

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 : P5282

ATTENTION : Ernie Wu



Laboratory Certification ID # 20012



1) Signature Page	3
2) Case Narrative	4
2.1) SVOC-SIMGroup1- Case Narrative	4
3) Qualifier Page	7
4) QA Checklist	8
5) SVOC-SIMGroup1 Data	9
6) Shipping Document	47
6.1) CHAIN OF CUSTODY	48
6.2) Lab Certificate	49

1
2
3
4
5
6

Cover Page

Order ID : P5282

Project ID : CTO WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

P5282-01
P5282-02
P5282-03
P5282-04

Client Sample Number

RW7-SP100-20241212
RW7-SP201-20241212
RW7-SP302-20241212
RW7-SP303-20241212

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: 12/27/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: CTO WE13

Project Manager : Ernie Wu

Chemtech Project # P5282

Test Name: SVOC-SIMGroup1

A. Number of Samples and Date of Receipt:

4 Water samples were received on 12/13/2024.

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-SP100-20241212 [Nitrobenzene-d5 - 114%, Terphenyl-d14 - 147%],
RW7-SP100-20241212DL [Nitrobenzene-d5 - 137%, Terphenyl-d14 - 163%],
RW7-SP201-20241212 [Nitrobenzene-d5 - 125%, Terphenyl-d14 - 147%],
RW7-SP302-20241212 [2-Fluorobiphenyl - 110%, Nitrobenzene-d5 - 122%, Terphenyl-d14 - 160%],
RW7-SP303-20241212 [2-Fluorobiphenyl - 117%, Nitrobenzene-d5 - 130%, Terphenyl-d14 - 171%],
PB165667BL [Terphenyl-d14 - 140%],
PB165667BS [Nitrobenzene-d5 - 116%], failing surrogates were not associated with client parameter list, therefore no corrective action taken.

The Internal Standards Areas met the acceptable requirements.

The Retention Times were acceptable for all samples.

The MS {P5280-04MS} with File ID: BN035735.D recoveries met the requirements for all compounds except for 1,4-Dioxane[133%] due to matrix interference.

The MSD {P5280-05MSD} with File ID: BN035736.D recoveries met the acceptable requirements except for 1,4-Dioxane[138%] due to matrix interference.

The RPD met criteria .

The Blank Spike 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 BN035731.D met the requirements except for 2,4,6-Tribromophenol which is Not associated with client parameter list, therefore no corrective action taken.

The Continuous Calibration File ID BN035747.D met the requirements except for 2,4,6-Tribromophenol, 2-Fluorobiphenyl, 2-Fluorophenol, Nitrobenzene-d5, Phenol-d6 and Terphenyl-d14 which are Not associated with client parameter list, therefore no corrective action taken.

The Continuous Calibration File ID BN035794.D met the requirements except for 2,4,6-Tribromophenol which is Not associated with client parameter list, therefore no corrective action taken.

The Continuous Calibration File ID BN035845.D met the requirements except for Nitrobenzene-d5 which is Not associated with client parameter list, therefore no corrective action taken.

The Tuning criteria met requirements.

Sample RW7-SP100-20241212 was diluted due to high concentration.

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 <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.



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

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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 #: P5282

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: 12/27/2024

LAB CHRONICLE

OrderID:	P5282	OrderDate:	12/13/2024 1:06:00 PM
Client:	Tetra Tech NUS, Inc.	Project:	CTO WE13
Contact:	Ernie Wu	Location:	L21

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5282-01	RW7-SP100-2024121 2	Water			12/12/24			12/13/24
			SVOC-SIMGroup1	8270-Modified		12/16/24	12/24/24	
P5282-01DL	RW7-SP100-2024121 2DL	Water			12/12/24			12/13/24
			SVOC-SIMGroup1	8270-Modified		12/16/24	12/26/24	
P5282-02	RW7-SP201-2024121 2	Water			12/12/24			12/13/24
			SVOC-SIMGroup1	8270-Modified		12/16/24	12/24/24	
P5282-03	RW7-SP302-2024121 2	Water			12/12/24			12/13/24
			SVOC-SIMGroup1	8270-Modified		12/16/24	12/24/24	
P5282-04	RW7-SP303-2024121 2	Water			12/12/24			12/13/24
			SVOC-SIMGroup1	8270-Modified		12/16/24	12/24/24	

Hit Summary Sheet SW-846

SDG No.: P5282
Client: Tetra Tech NUS, Inc.

