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ANALYTICAL RESULTS SUMMARY

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 : P4866

ATTENTION : Ernie Wu

Laboratory Certification ID # 20012

Table Of Contents for P4866

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Cover Page

Order ID : P4866

Project ID : CTO WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number	Client Sample Number
P4866-01	RW7-SP200-20241114
P4866-02	RW7-SP201-20241114

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 : N. N. Pandya

APPROVED
Date: 11/25/2024
By Nimisha Pandya, QA/QC Supervisor at 12:56 pm, Nov 25, 2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Tetra Tech NUS, Inc.
Project Name: CTO WE13
Project Manager : Ernie Wu
Chemtech Project # P4866
Test Name: SVOC-SIMGroup1

A. Number of Samples and Date of Receipt:
2 Water samples were received on 11/14/2024.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: SVOC-SIMGroup1. 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
RW7-SP200-20241114 [Nitrobenzene-d5 - 47%, Terphenyl-d14 - 661%],
RW7-SP201-20241114 [2-Fluorobiphenyl - 24%, Nitrobenzene-d5 - 54%, Terphenyl-d14 - 573%],
PB165012BL [2-Fluorobiphenyl - 42%, Terphenyl-d14 - 323%],
PB165012BS [2-Fluorobiphenyl - 22%, Terphenyl-d14 - 556%],
PB165012BSD [2-Fluorobiphenyl - 19% and Terphenyl-d14 - 567%] ,failing surrogates was not associated withclient parameter list, therefore no corrective action taken.

The Internal Standards Areas met the acceptable requirements except for RW7-SP200-20241114, RW7-SP201-20241114, failing Internal Standards were not associated with client parameter list, therefore no corrective action taken.

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 .

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The Continuous Calibration File ID BN035219.D met the requirements except for 2-Fluorobiphenyl,Fluoranthene-d10,Nitrobenzene-d5 and Terphenyl-d14 which are not our target compound, therefore no corrective action taken.

The Continuous Calibration File ID BN035235.D met the requirements except for 2-Fluorobiphenyl and Terphenyl-d14 which are not our target compound, therefore no corrective action taken.

The Tuning criteria met requirements.

Samples RW7-SP200-20241114 was diluted at 2X. This sample initially analyzed straight in sequence BN112024 but END CCAL is missing therefore based on that result lab analyzed this sample directly with 2X while Straight analysis given as screening data in Miscellaneous section.

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.

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 N. N. Pandya

APPROVED
By Nimisha Pandya, QA/QC Supervisor at 12:56 pm, Nov 25, 2024

284 Sheffield Street, Mountainside NJ 07092 Tel.
908-789-8900 Fax: 908-789-8922

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 is 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

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P4866

	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 Castody	✓
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:** 11/25/2024

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LAB CHRONICLE

OrderID:	P4866	**OrderDate:**	11/14/2024 3:35:00 PM
Client:	Tetra Tech NUS, Inc.	**Project:**	CTO WE13
Contact:	Ernie Wu	**Location:**	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4866-01	**RW7-SP200-20241114**	**Water**			**11/14/24**			**11/14/24**
			SVOC-SIMGroup1	8270-Modified		11/15/24	11/21/24	
P4866-02	**RW7-SP201-20241114**	**Water**			**11/14/24**			**11/14/24**
			SVOC-SIMGroup1	8270-Modified		11/15/24	11/21/24	

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Hit Summary Sheet
SW-846

SDG No.: P4866

Client: Tetra Tech NUS, Inc.

Sample ID	Client ID		Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : RW7-SP200-20241114									
P4866-01	RW7-SP200-20241114	WATER	1,4-Dioxane	4.300		0.14	0.4	0.4	ug/L
			Total Svoc :		**4.30**				
			Total Concentration:		**4.30**				
Client ID : RW7-SP201-20241114									
P4866-02	RW7-SP201-20241114	WATER	1,4-Dioxane	1.300		0.07	0.2	0.2	ug/L
			Total Svoc :		**1.30**				
			Total Concentration:		**1.30**				

SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	11/14/24
Project:	CTO WE13	Date Received:	11/14/24
Client Sample ID:	RW7-SP200-20241114	SDG No.:	P4866
Lab Sample ID:	P4866-01	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
BN035223.D	2	11/15/24 12:05	11/21/24 15:48	PB165012

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	4.30		0.14	0.40	0.40	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.26		30 - 150		65%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.19		30 - 150		47%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.19	*	55 - 111		47%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.26		53 - 106		64%	SPK: 0.4
1718-51-0	Terphenyl-d14	2.64	*	58 - 132		661%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3100	7.329				
1146-65-2	Naphthalene-d8	7480	10.073				
15067-26-2	Acenaphthene-d10	2810	13.983				
1517-22-2	Phenanthrene-d10	9270	16.753				
1719-03-5	Chrysene-d12	1000	21.006				
1520-96-3	Perylene-d12	155	23.102				

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

Alliance TECHNICAL GROUP
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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	11/14/24
Project:	CTO WE13	Date Received:	11/14/24
Client Sample ID:	RW7-SP201-20241114	SDG No.:	P4866
Lab Sample ID:	P4866-02	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
BN035225.D	1	11/15/24 12:05	11/21/24 17:00	PB165012

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	1.30		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.31		30 - 150		77%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.37		30 - 150		91%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.22	*	55 - 111		54%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.095	*	53 - 106		24%	SPK: 0.4
1718-51-0	Terphenyl-d14	2.29	*	58 - 132		573%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	2730	7.329				
1146-65-2	Naphthalene-d8	6370	10.073				
15067-26-2	Acenaphthene-d10	3920	13.987				
1517-22-2	Phenanthrene-d10	8420	16.746				
1719-03-5	Chrysene-d12	1470	21.008				
1520-96-3	Perylene-d12	2670	23.104				

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

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Surrogate Summary

SW-846

SDG No.: P4866

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%) Low	Limits (%) High
P4866-01	RW7-SP200-20241114	2-Methylnaphthalene-d10	0.4	0.26	65		30	150
		Fluoranthene-d10	0.4	0.19	47		30	150
		Nitrobenzene-d5	0.4	0.19	47	*	55	111
		2-Fluorobiphenyl	0.4	0.26	64		53	106
		Terphenyl-d14	0.4	2.64	661	*	58	132
P4866-02	RW7-SP201-20241114	2-Methylnaphthalene-d10	0.4	0.31	77		30	150
		Fluoranthene-d10	0.4	0.37	91		30	150
		Nitrobenzene-d5	0.4	0.22	54	*	55	111
		2-Fluorobiphenyl	0.4	0.095	24	*	53	106
		Terphenyl-d14	0.4	2.29	573	*	58	132
PB165012BL	PB165012BL	2-Methylnaphthalene-d10	0.4	0.36	90		30	150
		Fluoranthene-d10	0.4	0.33	83		30	150
		Nitrobenzene-d5	0.4	0.28	69		55	111
		2-Fluorobiphenyl	0.4	0.17	42	*	53	106
		Terphenyl-d14	0.4	1.29	323	*	58	132
PB165012BS	PB165012BS	2-Methylnaphthalene-d10	0.4	0.33	82		30	150
		Fluoranthene-d10	0.4	0.26	66		30	150
		Nitrobenzene-d5	0.4	0.22	56		55	111
		2-Fluorobiphenyl	0.4	0.086	22	*	53	106
		Terphenyl-d14	0.4	2.22	556	*	58	132
PB165012BSD	PB165012BSD	2-Methylnaphthalene-d10	0.4	0.35	87		30	150
		Fluoranthene-d10	0.4	0.30	76		30	150
		Nitrobenzene-d5	0.4	0.24	60		55	111
		2-Fluorobiphenyl	0.4	0.075	19	*	53	106
		Terphenyl-d14	0.4	2.27	567	*	58	132

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P4866

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified **DataFile:** BN035226.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	Limits RPD
PB165012BS	1,4-Dioxane	0.4	0.38	ug/L	95				70	130	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P4866

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified **DataFile:** BN035227.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD Qual	Limits Low	Limits High	Limits RPD
PB165012BSD	1,4-Dioxane	0.4	0.39	ug/L	98	3			70	130	20

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB165012BL

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4866 SAS No.: P4866 SDG NO.: P4866

