

## **ANALYTICAL RESULTS SUMMARY**

GENERAL CHEMISTRY

**PROJECT NAME : NWIRP CALVERTON SITE 16 PHASE 3 RI**

**TETRA TECH NUS, INC.**

**661 Andersen Drive**

**Suite 200**

**Pittsburgh, PA - 15220-2745**

**Phone No: 412-921-7090**

**ORDER ID : P5113**

**ATTENTION : Corey Rich**



**Laboratory Certification ID # 20012**



1) Signature Page	3
2) Case Narrative	4
2.1) Genchem- Case Narrative	4
3) Qualifier Page	5
4) QA Checklist	6
5) Genchem Data	7
6) Shipping Document	19
6.1) CHAIN OF CUSTODY	20
6.2) Lab Certificate	21

1

2

3

4

5

6

## Cover Page

**Order ID :** P5113

**Project ID :** NWIRP Calverton Site 16 Phase 3 RI

**Client :** Tetra Tech NUS, Inc.

**Lab Sample Number**

P5113-01  
P5113-02

**Client Sample Number**

FES-SB406-4345  
FES-SB406-7375

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 : \_\_\_\_\_

**APPROVED**

*By Nimisha Pandya, QA/QC Supervisor at 9:51 am, Dec 17, 2024*

Date: 12/10/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

## **CASE NARRATIVE**

**Tetra Tech NUS, Inc.**

**Project Name: NWIRP Calverton Site 16 Phase 3 RI**

**Project # N/A**

**Chemtech Project # P5113**

**Test Name: TOC**

### **A. Number of Samples and Date of Receipt:**

2 Solid samples were received on 12/05/2024.

### **B. Parameters:**

According to the Chain of Custody document, the following analyses were requested: TOC. This data package contains results for TOC.

### **C. Analytical Techniques:**

The analysis of TOC was based on method 9060A.

### **D. QA/ QC Samples:**

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Matrix Spike Duplicate analysis met criteria for all samples.

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

The Calibration met the requirements.

### **E. Additional Comments:**

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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\_\_\_\_\_

**APPROVED**

*By Nimisha Pandya, QA/QC Supervisor at 9:51 am, Dec 17, 2024*

## DATA REPORTING QUALIFIERS- INORGANIC

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

<b>J</b>	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
<b>U</b>	Indicates the analyte was analyzed for, but not detected.
<b>ND</b>	Indicates the analyte was analyzed for, but not detected
<b>E</b>	Indicates the reported value is estimated because of the presence of interference
<b>M</b>	Indicates Duplicate injection precision not met.
<b>N</b>	Indicates the spiked sample recovery is not within control limits.
<b>S</b>	Indicates the reported value was determined by the Method of Standard Addition (MSA).
<b>*</b>	Indicates that the duplicate analysis is not within control limits.
<b>+</b>	Indicates the correlation coefficient for the MSA is less than 0.995.
<b>D</b>	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
<b>M</b>	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
<b>OR</b>	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
<b>Q</b>	Indicates the LCS did not meet the control limits requirements
<b>H</b>	Sample Analysis Out Of Hold Time

## APPENDIX A

### QA REVIEW GENERAL DOCUMENTATION

Project #: P5113

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: 12/10/2024

LAB CHRONICLE

OrderID:	P5113	OrderDate:	12/5/2024 10:53:00 AM
Client:	Tetra Tech NUS, Inc.	Project:	NWIRP Calverton Site 16 Phase 3 RI
Contact:	Corey Rich	Location:	L31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5113-01	FES-SB406-4345	SOIL	TOC	9060A	12/04/24 10:45		12/06/24 12:09	12/05/24
P5113-02	FES-SB406-7375	SOIL	TOC	9060A	12/04/24 13:00		12/06/24 13:00	12/05/24



# SAMPLE DATA



## Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	12/04/24 10:45
Project:	NWIRP Calverton Site 16 Phase 3 RI	Date Received:	12/05/24
Client Sample ID:	FES-SB406-4345	SDG No.:	P5113
Lab Sample ID:	P5113-01	Matrix:	SOIL
		% Solid:	88.4