Sample ID	Client ID	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : RW7-SP100-20241212								
P5282-01	RW7-SP100-20241212	WATER	1,4-Dioxane	6.000	E	0.07	0.2	ug/L
			Total Svoc :	6.00				
			Total Concentration:	6.00				
Client ID : RW7-SP100-20241212DL								
P5282-01DL	RW7-SP100-20241212DI	WATER	1,4-Dioxane	6.600	D	0.14	0.4	ug/L
			Total Svoc :	6.60				
			Total Concentration:	6.60				
Client ID : RW7-SP302-20241212								
P5282-03	RW7-SP302-20241212	WATER	1,4-Dioxane	0.260		0.07	0.2	ug/L
			Total Svoc :	0.26				
			Total Concentration:	0.26				
Client ID : RW7-SP303-20241212								
P5282-04	RW7-SP303-20241212	WATER	1,4-Dioxane	0.260		0.07	0.2	ug/L
			Total Svoc :	0.26				
			Total Concentration:	0.26				



SAMPLE DATA

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	RW7-SP100-20241212	SDG No.:	P5282
Lab Sample ID:	P5282-01	Matrix:	Water
Analytical Method:	SW8270ESIM	% 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035801.D	1	12/16/24 11:30	12/24/24 02:25	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	6.00	E	0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.37		30 - 150		92%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.45		30 - 150		113%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.46	*	55 - 111		114%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.38		53 - 106		95%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.59	*	58 - 132		147%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3180		7.264			
1146-65-2	Naphthalene-d8	7310		10.009			
15067-26-2	Acenaphthene-d10	4570		13.925			
1517-22-2	Phenanthrene-d10	8850		16.698			
1719-03-5	Chrysene-d12	7150		20.947			
1520-96-3	Perylene-d12	6970		23.032			

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:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	RW7-SP100-20241212DL	SDG No.:	P5282
Lab Sample ID:	P5282-01DL	Matrix:	Water
Analytical Method:	SW8270ESIM	% 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035857.D	2	12/16/24 11:30	12/26/24 17:18	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	6.60	D	0.14	0.40	0.40	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.42		30 - 150		106%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.53		30 - 150		132%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.55	*	55 - 111		137%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.42		53 - 106		104%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.65	*	58 - 132		163%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	2630	7.257				
1146-65-2	Naphthalene-d8	5960	10.009				
15067-26-2	Acenaphthene-d10	3990	13.925				
1517-22-2	Phenanthrene-d10	8600	16.698				
1719-03-5	Chrysene-d12	7270	20.947				
1520-96-3	Perylene-d12	7220	23.029				

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	RW7-SP201-20241212	SDG No.:	P5282
Lab Sample ID:	P5282-02	Matrix:	Water
Analytical Method:	SW8270ESIM	% 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035802.D	1	12/16/24 11:30	12/24/24 03:00	PB165667

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	0.38		30 - 150		94%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.45		30 - 150		113%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.50	*	55 - 111		125%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.42		53 - 106		104%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.59	*	58 - 132		147%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3110	7.265				
1146-65-2	Naphthalene-d8	7310	10.009				
15067-26-2	Acenaphthene-d10	4410	13.925				
1517-22-2	Phenanthrene-d10	8740	16.698				
1719-03-5	Chrysene-d12	7010	20.947				
1520-96-3	Perylene-d12	4960	23.035				

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D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	RW7-SP302-20241212	SDG No.:	P5282
Lab Sample ID:	P5282-03	Matrix:	Water
Analytical Method:	SW8270ESIM	% 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035803.D	1	12/16/24 11:30	12/24/24 03:36	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.26		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.41		30 - 150		103%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.51		30 - 150		128%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.49	*	55 - 111		122%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.44	*	53 - 106		110%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.64	*	58 - 132		160%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	2930		7.264			
1146-65-2	Naphthalene-d8	6520		10.009			
15067-26-2	Acenaphthene-d10	3960		13.924			
1517-22-2	Phenanthrene-d10	7720		16.698			
1719-03-5	Chrysene-d12	6410		20.947			
1520-96-3	Perylene-d12	6110		23.032			

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D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	RW7-SP303-20241212	SDG No.:	P5282
Lab Sample ID:	P5282-04	Matrix:	Water
Analytical Method:	SW8270ESIM	% Solid:	0
Sample Wt/Vol:	990 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035804.D	1	12/16/24 11:30	12/24/24 04:12	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.26		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.43		30 - 150		107%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.53		30 - 150		133%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.52	*	55 - 111		130%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.47	*	53 - 106		117%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.68	*	58 - 132		171%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3110	7.264				
1146-65-2	Naphthalene-d8	7130	10.009				
15067-26-2	Acenaphthene-d10	4220	13.924				
1517-22-2	Phenanthrene-d10	8490	16.698				
1719-03-5	Chrysene-d12	6560	20.947				
1520-96-3	Perylene-d12	6560	23.035				

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D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products