Lab File ID: BN035220.D Lab Sample ID: PB165012BL

Instrument ID: BNA_N Date Extracted: 11/15/2024

Matrix: (soil/water) Water Date Analyzed: 11/21/2024

Level: (low/med) LOW Time Analyzed: 13:58

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB165012BS	PB165012BS	BN035226.D	11/21/2024
PB165012BSD	PB165012BSD	BN035227.D	11/21/2024
RW7-SP200-20241114	P4866-01	BN035223.D	11/21/2024
RW7-SP201-20241114	P4866-02	BN035225.D	11/21/2024

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM SAS No.: P4866 SDG NO.: P4866

Lab File ID: BN035061.D DFTPP Injection Date: 11/13/2024

Instrument ID: BNA_N DFTPP Injection Time: 12:01

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	19.6
68	Less than 2.0% of mass 69	0.4 (1.4) 1
69	Mass 69 relative abundance	29.1
70	Less than 2.0% of mass 69	0.2 (0.7) 1
127	10.0 - 80.0% of mass 198	35.9
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	6.6
275	10.0 - 60.0% of mass 198	27.6
365	Greater than 1% of mass 198	4.4
441	Present, but less than mass 443	9.3
442	Greater than 50% of mass 198	59.1
443	15.0 - 24.0% of mass 442	11.2 (19) 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	BN035062.D	11/13/2024	12:40
SSTDICC0.2	SSTDICC0.2	BN035063.D	11/13/2024	13:16
SSTDICCC0.4	SSTDICCC0.4	BN035064.D	11/13/2024	13:52
SSTDICC0.8	SSTDICC0.8	BN035065.D	11/13/2024	14:28
SSTDICC1.6	SSTDICC1.6	BN035066.D	11/13/2024	15:04
SSTDICC3.2	SSTDICC3.2	BN035067.D	11/13/2024	15:39
SSTDICC5.0	SSTDICC5.0	BN035068.D	11/13/2024	16:15

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM SAS No.: P4866 SDG NO.: P4866

Lab File ID: BN035218.D DFTPP Injection Date: 11/21/2024

Instrument ID: BNA_N DFTPP Injection Time: 12:43

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	23.4
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	30.3
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	40
197	Less than 2.0% of mass 198	0.0
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	27.6
365	Greater than 1% of mass 198	4.2
441	Present, but less than mass 443	11.3
442	Greater than 50% of mass 198	68.4
443	15.0 - 24.0% of mass 442	12.7 (18.5) 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	BN035219.D	11/21/2024	13:22
PB165012BL	PB165012BL	BN035220.D	11/21/2024	13:58
RW7-SP200-20241114	P4866-01	BN035223.D	11/21/2024	15:48
RW7-SP201-20241114	P4866-02	BN035225.D	11/21/2024	17:00
PB165012BS	PB165012BS	BN035226.D	11/21/2024	17:36
PB165012BSD	PB165012BSD	BN035227.D	11/21/2024	18:12
SSTDCCC0.4EC	SSTDCCC0.4	BN035235.D	11/21/2024	23:01

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P4866 SAS No.: P4866 SDG NO.: P4866

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 11/21/2024

Lab File ID: BN035219.D Time Analyzed: 13:22

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	3553	7.329	8594	10.07	5839		13.99
	UPPER LIMIT	7106	7.829	17188	10.573	11678		14.487
	LOWER LIMIT	1776.5	6.829	4297	9.573	2919.5		13.487
	EPA SAMPLE NO.							
01	PB165012BL	3644	7.33	8156	10.07	4996		13.98
02	RW7-SP200-20241114	3104	7.33	7479	10.07	2812	*	13.98
03	RW7-SP201-20241114	2730	7.33	6373	10.07	3921		13.99
04	PB165012BS	3340	7.33	7691	10.07	4263		13.99
05	PB165012BSD	3072	7.33	6967	10.07	4025		13.98

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.

