

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : NWIRP BETHPAGE 112G08005-WE13

TETRA TECH NUS, INC.

661 Andersen Drive

Suite 200

Pittsburgh, PA - 15220-2745

Phone No: 412-921-7090

ORDER ID : Q1069

ATTENTION : Ernie Wu



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q1069

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

Q1069-01
Q1069-02

Client Sample Number

RW7B-CARBON-20250109
RW7B-CARBON-20250109

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: 1/15/2025

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 Bethpage 112G08005-WE13

Project Manager: Ernie Wu

Chemtech Project # Q1069

Test Name: pH,Ignitability

A. Number of Samples and Date of Receipt:

2 Solid samples were received on 01/09/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Flash Point, Ignitability, PCB, pH, SVOC-TCL BNA -20, TCLP Extraction, TCLP Mercury, TCLP Metal, TCLP VOA, TCLP ZHE Extraction and TCLP Metals Group1. This data package contains results for pH,Ignitability.

C. Analytical Techniques:

The analysis of Ignitability was based on method 1030 and The analysis of pH was based on method 9045D.

D. QA/ QC Samples:

The Holding Times were met for all samples except for RW7B-CARBON-20250109 of pH as this sample received out of hold.

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

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

Signature_____

DATA REPORTING QUALIFIERS- INORGANIC

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

J	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).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	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
OR	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: Q1069

MATRIX: Solid

METHOD: 1030,9045D

	NA	NO	YES
1. Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2. Sample Duplicate Analysis Met QC Criteria			✓
If not met, list those compounds and their recoveries which fall outside the acceptable range.			
3. Digestion Holding Time Met		✓	
If not met, list number of days exceeded for each sample:			
The Holding Times were met for all samples except for RW7B-CARBON-20250109 of pH as this sample received out of hold.			

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

QA REVIEW

Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1069

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: 01/15/2025

LAB CHRONICLE

OrderID:	Q1069	OrderDate:	1/10/2025 1:20:00 PM
Client:	Tetra Tech NUS, Inc.	Project:	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	Location:	M11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1069-01	RW7B-CARBON-20250 109	SOIL			01/09/25 14:00			01/09/25
			Ignitability	1030			01/13/25 15:25	
			pH	9045D			01/13/25 09:20	



SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	01/09/25 14:00
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	01/09/25
Client Sample ID:	RW7B-CARBON-20250109	SDG No.:	Q1069
Lab Sample ID:	Q1069-01	Matrix:	SOIL
		% Solid:	55.6

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ignitability	NO		1	0	0	0	oC		01/13/25 15:25	1030
pH	5.57	H	1	0	0	0	pH		01/13/25 09:20	9045D

Comments: pH result reported at temperature 20.7 °C

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

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Initial and Continuing Calibration Verification

Client: Tetra Tech NUS, Inc.

SDG No.: Q1069

Project: NWIRP Bethpage 112G08005-WE13

RunNo.: LB134243

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV pH	pH	7.02	7	100	90-110	01/13/2025
Sample ID: CCV1 pH	pH	2.01	2.00	101	90-110	01/13/2025
Sample ID: CCV2 pH	pH	12.02	12.00	100	90-110	01/13/2025

Duplicate Sample Summary

Client:	Tetra Tech NUS, Inc.	SDG No.:	Q1069
Project:	NWIRP Bethpage 112G08005-WE13	Sample ID:	Q1065-01
Client ID:	MOO-25-0002DUP	Percent Solids for Spike Sample:	100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Ignitability	oC	+/-20	NO		NO		1	0		01/13/2025

Duplicate Sample Summary

Client:	Tetra Tech NUS, Inc.	SDG No.:	Q1069
Project:	NWIRP Bethpage 112G08005-WE13	Sample ID:	Q1069-01
Client ID:	RW7B-CARBON-20250109DUP	Percent Solids for Spike Sample:	100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
pH	pH	+/-20	5.57		5.58		1	0.18		01/13/2025



RAW DATA

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Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB134243

Slope : 98.4

BalanceID: WC SC-7

pH Meter ID : WC PH METER-1

Calibration Standards	Chemtech Log#
PH 4 BUFFER SOLUTION	W3107
BUFFER PH 7.00 GREEN 1PINT PK6	W3093
PH 10.01 BUFFER,COLOR CD 475ML	W3094
buffer solution pH 7 yellow	W3071
Buffer Solution, PH2 (500ml)	W3161
Buffer Solution, PH12 (500ml)	W3072

True Value of ICV = 7.00 Control Limits[+/- 0.1].