QC SUMMARY

Surrogate Summary

SW-846

SDG No.: P5282

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified

Lab Sample ID	Client ID	Parameter	Spike (PPM)	Result (PPM)	Recovery (%)	Qual	Limits (%)	
							Low	High
P5280-04MS	BPOW6-11-20241212MS	2-Methylnaphthalene-d10	0.4	0.32	79		30	150
		Fluoranthene-d10	0.4	0.38	95		30	150
		Nitrobenzene-d5	0.4	0.35	88		55	111
		2-Fluorobiphenyl	0.4	0.28	70		53	106
		Terphenyl-d14	0.4	0.49	122		58	132
P5280-05MSD	BPOW6-11-20241212MSD	2-Methylnaphthalene-d10	0.4	0.32	79		30	150
		Fluoranthene-d10	0.4	0.39	97		30	150
		Nitrobenzene-d5	0.4	0.36	89		55	111
		2-Fluorobiphenyl	0.4	0.28	69		53	106
		Terphenyl-d14	0.4	0.49	122		58	132
P5282-01	RW7-SP100-20241212	2-Methylnaphthalene-d10	0.4	0.37	92		30	150
		Fluoranthene-d10	0.4	0.45	113		30	150
		Nitrobenzene-d5	0.4	0.46	114	*	55	111
		2-Fluorobiphenyl	0.4	0.38	95		53	106
		Terphenyl-d14	0.4	0.59	147	*	58	132
P5282-01DL	RW7-SP100-20241212DL	2-Methylnaphthalene-d10	0.4	0.42	106		30	150
		Fluoranthene-d10	0.4	0.53	132		30	150
		Nitrobenzene-d5	0.4	0.55	137	*	55	111
		2-Fluorobiphenyl	0.4	0.42	104		53	106
		Terphenyl-d14	0.4	0.65	163	*	58	132
P5282-02	RW7-SP201-20241212	2-Methylnaphthalene-d10	0.4	0.38	94		30	150
		Fluoranthene-d10	0.4	0.45	113		30	150
		Nitrobenzene-d5	0.4	0.50	125	*	55	111
		2-Fluorobiphenyl	0.4	0.42	104		53	106
		Terphenyl-d14	0.4	0.59	147	*	58	132
P5282-03	RW7-SP302-20241212	2-Methylnaphthalene-d10	0.4	0.41	103		30	150
		Fluoranthene-d10	0.4	0.51	128		30	150
		Nitrobenzene-d5	0.4	0.49	122	*	55	111
		2-Fluorobiphenyl	0.4	0.44	110	*	53	106
		Terphenyl-d14	0.4	0.64	160	*	58	132
P5282-04	RW7-SP303-20241212	2-Methylnaphthalene-d10	0.4	0.43	107		30	150
		Fluoranthene-d10	0.4	0.53	133		30	150
		Nitrobenzene-d5	0.4	0.52	130	*	55	111
		2-Fluorobiphenyl	0.4	0.47	117	*	53	106
		Terphenyl-d14	0.4	0.68	171	*	58	132
PB165667BL	PB165667BL	2-Methylnaphthalene-d10	0.4	0.37	92		30	150
		Fluoranthene-d10	0.4	0.38	95		30	150
		Nitrobenzene-d5	0.4	0.43	107		55	111
		2-Fluorobiphenyl	0.4	0.36	89		53	106
		Terphenyl-d14	0.4	0.56	140	*	58	132
PB165667BS	PB165667BS	2-Methylnaphthalene-d10	0.4	0.46	115		30	150
		Fluoranthene-d10	0.4	0.37	92		30	150
		Nitrobenzene-d5	0.4	0.47	116	*	55	111
		2-Fluorobiphenyl	0.4	0.40	100		53	106
		Terphenyl-d14	0.4	0.43	108		58	132

Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: P5282

Client: Tetra Tech NUS, Inc.

Analytical Method: SW8270-Modified

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Low	Limits High	RPD
Lab Sample ID:	P5280-04MS	Client Sample ID:	BPOW6-11-20241212MS					DataFile:	BN035735.D		
1,4-Dioxane	0.4	0	0.53	ug/L	133	*			70	130	

Matrix Spike/Matrix Spike Duplicate Summary

SW-846

SDG No.: P5282

Client: Tetra Tech NUS, Inc.

Analytical Method: SW8270-Modified

Parameter	Spike	Sample Result	Result	Units	Rec	Rec Qual	RPD	RPD Qual	Low	Limits High	RPD
Lab Sample ID:	P5280-05MSD	Client Sample ID:	BPOW6-11-20241212MSD					DataFile:	BN035736.D		
1,4-Dioxane	0.4	0	0.55	ug/L	138	*	4		70	130	20

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: P5282

Client: Tetra Tech NUS, Inc.