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8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P4866 SAS No.: P4866 SDG NO.: P4866

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 11/21/2024

Lab File ID: BN035219.D Time Analyzed: 13:22

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	13132	16.746	2179		21.008	7936		23.104
	UPPER LIMIT	26264	17.246	4358		21.508	15872		23.604
	LOWER LIMIT	6566	16.246	1089.5		20.508	3968		22.604
	EPA SAMPLE NO.								
01	PB165012BL	10325	16.75	2547		21.01	7086		23.11
02	RW7-SP200-20241114	9268	16.75	1000	*	21.01	155	*	23.10
03	RW7-SP201-20241114	8423	16.75	1472		21.01	2672	*	23.10
04	PB165012BS	8289	16.75	1030	*	21.01	1173	*	23.10
05	PB165012BSD	7680	16.75	1000	*	21.01	3421	*	23.10

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

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Fax : 908 789 8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	
Project:	CTO WE13			Date Received:	
Client Sample ID:	PB165012BL			SDG No.:	P4866
Lab Sample ID:	PB165012BL			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
BN035220.D	1	11/15/24 12:05	11/21/24 13:58	PB165012

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	0.36		30 - 150		90%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.33		30 - 150		83%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.28		55 - 111		69%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.17	*	53 - 106		42%	SPK: 0.4
1718-51-0	Terphenyl-d14	1.29	*	58 - 132		323%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3640	7.329				
1146-65-2	Naphthalene-d8	8160	10.073				
15067-26-2	Acenaphthene-d10	5000	13.983				
1517-22-2	Phenanthrene-d10	10300	16.753				
1719-03-5	Chrysene-d12	2550	21.006				
1520-96-3	Perylene-d12	7090	23.105				

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

Alliance TECHNICAL GROUP
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Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	
Project:	CTO WE13			Date Received:	
Client Sample ID:	PB165012BS			SDG No.:	P4866
Lab Sample ID:	PB165012BS			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
BN035226.D	1	11/15/24 12:05	11/21/24 17:36	PB165012

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.38		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.33		30 - 150		82%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.26		30 - 150		66%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.22		55 - 111		56%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.086	*	53 - 106		22%	SPK: 0.4
1718-51-0	Terphenyl-d14	2.22	*	58 - 132		556%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3340	7.329				
1146-65-2	Naphthalene-d8	7690	10.073				
15067-26-2	Acenaphthene-d10	4260	13.986				
1517-22-2	Phenanthrene-d10	8290	16.746				
1719-03-5	Chrysene-d12	1030	21.008				
1520-96-3	Perylene-d12	1170	23.101				

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

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Report of Analysis

Client:	Tetra Tech NUS, Inc.			Date Collected:	
Project:	CTO WE13			Date Received:	
Client Sample ID:	PB165012BSD			SDG No.:	P4866
Lab Sample ID:	PB165012BSD			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
BN035227.D	1	11/15/24 12:05	11/21/24 18:12	PB165012

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.39		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.35		30 - 150		87%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.30		30 - 150		76%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.24		55 - 111		60%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.075	*	53 - 106		19%	SPK: 0.4
1718-51-0	Terphenyl-d14	2.27	*	58 - 132		567%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3070	7.329				
1146-65-2	Naphthalene-d8	6970	10.073				
15067-26-2	Acenaphthene-d10	4030	13.976				
1517-22-2	Phenanthrene-d10	7680	16.746				
1719-03-5	Chrysene-d12	1000	21.008				
1520-96-3	Perylene-d12	3420	23.098				

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

Response Factor Report BNA_N

Method Path : Z:\svoasrv\HPCHEM1\BNA_N\Methods\
Method File : 8270-SIM-BN111324.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
Last Update : Wed Nov 13 17:18:14 2024
Response Via : Initial Calibration