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
TOC	277		1	19.8	50.0	250	mg/Kg		12/06/24 12:09	9060A

Comments: \_\_\_\_\_

U = Not Detected  
LOQ = Limit of Quantitation  
MDL = Method Detection Limit  
LOD = Limit of Detection  
D = Dilution  
Q = indicates LCS control criteria did not meet requirements  
H = Sample Analysis Out Of Hold Time

J = Estimated Value  
B = Analyte Found in Associated Method Blank  
\* = indicates the duplicate analysis is not within control limits.  
E = Indicates the reported value is estimated because of the presence of interference.  
OR = Over Range  
N =Spiked sample recovery not within control limits

## Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	12/04/24 13:00
Project:	NWIRP Calverton Site 16 Phase 3 RI	Date Received:	12/05/24
Client Sample ID:	FES-SB406-7375	SDG No.:	P5113
Lab Sample ID:	P5113-02	Matrix:	SOIL
		% Solid:	78.7

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
TOC	397		1	19.8	50.0	250	mg/Kg		12/06/24 13:00	9060A

Comments: \_\_\_\_\_

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 D = Dilution  
 Q = indicates LCS control criteria did not meet requirements  
 H = Sample Analysis Out Of Hold Time

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 \* = indicates the duplicate analysis is not within control limits.  
 E = Indicates the reported value is estimated because of the presence of interference.  
 OR = Over Range  
 N =Spiked sample recovery not within control limits



# QC RESULT SUMMARY

## Initial and Continuing Calibration Verification

**Client:** Tetra Tech NUS, Inc.

**SDG No.:** P5113

**Project:** NWIRP Calverton Site 16 Phase 3 RI

**RunNo.:** LB133779

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	<b>ICV1</b>						
TOC		mg/L	934	1000	93	90-110	11/12/2024
Sample ID:	<b>CCV1</b>						
TOC		mg/L	937	1000	94	90-110	12/06/2024
Sample ID:	<b>CCV2</b>						
TOC		mg/L	999	1000	100	90-110	12/06/2024

### Initial and Continuing Calibration Blank Summary

**Client:** Tetra Tech NUS, Inc.

**SDG No.:** P5113

**Project:** NWIRP Calverton Site 16 Phase 3 RI

**RunNo.:** LB133779

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: <b>ICB1</b> TOC	mg/L	< 125.0000	125.0000	U	22.3	250	11/12/2024
Sample ID: <b>CCB1</b> TOC	mg/L	< 125.0000	125.0000	U	22.3	250	12/06/2024
Sample ID: <b>CCB2</b> TOC	mg/L	< 125.0000	125.0000	U	22.3	250	12/06/2024

## Preparation Blank Summary

**Client:** Tetra Tech NUS, Inc.

**SDG No.:** P5113

**Project:** NWIRP Calverton Site 16 Phase 3 RI

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	<b>LB133779BLS</b>						
TOC	mg/Kg	< 125.0000	125.0000	U	19.8	250	12/06/2024

## Matrix Spike Summary

<b>Client:</b>	Tetra Tech NUS, Inc.	<b>SDG No.:</b>	P5113
<b>Project:</b>	NWIRP Calverton Site 16 Phase 3 RI	<b>Sample ID:</b>	P5022-01
<b>Client ID:</b>	TAPIAL2-SB02D-13-112424-00-T1MS	<b>Percent Solids for Spike Sample:</b>	92.9

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	2560		1670		1000	1	89		12/06/2024

## Matrix Spike Summary

<b>Client:</b>	Tetra Tech NUS, Inc.	<b>SDG No.:</b>	P5113
<b>Project:</b>	NWIRP Calverton Site 16 Phase 3 RI	<b>Sample ID:</b>	P5022-01
<b>Client ID:</b>	TAPIAL2-SB02D-13-112424-00-T1MSD	<b>Percent Solids for Spike Sample:</b>	92.9

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
TOC	mg/Kg	75-125	2550		1670		1000	1	88		12/06/2024