Analytical Method: 8270-Modified DataFile: BN035808.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	RPD	Limits		RPD
								Qual	Low	High	
PB165667BS	1,4-Dioxane	0.4	0.37	ug/L	93				70	130	

A
B
C
D
E
F
G

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB165667BL

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM Case No.: P5282

SAS No.: P5282 SDG NO.: P5282

Lab File ID: BN035795.D

Lab Sample ID: PB165667BL

Instrument ID: BNA_N

Date Extracted: 12/16/2024

Matrix: (soil/water) Water

Date Analyzed: 12/23/2024

Level: (low/med) LOW

Time Analyzed: 22:52

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB165667BS	PB165667BS	BN035808.D	12/24/2024
BPOW6-11-20241212MS	P5280-04MS	BN035735.D	12/20/2024
BPOW6-11-20241212MSD	P5280-05MSD	BN035736.D	12/20/2024
RW7-SP100-20241212	P5282-01	BN035801.D	12/24/2024
RW7-SP201-20241212	P5282-02	BN035802.D	12/24/2024
RW7-SP302-20241212	P5282-03	BN035803.D	12/24/2024
RW7-SP303-20241212	P5282-04	BN035804.D	12/24/2024

COMMENTS: _____

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P5282

SDG NO.: P5282

Lab File ID: BN035349.D

DFTPP Injection Date: 11/27/2024

Instrument ID: BNA_N

DFTPP Injection Time: 14:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	21.6
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	28.9
70	Less than 2.0% of mass 69	0.1 (0.4) 1
127	10.0 - 80.0% of mass 198	39.4
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	6.7
275	10.0 - 60.0% of mass 198	27.9
365	Greater than 1% of mass 198	4.6
441	Present, but less than mass 443	11.5
442	Greater than 50% of mass 198	70.8
443	15.0 - 24.0% of mass 442	14 (19.7) 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	BN035350.D	11/27/2024	15:34
SSTDICC0.2	SSTDICC0.2	BN035351.D	11/27/2024	16:10
SSTDICCC0.4	SSTDICCC0.4	BN035352.D	11/27/2024	16:46
SSTDICC0.8	SSTDICC0.8	BN035353.D	11/27/2024	17:21
SSTDICC1.6	SSTDICC1.6	BN035354.D	11/27/2024	17:57
SSTDICC3.2	SSTDICC3.2	BN035355.D	11/27/2024	18:33
SSTDICC5.0	SSTDICC5.0	BN035356.D	11/27/2024	19:09

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P5282 SDG NO.: P5282

Lab File ID: BN035730.D

DFTPP Injection Date: 12/20/2024

Instrument ID: BNA_N

DFTPP Injection Time: 07:25

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	22.5
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	31.3
70	Less than 2.0% of mass 69	0.2 (0.5) 1
127	10.0 - 80.0% of mass 198	38.3
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	6.8
275	10.0 - 60.0% of mass 198	28.6
365	Greater than 1% of mass 198	4.1
441	Present, but less than mass 443	13.2
442	Greater than 50% of mass 198	78.5
443	15.0 - 24.0% of mass 442	15.5 (19.8) 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	BN035731.D	12/20/2024	08:04
BPOW6-11-20241212MS	P5280-04MS	BN035735.D	12/20/2024	11:05
BPOW6-11-20241212MSD	P5280-05MSD	BN035736.D	12/20/2024	11:41
SSTDCCC0.4EC	SSTDCCC0.4	BN035747.D	12/20/2024	18:18

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P5282 SDG NO.: P5282

Lab File ID: BN035793.D

DFTPP Injection Date: 12/23/2024

Instrument ID: BNA_N

DFTPP Injection Time: 20:26

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	23.2
68	Less than 2.0% of mass 69	0.0 (0.0) 1
69	Mass 69 relative abundance	32.6
70	Less than 2.0% of mass 69	0.2 (0.6) 1
127	10.0 - 80.0% of mass 198	39.9
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	6.8
275	10.0 - 60.0% of mass 198	26.6
365	Greater than 1% of mass 198	3.7
441	Present, but less than mass 443	11.1
442	Greater than 50% of mass 198	61.1
443	15.0 - 24.0% of mass 442	13.8 (22.6) 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	BN035794.D	12/23/2024	22:16
PB165667BL	PB165667BL	BN035795.D	12/23/2024	22:52
RW7-SP100-20241212	P5282-01	BN035801.D	12/24/2024	02:25
RW7-SP201-20241212	P5282-02	BN035802.D	12/24/2024	03:00
RW7-SP302-20241212	P5282-03	BN035803.D	12/24/2024	03:36
RW7-SP303-20241212	P5282-04	BN035804.D	12/24/2024	04:12
PB165667BS	PB165667BS	BN035808.D	12/24/2024	06:34
SSTDCCC0.4EC	SSTDCCC0.4	BN035809.D	12/24/2024	07:09