Calibration Files
0.1 =BN035062.D 0.2 =BN035063.D 0.4 =BN035064.D 0.8 =BN035065.D 1.6 =BN035066.D 3.2 =BN035067.D 5.0 =BN035068.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	0.410	0.382	0.335	0.371	0.367	0.348	0.329	0.363	7.76
3)		n-Nitrosodimet...	0.366	0.328	0.326	0.360	0.347	0.321	0.322	0.339	5.51
4)	S	2-Fluorophenol	1.073	1.039	0.949	1.086	1.034	0.966	0.961	1.015	5.54
5)	S	Phenol-d6	1.264	1.279	1.159	1.355	1.318	1.255	1.282	1.273	4.79
6)		bis(2-Chloroet...	0.972	0.949	0.893	1.027	0.995	0.925	0.929	0.956	4.77
7)	I	Naphthalene-d8	----------ISTD----------								
8)	S	Nitrobenzene-d5	0.358	0.338	0.320	0.368	0.356	0.344	0.353	0.348	4.53
9)		Naphthalene	1.088	1.009	0.977	1.116	1.085	1.010	1.027	1.044	4.96
10)		Hexachlorobuta...	0.324	0.305	0.293	0.326	0.315	0.289	0.291	0.306	5.12
11)	SURR	2-Methylnaphth...	0.694	0.683	0.664	0.762	0.753	0.703	0.731	0.713	5.13
12)		2-Methylnaphth...	0.742	0.748	0.711	0.823	0.815	0.765	0.789	0.770	5.29
13)	I	Acenaphthene-d10	----------ISTD----------								
14)	S	2,4,6-Tribromo...	0.281	0.262	0.240	0.300	0.299	0.308	0.331	0.289	10.57
15)	S	2-Fluorobiphenyl	1.701	1.576	1.460	1.735	1.687	1.599	1.614	1.624	5.73
16)		Acenaphthylene	1.715	1.616	1.488	1.822	1.775	1.756	1.795	1.709	6.93
17)		Acenaphthene	1.129	1.079	1.000	1.202	1.157	1.130	1.146	1.120	5.76
18)		Fluorene	1.704	1.591	1.463	1.755	1.708	1.656	1.659	1.648	5.86
19)	I	Phenanthrene-d10	----------ISTD----------								
20)		4,6-Dinitro-2-...	0.068	0.067	0.073	0.087	0.088	0.095	0.105	0.083	17.50
21)		4-Bromophenyl-...	0.256	0.240	0.246	0.272	0.267	0.252	0.252	0.255	4.41
22)		Hexachlorobenzene	0.275	0.259	0.253	0.277	0.273	0.258	0.258	0.264	3.79
23)		Atrazine	0.227	0.227	0.217	0.244	0.238	0.223	0.225	0.229	3.95
24)		Pentachlorophenol	0.106	0.101	0.104	0.130	0.130	0.141	0.154	0.124	16.69
25)		Phenanthrene	1.069	1.013	1.004	1.115	1.096	1.034	1.036	1.053	3.97
26)		Anthracene	0.917	0.904	0.920	1.024	1.016	0.986	1.001	0.967	5.32
27)	SURR	Fluoranthene-d10	1.196	1.178	1.169	1.288	1.284	1.222	1.240	1.225	3.91
28)		Fluoranthene	1.396	1.376	1.386	1.543	1.527	1.453	1.453	1.448	4.63
29)	I	Chrysene-d12	----------ISTD----------								
30)		Pyrene	1.339	1.290	1.288	1.424	1.367	1.301	1.317	1.332	3.70
31)	S	Terphenyl-d14	0.838	0.819	0.810	0.894	0.867	0.817	0.831	0.839	3.63
32)		Benzo(a)anthra...	1.421	1.368	1.328	1.464	1.416	1.355	1.396	1.393	3.31
33)		Chrysene	1.409	1.366	1.332	1.479	1.420	1.331	1.321	1.380	4.27
34)		Bis(2-ethylhex...	0.809	0.753	0.647	0.768	0.702	0.693	0.742	0.731	7.38
35)	I	Perylene-d12	----------ISTD----------								

Method Path : Z:\svoasrv\HPCHEM1\BNA_N\Methods\
Method File : 8270-SIM-BN111324.M

36)		Indeno(1,2,3-c...	1.609	1.515	1.522	1.730	1.659	1.550	1.585	1.596	4.88
37)		Benzo(b)fluora...	1.326	1.272	1.279	1.439	1.418	1.327	1.359	1.346	4.77
38)		Benzo(k)fluora...	1.342	1.288	1.287	1.418	1.410	1.323	1.358	1.347	3.94
39)	C	Benzo(a)pyrene	1.172	1.134	1.123	1.247	1.240	1.167	1.207	1.184	4.12
40)		Dibenzo(a,h)an...	1.248	1.195	1.210	1.375	1.322	1.235	1.265	1.264	5.06
41)		Benzo(g,h,i)pe...	1.380	1.288	1.286	1.452	1.386	1.294	1.328	1.345	4.71