True Value of CCV1 = 2.00 Control Limits[+/- 0.1].

True Value of CCV2 = 12.00 Control Limits[+/- 0.1].

Seq	LabID	DF	Matrix	Weight (gm)	Volume (ml)	Temperature (°C)	Result (pH)	Anal Date	Anal Time
1	CAL1	1	Water	NA	NA	20.2	4.01	01/13/2025	09:00
2	CAL2	1	Water	NA	NA	20.2	7.00	01/13/2025	09:01
3	CAL3	1	Water	NA	NA	20.2	10.02	01/13/2025	09:05
4	ICV	1	Water	NA	NA	20.2	7.02	01/13/2025	09:10
5	CCV1	1	Water	NA	NA	20.1	2.01	01/13/2025	09:11
6	Q1069-01	1	Solid	20.02	20	20.7	5.57	01/13/2025	09:20
7	Q1069-01DUP	1	Solid	20.03	20	20.2	5.58	01/13/2025	09:21
8	CCV2	1	Water	NA	NA	20.2	12.02	01/13/2025	09:25

WORKLIST(Hardcopy Internal Chain)

VB 134243

WorkList Name : ph q1069 WorkList ID : 186886 Department : Wet-Chemistry Date : 01-13-2025 08:46:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1069-01	RW7B-CARBON-20250109	Solid	pH	Cool 4 deg C	TETRO6	M11	01/09/2025	9045D

Date/Time 01-13-25 08:50
Raw Sample Received by: JB WLC
Raw Sample Relinquished by: CCSR

Date/Time 01-13-25 11:30
Raw Sample Received by: CCSR
Raw Sample Relinquished by: JB CCR

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Analytical Summary Report

Analysis Method: 1030
Parameter: Ignitability
Run Number: LB134254

Reviewed By: rubina

Supervisor Review By: Iwona

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	Q1065-01	MOO-25-0002	1	Solid	NO	0.00	01/13/2025	15:10
2	Q1065-01DUP	MOO-25-0002DUP	1	Solid	NO	0.00	01/13/2025	15:17
3	Q1069-01	RW7B-CARBON-20250109	1	Solid	NO	0.00	01/13/2025	15:25
4	Q1074-01	HACKENSACK-DGA	1	Solid	NO	0.00	01/13/2025	15:32
5	Q1074-02	HACKENSACK-DGA	1	Solid	NO	0.00	01/13/2025	15:40
6	Q1076-01	ARS20-0006	1	Solid	NO	0.00	01/13/2025	15:48
7	Q1076-02	ARS20-0006	1	Solid	NO	0.00	01/13/2025	15:55

$$\text{Burning Rate} = \frac{\text{Length (mm)}}{\text{Total Time (sec)}}$$

WORKLIST(Hardcopy Internal Chain)

LB134254

WorkList Name : ign-1-13 WorkList ID : 186881 Department : Wet-Chemistry Date : 01-13-2025 08:35:32

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1065-01	MOO-25-0002	Solid	Ignitability	Cool 4 deg C	PSEG03	M11	01/10/2025	1030
Q1069-01	RW7B-CARBON-20250109	Solid	Ignitability	Cool 4 deg C	TETR06	M11	01/09/2025	1030
Q1074-01	HACKENSACK-DGA	Solid	Ignitability	Cool 4 deg C	PSEG03	N21	01/13/2025	1030
Q1074-02	HACKENSACK-DGA	Solid	Ignitability	Cool 4 deg C	PSEG03	N21	01/13/2025	1030
Q1076-01	ARS20-0006	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	01/13/2025	1030
Q1076-02	ARS20-0006	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	01/13/2025	1030

Date/Time 01/13/2025 15:00
Raw Sample Received by: RM cws
Raw Sample Relinquished by: [Signature]

Date/Time 01/13/2025 17:00
Raw Sample Received by: [Signature]
Raw Sample Relinquished by: RM cws