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH

Contract: TETR06

Lab Code: CHEM

SAS No.: P5282

SDG NO.: P5282

Lab File ID: BN035844.D

DFTPP Injection Date: 12/26/2024

Instrument ID: BNA_N

DFTPP Injection Time: 09:19

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24
68	Less than 2.0% of mass 69	0.2 (0.6) 1
69	Mass 69 relative abundance	32.9
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	6.7
275	10.0 - 60.0% of mass 198	27.1
365	Greater than 1% of mass 198	3.9
441	Present, but less than mass 443	11.5
442	Greater than 50% of mass 198	68.6
443	15.0 - 24.0% of mass 442	14.1 (20.5) 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	BN035845.D	12/26/2024	09:58
RW7-SP100-20241212DL	P5282-01DL	BN035857.D	12/26/2024	17:18
SSTDCCC0.4EC	SSTDCCC0.4	BN035861.D	12/26/2024	19:41

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: P5282 SAS No.: P5282 SDG NO.: P5282

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 12/20/2024

Lab File ID: BN035731.D Time Analyzed: 08:04

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	3239	7.271	8431	10.02	5341	13.92
UPPER LIMIT	6478	7.771	16862	10.52	10682	14.424
LOWER LIMIT	1619.5	6.771	4215.5	9.52	2670.5	13.424
EPA SAMPLE NO.						
01 BPOW6-11-20241212MS	3051	7.27	8358	10.01	5197	13.92
02 BPOW6-11-20241212MSD	3357	7.27	9243	10.01	5773	13.92

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.: P5282 SAS No.: P5282 SDG NO.: P5282

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 12/20/2024

Lab File ID: BN035731.D Time Analyzed: 08:04

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	10575	16.698	8878	20.956	9229	23.038
UPPER LIMIT	21150	17.198	17756	21.456	18458	23.538
LOWER LIMIT	5287.5	16.198	4439	20.456	4614.5	22.538
EPA SAMPLE NO.						
01 BPOW6-11-20241212MS	10502	16.70	9278	20.95	9467	23.04
02 BPOW6-11-20241212MSD	12117	16.70	11029	20.95	11370	23.04

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.: P5282 SAS No.: P5282 SDG NO.: P5282

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 12/23/2024

Lab File ID: BN035794.D Time Analyzed: 22:16

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	3234	7.264	7877	10.01	4482	13.92
UPPER LIMIT	6468	7.764	15754	10.509	8964	14.424
LOWER LIMIT	1617	6.764	3938.5	9.509	2241	13.424
EPA SAMPLE NO.						
01 RW7-SP100-20241212	3177	7.26	7310	10.01	4565	13.93
02 RW7-SP201-20241212	3105	7.27	7312	10.01	4411	13.93
03 RW7-SP302-20241212	2931	7.26	6518	10.01	3960	13.92
04 RW7-SP303-20241212	3113	7.26	7128	10.01	4215	13.92
05 PB165667BL	4926	7.26	11442	10.01	7253	13.92
06 PB165667BS	4067	7.26	9754	10.01	5527	13.91

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.: P5282 SAS No.: P5282 SDG NO.: P5282

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 12/23/2024

Lab File ID: BN035794.D Time Analyzed: 22:16

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	8845	16.698	7163	20.947	7277	23.032
UPPER LIMIT	17690	17.198	14326	21.447	14554	23.532
LOWER LIMIT	4422.5	16.198	3581.5	20.447	3638.5	22.532
EPA SAMPLE NO.						
01 RW7-SP100-20241212	8849	16.70	7146	20.95	6969	23.03
02 RW7-SP201-20241212	8736	16.70	7014	20.95	4957	23.04
03 RW7-SP302-20241212	7717	16.70	6406	20.95	6112	23.03
04 RW7-SP303-20241212	8493	16.70	6562	20.95	6560	23.04
05 PB165667BL	12605	16.71	9944	20.96	9785	23.04
06 PB165667BS	10920	16.70	9467	20.95	9435	23.03

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.: P5282 SAS No.: P5282 SDG NO.: P5282

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 12/26/2024

Lab File ID: BN035845.D Time Analyzed: 09:58

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	3755	7.257	9322	10.00	5387	13.91
UPPER LIMIT	7510	7.757	18644	10.499	10774	14.414
LOWER LIMIT	1877.5	6.757	4661	9.499	2693.5	13.414
EPA SAMPLE NO.						
01 RW7-SP100-20241212DL	2631	7.26	5958	10.01	3986	13.93

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.: P5282 SAS No.: P5282 SDG NO.: P5282

EPA Sample No.: SSTDCCC0.4 Date Analyzed: 12/26/2024

Lab File ID: BN035845.D Time Analyzed: 09:58

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	11262	16.686	9932	20.938	10817	23.021
UPPER LIMIT	22524	17.186	19864	21.438	21634	23.521
LOWER LIMIT	5631	16.186	4966	20.438	5408.5	22.521
EPA SAMPLE NO.						
01 RW7-SP100-20241212DL	8604	16.70	7270	20.95	7223	23.03

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:	PB165667BL		SDG No.:	P5282	
Lab Sample ID:	PB165667BL		Matrix:	Water	
Analytical Method:	SW8270ESIM		% 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 :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035795.D	1	12/16/24 11:30	12/23/24 22:52	PB165667