(#) = Out of Range

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4866 SAS No.: P4866 SDG No.: P4866

Instrument ID: BNA_N Calibration Date/Time: 11/21/2024 13:22

Lab File ID: BN035219.D Init. Calib. Date(s): 11/13/2024 11/13/2024

EPA Sample No.: SSTDCCC0.4 Init. Calib. Time(s): 12:40 16:15

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.713	0.604		-15.3	20.0
Fluoranthene-d10	1.225	0.956		-22.0	20.0
2-Fluorophenol	1.015	1.174		15.7	20.0
Phenol-d6	1.273	1.472		15.6	20.0
Nitrobenzene-d5	0.348	0.208		-40.2	20.0
2-Fluorobiphenyl	1.624	0.299		-81.6	20.0
2,4,6-Tribromophenol	0.289	0.331		14.5	20.0
Terphenyl-d14	0.839	3.629		332.5	20.0
1,4-Dioxane	0.363	0.403		11.0	20.0

All other compounds must meet a minimum RRF of 0.010.

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P4866 SAS No.: P4866 SDG No.: P4866

Instrument ID: BNA_N Calibration Date/Time: 11/21/2024 23:01

Lab File ID: BN035235.D Init. Calib. Date(s): 11/13/2024 11/13/2024

EPA Sample No.: SSTDCCC0.4EC Init. Calib. Time(s): 12:40 16:15

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.713	0.581		-18.5	50.0
Fluoranthene-d10	1.225	0.987		-19.4	50.0
2-Fluorophenol	1.015	1.087		7.1	50.0
Phenol-d6	1.273	1.273		0.0	50.0
Nitrobenzene-d5	0.348	0.189		-45.7	50.0
2-Fluorobiphenyl	1.624	0.255		-84.3	50.0
2,4,6-Tribromophenol	0.289	0.242		-16.3	50.0
Terphenyl-d14	0.839	6.857		717.3	50.0
1,4-Dioxane	0.363	0.381		5.0	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: P4866

COC Number:

CLIENT INFORMATION	PROJECT INFORMATION	BILLING INFORMATION
COMPANY: Tetra Tech	PROJECT NAME: NWIRP Bethpage	BILL TO: PO#
ADDRESS: 4433 Corporation Ln, Suite 300	PROJECT #: 112G08005-WE13 LOCATION: RW7B	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	

DATA TURNAROUND INFORMATION

FAX: 10 DAYS*
HARD COPY: 10 DAYS*
EDD 10 DAYS*
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ☐ RESEULTS ONLY
- ☐ RESULTS + QC
- ☐ New Jersey REDUCED
- ☐ New Jersey CLP
- ☐ USEPA CLP
- ☐ New York State ASP "B"
- ☐ New York State ASP "A"
- ☐ Other
- ☐ EDD Format

ANALYSIS

	1	2	3	4	5	6	7	8	9
1,4-Dioxane SW846 8270 SIM									

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# of Bottles	PRESERVATIVES A	B	2	3	4	5	6	7	8	9	COMMENTS
1.	RW7-SP200-20241114	GW		x	~~11/7/24~~ 11/14/24	11:15	1	x										
2.	RW7-SP201-20241114	GW		x	~~11/7/24~~ 11/14/24	11:17	1	x										both samples collected 11/14/2024, EJW 11/15/24
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

<-- Specify Preservatives
A-HCl B-HNO3
C-H2SO4 D-NaOH
E-ICE F-Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	11/14/24 1530	1. 1533 11-14-24
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.		2.
RELINQUISHED BY	DATE/TIME	RECEIVED FOR LAB BY
3.	11-14-24 1830	3.

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 2.4°C
MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler?:
Comments:

Page 1 of 1

SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight
CHEMTECH: ☐ Picked Up ☐ Overnight

Shipment Complete
☐ YES ☐ NO

WHITE - CHEMTECH COPYFOR 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 (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488