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134243

Review By	jignesh	Review On	1/13/2025 8:55:48 AM
Supervise By	Iwona	Supervise On	1/13/2025 9:52:06 AM
SubDirectory	LB134243	Test	pH
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	W3107,W3093,W3094,W3071,W3161,W3072		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	01/13/25 09:00		Jignesh	OK
2	CAL2	CAL2	CAL	01/13/25 09:01		Jignesh	OK
3	CAL3	CAL3	CAL	01/13/25 09:05		Jignesh	OK
4	ICV	ICV	ICV	01/13/25 09:10		Jignesh	OK
5	CCV1	CCV1	CCV	01/13/25 09:11		Jignesh	OK
6	Q1069-01	RW7B-CARBON-2024	SAM	01/13/25 09:20		Jignesh	OK
7	Q1069-01DUP	RW7B-CARBON-2024	DUP	01/13/25 09:21		Jignesh	OK
8	CCV2	CCV2	CCV	01/13/25 09:25		Jignesh	OK

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB134254

Review By	rubina	Review On	1/13/2025 5:05:55 PM
Supervise By	Iwona	Supervise On	1/14/2025 9:33:29 AM
SubDirectory	LB134254	Test	Ignitability
STD. NAME	STD REF.#		
ICAL Standard	N/A		
ICV Standard	N/A		
CCV Standard	N/A		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	N/A		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	Q1065-01	MOO-25-0002	SAM	01/13/25 15:10		rubina	OK
2	Q1065-01DUP	MOO-25-0002DUP	DUP	01/13/25 15:17		rubina	OK
3	Q1069-01	RW7B-CARBON-2024	SAM	01/13/25 15:25		rubina	OK
4	Q1074-01	HACKENSACK-DGA	SAM	01/13/25 15:32		rubina	OK
5	Q1074-02	HACKENSACK-DGA	SAM	01/13/25 15:40		rubina	OK
6	Q1076-01	ARS20-0006	SAM	01/13/25 15:48		rubina	OK
7	Q1076-02	ARS20-0006	SAM	01/13/25 15:55		rubina	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1069

Test : Ignitability, Percent Solids, pH

Prepbatch ID :

Sequence ID/Qc Batch ID: LB134243, LB134254,

Standard ID :

Chemical ID :

W3071, W3072, W3093, W3094, W3107, W3161,

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	4308H30	07/31/2025	01/02/2024 / JIGNESH	12/06/2023 / Iwona	W3071

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14940-1 / Buffer Solution, PH12 (500ml)	2310P21	04/30/2025	01/02/2024 / JIGNESH	12/07/2023 / Iwona	W3072

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	44001f99	12/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3093

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	4310g83	03/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3094

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	AL14055-3	02/27/2026	09/05/2024 / jignesh	05/13/2024 / jignesh	W3107

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL13850-1 / Buffer Solution, PH2 (500ml)	2411E26	10/31/2026	12/09/2024 / Iwona	12/09/2024 / Iwona	W3161


W3071
Rec 12/6/23

Certificate of Analysis 12

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023

Expiration Date: JUL 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Preservative	Proprietary	
Yellow Dye	Proprietary	
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.002	0.02	186-I-g, 186-II-g, 191d

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (08/09/2023)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.



RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
<http://www.riccachemical.com>
1-888-GO-RICCA
customerservice@riccachemical.com

W 3072
REC. 12/01/23
12

Certificate of Analysis

Buffer, Reference Standard, pH 12.00 ± 0.01 at 25°C

Lot Number: 2310P21

Product Number: 1615

Manufacture Date: OCT 24, 2023

Expiration Date: APR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

°C	15	20	25	30	35	40
pH	12.35	12.17	11.99	11.78	11.62	11.46

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Chloride	7447-40-7	ACS
Sodium Hydroxide	1310-73-2	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	12.005	0.02	186-I-g, 186-II-g, 191d

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1615-1	4 L natural poly	18 months
1615-16	500 mL clear PET-G	18 months
1615-32	1 L natural poly	18 months
1615-5	20 L Cubitainer®	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Sharon Travers

Sharon Travers (10/24/2023)

Operations Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.



Certificate of Analysis

W3093
094121
04/03/2024
16

Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

Lot Number: 4401F99

Product Number: 1551

Manufacture Date: JAN 08, 2024

Expiration Date: DEC 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	7.12	7.09	7.06	7.04	7.02	7.00	6.99	6.98	6.98	6.97	6.97

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Phosphate Dibasic	7558-79-4	ACS
Potassium Dihydrogen Phosphate	7778-77-0	ACS
Preservative	Proprietary	
Yellow Dye	Proprietary	
Sodium Hydroxide	1310-73-2	

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	7.004	0.02	186-I-g, 186-II-g, 191d

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer A	ASTM (D 5464)
Buffer A	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-1	4 L natural poly	24 months
1551-1CT	4 L Cubitainer®	24 months
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (01/08/2024)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.