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	0.37		30 - 150		92%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.38		30 - 150		95%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.43		55 - 111		107%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.36		53 - 106		89%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.56	*	58 - 132		140%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	4930	7.264				
1146-65-2	Naphthalene-d8	11400	10.009				
15067-26-2	Acenaphthene-d10	7250	13.924				
1517-22-2	Phenanthrene-d10	12600	16.711				
1719-03-5	Chrysene-d12	9940	20.956				
1520-96-3	Perylene-d12	9790	23.038				

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:	PB165667BS		SDG No.:	P5282	
Lab Sample ID:	PB165667BS		Matrix:	Water	
Analytical Method:	SW8270ESIM		% 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 :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035808.D	1	12/16/24 11:30	12/24/24 06:34	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.37		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.46		30 - 150		115%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.37		30 - 150		92%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.47	*	55 - 111		116%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.40		53 - 106		100%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.43		58 - 132		108%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	4070	7.264				
1146-65-2	Naphthalene-d8	9750	10.009				
15067-26-2	Acenaphthene-d10	5530	13.914				
1517-22-2	Phenanthrene-d10	10900	16.698				
1719-03-5	Chrysene-d12	9470	20.947				
1520-96-3	Perylene-d12	9440	23.032				

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:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	BPOW6-11-20241212MS	SDG No.:	P5282
Lab Sample ID:	P5280-04MS	Matrix:	Water
Analytical Method:	SW8270ESIM	% Solid:	0
Sample Wt/Vol:	990 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035735.D	1	12/16/24 11:30	12/20/24 11:05	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.53		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.32		30 - 150		79%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.38		30 - 150		95%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.35		55 - 111		88%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.28		53 - 106		70%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.49		58 - 132		122%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3050	7.271				
1146-65-2	Naphthalene-d8	8360	10.009				
15067-26-2	Acenaphthene-d10	5200	13.924				
1517-22-2	Phenanthrene-d10	10500	16.698				
1719-03-5	Chrysene-d12	9280	20.947				
1520-96-3	Perylene-d12	9470	23.038				

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:	12/12/24
Project:	CTO WE13	Date Received:	12/13/24
Client Sample ID:	BPOW6-11-20241212MSD	SDG No.:	P5282
Lab Sample ID:	P5280-05MSD	Matrix:	Water
Analytical Method:	SW8270ESIM	% Solid:	0
Sample Wt/Vol:	990 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 :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BN035736.D	1	12/16/24 11:30	12/20/24 11:41	PB165667

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
123-91-1	1,4-Dioxane	0.55		0.070	0.20	0.20	ug/L
SURROGATES							
7297-45-2	2-Methylnaphthalene-d10	0.32		30 - 150		79%	SPK: 0.4
93951-69-0	Fluoranthene-d10	0.39		30 - 150		97%	SPK: 0.4
4165-60-0	Nitrobenzene-d5	0.36		55 - 111		89%	SPK: 0.4
321-60-8	2-Fluorobiphenyl	0.28		53 - 106		69%	SPK: 0.4
1718-51-0	Terphenyl-d14	0.49		58 - 132		122%	SPK: 0.4
INTERNAL STANDARDS							
3855-82-1	1,4-Dichlorobenzene-d4	3360	7.272				
1146-65-2	Naphthalene-d8	9240	10.009				
15067-26-2	Acenaphthene-d10	5770	13.924				
1517-22-2	Phenanthrene-d10	12100	16.698				
1719-03-5	Chrysene-d12	11000	20.947				
1520-96-3	Perylene-d12	11400	23.038				

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-BN112724.M
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 Last Update : Wed Nov 27 23:03:24 2024
 Response Via : Initial Calibration