Duplicate Sample Summary

<b>Client:</b>	Tetra Tech NUS, Inc.	<b>SDG No.:</b>	P5113
<b>Project:</b>	NWIRP Calverton Site 16 Phase 3 RI	<b>Sample ID:</b>	P5022-01
<b>Client ID:</b>	TAPIAL2-SB02D-13-112424-00-T1MSD	<b>Percent Solids for Spike Sample:</b>	92.9

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
TOC	mg/Kg	+/-20	2560		2550		1	0		12/06/2024

### Laboratory Control Sample Summary

<b>Client:</b>	Tetra Tech NUS, Inc.	<b>SDG No.:</b>	P5113
<b>Project:</b>	NWIRP Calverton Site 16 Phase 3 RI	<b>Run No.:</b>	LB133779

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	LB133779BSS							
TOC	mg/Kg	1000	962		96	1	90-110	12/06/2024



# SHIPPING DOCUMENTS

CLIENT INFORMATION				CLIENT PROJECT INFORMATION				CLIENT BILLING INFORMATION															
REPORT TO BE SENT TO: COMPANY: TetraTech Inc. ADDRESS: 661 Andersen Dr. Suite 200 CITY: Pittsburgh STATE: PA ZIP: 15220 ATTENTION: Corey Rich PHONE: 412-921-8984 FAX:				PROJECT NAME: NWIRPCalverton Site 16 1126-08005-ML205101 PROJECT NO.: LOCATION: Calverton, NY PROJECT MANAGER: Corey Rich e-mail: corey.rich@tetra-tech.com PHONE: 412-921-8984 FAX:				BILL TO: TetraTech Inc. PO#: 1132342 ADDRESS: 661 Andersen Dr. Suite 200 CITY: Pittsburgh STATE: PA ZIP: 15220 ATTENTION: Corey Rich PHONE: 412-921-8984															
DATA TURNAROUND INFORMATION				DATA DELIVERABLE INFORMATION				ANALYSIS															
FAX (RUSH) _____ DAYS* HARDCOPY (DATA PACKAGE): _____ DAYS* EDD: SEE COMMENTS _____ DAYS* *TO BE APPROVED BY CHEMTECH STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS				<input type="checkbox"/> Level 1 (Results Only) <input type="checkbox"/> Level 4 (QC + Full Raw Data) <input type="checkbox"/> Level 2 (Results + QC) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> US EPA CLP <input type="checkbox"/> Level 3 (Results + QC) <input type="checkbox"/> NYS ASP A <input type="checkbox"/> NYS ASP B + Raw Data) <input type="checkbox"/> Other _____ <input type="checkbox"/> EDD FORMAT SEE COMMENTS				TOC Bulk Density															
CHEMTECH SAMPLE ID		PROJECT SAMPLE IDENTIFICATION		SAMPLE MATRIX		SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES		PRESERVATIVES									COMMENTS		
						COMP GRAB		DATE TIME				E E									← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER		
1.		FES-SB406-4345		SO		X		12-4-21 1045		2		1 1											
2.		FES-SB406-7375		SO		X		12-4-21 1300		2		1 1											
3.																							
4.																							
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY																							
RELINQUISHED BY SAMPLER:		DATE/TIME:		RECEIVED BY:		Conditions of bottles or coolers at receipt: <input type="checkbox"/> COMPLIANT <input type="checkbox"/> NON COMPLIANT <input type="checkbox"/> COOLER TEMP _____ °C																	
1. [Signature]		12-4-21/1730		1. [Signature]		Comments: FOLLOW CONTRACT FOR DATA TURNAROUND AND DATA DELIVERABLE INFO																	
RELINQUISHED BY SAMPLER:		DATE/TIME:		RECEIVED BY:																			
2.				2.																			
RELINQUISHED BY SAMPLER:		DATE/TIME:		RECEIVED BY:																			
3.				3.																			
Page 1 of 1						CLIENT: <input type="checkbox"/> Hand Delivered <input type="checkbox"/> Other _____ CHEMTECH: <input type="checkbox"/> Picked Up <input type="checkbox"/> Field Sampling						Shipment Complete <input type="checkbox"/> YES <input type="checkbox"/> NO											

**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