Certificate of Analysis

Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

Lot Number: 4310G83

Product Number: 1601

Manufacture Date: OCT 09, 2023

Expiration Date: MAR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	50
pH	10.31	10.23	10.17	10.11	10.05	10.00	9.95	9.91	9.87	9.81

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Carbonate	497-19-8	ACS
Sodium Bicarbonate	144-55-8	ACS
Sodium Hydroxide	1310-73-2	Reagent
Preservative	Proprietary	
Blue Dye	Proprietary	

Test	Specification	Result
Appearance	Blue liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	10.003	0.02	186-I-g, 186-II-g, 191d

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer C	ASTM (D 5464)
Buffer C	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1601-16	500 mL natural poly	18 months
1601-5	20 L Cubitainer®	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Paul Brandon (10/09/2023)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials --
Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

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Certificate of Analysis

Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

Lot Number: 4403F90

Product Number: 1501

Manufacture Date: MAR 09, 2024

Expiration Date: FEB 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST Traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	0	5	10	15	20	25	30	35	40	45	50
pH	4.00	4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Acid Phthalate	877-24-7	Buffer
Preservative	Proprietary	Commercial
Red Dye	Proprietary	Purified

Test	Specification	Result
Appearance	Red liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	4.000	0.02	185i, 186-I-g, 186-II-g

Specification	Reference
Commercial Buffer Solutions	ASTM (D 1293 B)
Buffer B	ASTM (D 5464)
Buffer B	ASTM (D 5128)

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1501-2.5	10 L Cubitainer®	24 months
1501-32	1 L natural poly	24 months
1501-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Paul Brandon

Production Manager

This product was tested in an ISO 17025 Accredited Laboratory

Page 2 of 2



Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C**Lot Number:** 2411E26**Product Number:** 1493**Manufacture Date:** NOV 11, 2024**Expiration Date:** OCT 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

°C	10	15	20	25	30	35	40	45	50
pH	1.93	1.98	1.98	2.00	2.01	2.03	2.03	2.04	2.04

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Chloride	7447-40-7	ACS
Hydrochloric Acid	7647-01-0	ACS

Test	Specification	Result
Appearance	Colorless liquid	Passed

*Not a certified value.

Test	Certified Value	Uncertainty	NIST SRM#
pH at 25°C (Method: SQCP027, SQCP033)	1.994	0.02	185i, 186-I-g, 186-II-g

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1493-1	4 L natural poly	24 months
1493-16	500 mL natural poly	24 months
1493-1CT	4 L Cubitainer®	24 months
1493-2.5	10 L Cubitainer®	24 months
1493-32	1 L natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)



Jose Pena (11/11/2024)
Operations Manager

This product was tested in an ISO 17025 Accredited Laboratory

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 1/13/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 16:30
In Date: 01/10/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:00
Out Date: 01/11/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB134230

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q1060-05	SVOC-GPC-BLANK	1	1.00	1.00	2.00	2.00	100.0	
Q1060-06	PEST-GPC-BLANK	2	1.00	1.00	2.00	2.00	100.0	
Q1060-07	PEST-GPC-BLANK-SPIKE	3	1.00	1.00	2.00	2.00	100.0	
Q1060-08	PCB-GPC-BLANK	4	1.00	1.00	2.00	2.00	100.0	
Q1060-09	PCB-GPC-BLANK-SPIKE	5	1.00	1.00	2.00	2.00	100.0	
Q1060-10	SVOC-GPC2-BLANK	6	1.00	1.00	2.00	2.00	100.0	
Q1060-11	PEST-GPC2-BLANK	7	1.00	1.00	2.00	2.00	100.0	
Q1060-12	PEST-GPC2-BLANK-SPIKE	8	1.00	1.00	2.00	2.00	100.0	
Q1060-13	PCB-GPC2-BLANK	9	1.00	1.00	2.00	2.00	100.0	
Q1060-14	PCB-GPC2-BLANK-SPIKE	10	1.00	1.00	2.00	2.00	100.0	
Q1064-01	LAW-25-0003	11	1.14	8.60	9.74	8.75	88.5	
Q1065-01	MOO-25-0002	12	1.00	1.00	2.00	2.00	100.0	debris
Q1067-01	PIPE-1	13	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1067-02	PIPE-2	14	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1067-03	PIPE-3	15	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1068-01	TR-06-1-10-2025	16	1.15	8.84	9.99	9.15	90.5	
Q1068-02	TR-06-1-10-2025	17	1.15	8.84	9.99	9.15	90.5	
Q1068-03	TR-06-1-10-2025	18	1.19	8.70	9.89	9.03	90.1	
Q1069-01	RW7B-CARBON-20250109	19	1.17	8.65	9.82	5.98	55.6	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