Calibration Files

0.1 =BN035350.D 0.2 =BN035351.D 0.4 =BN035352.D 0.8 =BN035353.D 1.6 =BN035354.D 3.2 =BN035355.D 5.0 =BN035356.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	0.406	0.417	0.376	0.380	0.392	0.357	0.348	0.382	6.52
3)	n-Nitrosodimet...	0.334	0.302	0.326	0.315	0.332	0.310	0.309	0.319	3.92
4) S	2-Fluorophenol	1.025	1.112	1.018	0.958	0.998	0.954	0.942	1.001	5.88
5) S	Phenol-d6	1.227	1.186	1.193	1.143	1.235	1.215	1.229	1.204	2.69
6)	bis(2-Chloroet...	1.035	1.021	0.992	0.993	1.051	0.997	0.991	1.012	2.39
7) I	Naphthalene-d8	-----ISTD-----								
8) S	Nitrobenzene-d5	0.227	0.232	0.235	0.248	0.257	0.251	0.261	0.244	5.31
9)	Naphthalene	1.062	1.029	1.047	1.032	1.096	1.049	1.070	1.055	2.22
10)	Hexachlorobuta...	0.245	0.242	0.247	0.241	0.255	0.236	0.238	0.243	2.60
11) SURR2	Methylnaphth...	0.591	0.603	0.619	0.615	0.659	0.639	0.656	0.626	4.16
12)	2-Methylnaphth...	0.724	0.716	0.740	0.747	0.795	0.771	0.795	0.755	4.25
13) I	Acenaphthene-d10	-----ISTD-----								
14) S	2,4,6-Tribromo...	0.273	0.258	0.257	0.268	0.293	0.311	0.328	0.284	9.67
15) S	2-Fluorobiphenyl	1.489	1.491	1.510	1.508	1.566	1.511	1.511	1.512	1.68
16)	Acenaphthylene	1.643	1.600	1.595	1.638	1.737	1.763	1.781	1.680	4.68
17)	Acenaphthene	1.121	1.084	1.086	1.108	1.145	1.122	1.140	1.115	2.17
18)	Fluorene	1.589	1.549	1.543	1.600	1.652	1.614	1.625	1.596	2.47
19) I	Phenanthrene-d10	-----ISTD-----								
20)	4,6-Dinitro-2-...	0.038	0.031	0.036	0.041	0.051			0.039	19.30
21)	4-Bromophenyl-...	0.226	0.218	0.226	0.233	0.249	0.242	0.244	0.234	4.85
22)	Hexachlorobenzene	0.265	0.266	0.273	0.276	0.288	0.278	0.277	0.275	2.82
23)	Atrazine	0.155	0.155	0.154	0.156	0.175	0.179	0.191	0.167	8.98
24)	Pentachlorophenol	0.140	0.090	0.095	0.103	0.121	0.136	0.150	0.120	19.86
25)	Phenanthrene	1.092	1.046	1.067	1.092	1.148	1.121	1.125	1.099	3.20
26)	Anthracene	0.964	0.923	0.940	0.973	1.050	1.042	1.064	0.994	5.76
27) SURR	Fluoranthene-d10	1.203	1.086	1.077	1.105	1.165	1.138	1.164	1.134	4.10
28)	Fluoranthene	1.538	1.396	1.416	1.456	1.539	1.497	1.526	1.481	3.99
29) I	Chrysene-d12	-----ISTD-----								
30)	Pyrene	1.583	1.445	1.475	1.443	1.519	1.440	1.431	1.477	3.79
31) S	Terphenyl-d14	0.832	0.777	0.791	0.771	0.812	0.772	0.769	0.789	3.08
32)	Benzo(a)anthra...	1.431	1.343	1.355	1.375	1.451	1.411	1.429	1.399	2.98
33)	Chrysene	1.463	1.452	1.441	1.415	1.487	1.422	1.420	1.443	1.84
34)	Bis(2-ethylhex...	0.710	0.558	0.516	0.505	0.520	0.516	0.544	0.553	12.96
35) I	Perylene-d12	-----ISTD-----								

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

Method File : 8270-SIM-BN112724.M

36)	Indeno(1,2,3-c...	1.411	1.489	1.532	1.554	1.660	1.615	1.685	1.564	6.22
37)	Benzo(b)fluora...	1.305	1.348	1.313	1.378	1.827	1.463	1.608	1.463	13.12
38)	Benzo(k)fluora...	1.444	1.376	1.402	1.419	1.527	1.447	1.468	1.440	3.39
39) C	Benzo(a)pyrene	1.204	1.156	1.146	1.171	1.256	1.232	1.271	1.205	4.11
40)	Dibenzo(a,h)an...	1.104	1.187	1.194	1.226	1.315	1.280	1.332	1.234	6.55
41)	Benzo(g,h,i)pe...	1.188	1.238	1.248	1.269	1.360	1.330	1.394	1.289	5.71

(#) = Out of Range

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: TETR06

Lab Code: CHEM Case No.: P5282 SAS No.: P5282 SDG No.: P5282

Instrument ID: BNA_N Calibration Date/Time: 12/20/2024 08:04

Lab File ID: BN035731.D Init. Calib. Date(s): 11/27/2024 11/27/2024

EPA Sample No.: SSTDCCC0.4 Init. Calib. Time(s): 15:34 19:09

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.626	0.562		-10.2	20.0
Fluoranthene-d10	1.134	0.985		-13.1	20.0
2-Fluorophenol	1.001	0.990		-1.1	20.0
Phenol-d6	1.204	1.140		-5.3	20.0
Nitrobenzene-d5	0.244	0.284		16.4	20.0
2-Fluorobiphenyl	1.512	1.376		-9.0	20.0
2,4,6-Tribromophenol	0.284	0.221		-22.2	20.0
Terphenyl-d14	0.789	0.839		6.3	20.0
1,4-Dioxane	0.382	0.405		6.0	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.: P5282 SAS No.: P5282 SDG No.: P5282

