																		
7.			BP-VPB-190-GW-198-200		AQ			X	10/17/24	12:15	3	2	1																																		
8.																																															
9.																																															
10.																																															
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSESSION INCLUDING COURIER DELIVERY																																															
RELINQUISHED BY SAMPLER			DATE/TIME		RECEIVED BY		Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 2.8 MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler?: yes Comments: 48hr TAT - For VOC's see worksheet #15 of SAP 2018 for VPB program VOC list 10-DAY TAT - For 1,4 Dioxane (8270 SIM)																																								
1. <i>Jake Marlow</i>			10-17-24/1600		1. <i>[Signature]</i>																																										
RELINQUISHED BY			DATE/TIME		RECEIVED BY																																										
2. <i>[Signature]</i>			9:15		2. <i>[Signature]</i>		SHIPPED VIA: CLIENT: ☐ Hand Delivered ☒ Overnight CHEMTECH: ☐ Picked Up ☐ Overnight																																								
RELINQUISHED BY			DATE/TIME		RECEIVED FOR LAB BY																																										
3. <i>[Signature]</i>			10-18-24		3. <i>[Signature]</i>		Page <u>1</u> of <u>1</u>																																								
RELINQUISHED BY			DATE/TIME		RECEIVED FOR LAB BY																																										
3. <i>[Signature]</i>					3. <i>[Signature]</i>		Shipment Complete ☐ YES ☐ NO																																								
RELINQUISHED BY			DATE/TIME		RECEIVED FOR LAB BY																																										
3. <i>[Signature]</i>					3. <i>[Signature]</i>																																										
WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY																																															

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (L-A-B)	L2219
Maine	2024021
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P4438 TETR06

Order Date : 10/18/2024 10:19:00 AM

Project Mgr :

Client Name : Tetra Tech NUS, Inc.

Project Name : CTO WE13

Report Type : Level 4

Client Contact : Ernie Wu

Receive DateTime : 10/18/2024 9:15:00 AM

EDD Type : ADAPT

Invoice Name : Tetra Tech NUS, Inc.

Purchase Order :

Hard Copy Date :

Invoice Contact : Ernie Wu

Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P4438-01	BP-VPB-190-TB-20241015	Water	10/15/2024	08:00					
					VOCMS Group1		8260-Low	2 Bus. Days	
P4438-02	BP-VPB-190-EB-20241016	Water	10/16/2024	11:00					
					VOCMS Group1		8260-Low	2 Bus. Days	
P4438-03	VPB190-HYD-20241016	Water	10/16/2024	09:20					
					VOCMS Group1		8260-Low	2 Bus. Days	
P4438-04	BP-VPB-190-GW-58-60	Water	10/15/2024	13:25					
					VOCMS Group1		8260-Low	2 Bus. Days	
P4438-05	BP-VPB-190-GW-98-100	Water	10/16/2024	10:15					
					VOCMS Group1		8260-Low	2 Bus. Days	
P4438-06	BP-VPB-190-158-160 BP-VPB-190-GW-158-160	Water	10/17/2024	10:15					
					VOCMS Group1		8260-Low	2 Bus. Days	
P4438-07	BP-VPB-190-GW-198-200	Water	10/17/2024	12:15					
					VOCMS Group1		8260-Low	2 Bus. Days	

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P4438	TETR06	Order Date : 10/18/2024 10:19:00 AM	Project Mgr :
Client Name : Tetra Tech NUS, Inc.		Project Name : CTO WE13	Report Type : Level 4
Client Contact : Ernie Wu		Receive DateTime : 10/18/2024 9:15:00 AM	EDD Type : ADAPT
Invoice Name : Tetra Tech NUS, Inc.		Purchase Order :	Hard Copy Date :
Invoice Contact : Ernie Wu			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
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Relinquished By :

Date / Time :


10-18-24 11:20

Received By :

Date / Time :


10/18/24 11:20 AM Rgt 4

Storage Area : VOA Refridgerator Room