Instrument ID: BNA_N Calibration Date/Time: 12/20/2024 18:18

Lab File ID: BN035747.D Init. Calib. Date(s): 11/27/2024 11/27/2024

EPA Sample No.: SSTDCCC0.4EC Init. Calib. Time(s): 15:34 19:09

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.626	0.618		-1.3	50.0
Fluoranthene-d10	1.134	1.034		-8.8	50.0
2-Fluorophenol	1.001	0.002		-99.8	50.0
Phenol-d6	1.204	0.025		-97.9	50.0
Nitrobenzene-d5	0.244	0.005		-98.0	50.0
2-Fluorobiphenyl	1.512	0.002		-99.9	50.0
2,4,6-Tribromophenol	0.284	0.001		-99.6	50.0
Terphenyl-d14	0.789	0.003		-99.6	50.0
1,4-Dioxane	0.382	0.448		17.3	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.: P5282 SAS No.: P5282 SDG No.: P5282

Instrument ID: BNA_N Calibration Date/Time: 12/23/2024 22:16

Lab File ID: BN035794.D Init. Calib. Date(s): 11/27/2024 11/27/2024

EPA Sample No.: SSTDCCC0.4 Init. Calib. Time(s): 15:34 19:09

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.626	0.540		-13.7	20.0
Fluoranthene-d10	1.134	0.950		-16.2	20.0
2-Fluorophenol	1.001	0.924		-7.7	20.0
Phenol-d6	1.204	1.016		-15.6	20.0
Nitrobenzene-d5	0.244	0.278		13.9	20.0
2-Fluorobiphenyl	1.512	1.529		1.1	20.0
2,4,6-Tribromophenol	0.284	0.208		-26.8	20.0
Terphenyl-d14	0.789	0.785		-0.5	20.0
1,4-Dioxane	0.382	0.419		9.7	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.: P5282 SAS No.: P5282 SDG No.: P5282

Instrument ID: BNA_N Calibration Date/Time: 12/24/2024 07:09

Lab File ID: BN035809.D Init. Calib. Date(s): 11/27/2024 11/27/2024

EPA Sample No.: SSTDCCC0.4EC Init. Calib. Time(s): 15:34 19:09

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.626	0.563		-10.1	50.0
Fluoranthene-d10	1.134	0.947		-16.5	50.0
2-Fluorophenol	1.001	0.946		-5.5	50.0
Phenol-d6	1.204	1.086		-9.8	50.0
Nitrobenzene-d5	0.244	0.307		25.8	50.0
2-Fluorobiphenyl	1.512	1.535		1.5	50.0
2,4,6-Tribromophenol	0.284	0.224		-21.1	50.0
Terphenyl-d14	0.789	0.817		3.5	50.0
1,4-Dioxane	0.382	0.382		0.0	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.: P5282 SAS No.: P5282 SDG No.: P5282

Instrument ID: BNA_N Calibration Date/Time: 12/26/2024 09:58

Lab File ID: BN035845.D Init. Calib. Date(s): 11/27/2024 11/27/2024

EPA Sample No.: SSTDCCC0.4 Init. Calib. Time(s): 15:34 19:09

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.626	0.545		-12.9	20.0
Fluoranthene-d10	1.134	0.991		-12.6	20.0
2-Fluorophenol	1.001	1.006		0.5	20.0
Phenol-d6	1.204	1.112		-7.6	20.0
Nitrobenzene-d5	0.244	0.298		22.1	20.0
2-Fluorobiphenyl	1.512	1.504		-0.5	20.0
2,4,6-Tribromophenol	0.284	0.248		-12.7	20.0
Terphenyl-d14	0.789	0.784		-0.6	20.0
1,4-Dioxane	0.382	0.405		6.0	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.: P5282 SAS No.: P5282 SDG No.: P5282

Instrument ID: BNA_N Calibration Date/Time: 12/26/2024 19:41

Lab File ID: BN035861.D Init. Calib. Date(s): 11/27/2024 11/27/2024

EPA Sample No.: SSTDCCC0.4EC Init. Calib. Time(s): 15:34 19:09

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

COMPOUND	RRF	RRF0.4	MIN RRF	%D	MAX%D
2-Methylnaphthalene-d10	0.626	0.551		-12.0	50.0
Fluoranthene-d10	1.134	0.922		-18.7	50.0
2-Fluorophenol	1.001	0.931		-7.0	50.0
Phenol-d6	1.204	1.022		-15.1	50.0
Nitrobenzene-d5	0.244	0.306		25.4	50.0
2-Fluorobiphenyl	1.512	1.480		-2.1	50.0
2,4,6-Tribromophenol	0.284	0.225		-20.8	50.0
Terphenyl-d14	0.789	0.898		13.8	50.0
1,4-Dioxane	0.382	0.394		3.1	50.0

All other compounds must meet a minimum RRF of 0.010.



SHIPPING DOCUMENTS

P5282

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