J134230

WorkList Name : %1-011025

WorkList ID : 186855

Department : Wet-Chemistry

Date : 01-10-2025 08:31:51

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1060-05	SVOC-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-06	PEST-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-07	PEST-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-08	PCB-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-09	PCB-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-10	SVOC-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-11	PEST-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-12	PEST-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-13	PCB-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1060-14	PCB-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	01/10/2025	Chemtech -SO
Q1064-01	LAW-25-0003	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1065-01	MOO-25-0002	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1067-01	PIPE-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1067-02	PIPE-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1067-03	PIPE-3	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1068-01	TR-06-1-10-2025	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1068-02	TR-06-1-10-2025	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1068-03	TR-06-1-10-2025	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	01/10/2025	Chemtech -SO
Q1069-01	RW7B-CARBON-20250109	Solid	Percent Solids	Cool 4 deg C	TETR06	M11	01/09/2025	Chemtech -SO

Date/Time

01-10-25 15:30

Raw Sample Received by:

SS Wey

Raw Sample Relinquished by:

SS Wey

Date/Time

01-10-25

Raw Sample Received by:

SS Wey

Raw Sample Relinquished by:

SS Wey



SHIPPING DOCUMENTS

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CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092

(908) 789-8900 Fax: (908) 78-8922

www.chemtech.net

Chemtech Project Number:

Q1069

COC Number:

CLIENT INFORMATION		PROJECT INFORMATION				BILLING INFORMATION												
COMPANY: Tetra Tech		PROJECT NAME: NWIRP Bethpage				BILL TO: SEE CONTRACT					PO#							
ADDRESS: 4433 Corporation Ln, Suite 300		PROJECT #: 112G08005-WE13		LOCATION: Carbon IDW		ADDRESS:												
CITY: Virginia Beach STATE: VA ZIP: 23462		PROJECT MANAGER: Dave Brayack				CITY:					STATE: ZIP:							
ATTENTION: Ernie Wu		E-MAIL: david.brayack@tetratech.com				ATTENTION:					PHONE:							
PHONE: 757-466-4901 FAX: 757-461-4148		PHONE: 757-466-4909 FAX: 757-461-4148																
DATA TURNAROUND INFORMATION		DATA DELIVERABLE INFORMATION				ANALYSIS												
FAX: _____ 10 _____ DAYS*		<input type="checkbox"/> RESEULTS ONLY <input type="checkbox"/> USEPA CLP <input type="checkbox"/> RESULTS + QC <input type="checkbox"/> New York State ASP "B" <input type="checkbox"/> New Jersey REDUCED <input type="checkbox"/> New York State ASP "A" <input type="checkbox"/> New Jersey CLP <input type="checkbox"/> Other _____ <input type="checkbox"/> EDD Format _____																
HARD COPY: _____ 10 _____ DAYS*																		
EDD _____ 10 _____ DAYS*																		
* TO BE APPROVED BY CHEMTECH STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS																		
CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# of Bottles	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9		
1.	RW7B-Carbon-20250109	Granular Activated Carbon		X	1/9/25	14:00	6	1	1	1	1	1	1					<-- Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSESSION INCLUDING COURIER DELIVERY																		
RELINQUISHED BY SAMPLER		DATE/TIME		RECEIVED BY		Conditions of bottles or coolers at receipt: <input type="checkbox"/> Compliant <input type="checkbox"/> Non Compliant <input type="checkbox"/> Cooler Temp <u>2.5°C</u> MeOH extraction requires an additional 4oz. Jar for percent solid <input type="checkbox"/> Ice in Cooler?: _____ Comments: 5 Day TAT - CTO-WE13 RW7B Carbon Sampling												
1.		1/9/25 1530		1.														
RELINQUISHED BY		DATE/TIME		RECEIVED BY		SHIPPED VIA: CLIENT: <input type="checkbox"/> Hand Delivered <input type="checkbox"/> Overnight CHEMTECH: <input type="checkbox"/> Picked Up <input type="checkbox"/> Overnight												
2.		1-9-25		3.														
RELINQUISHED BY		DATE/TIME		RECEIVED FOR LAB BY		Page <u>1</u> of <u>1</u>												
3.		1-9-25		3.		Shipment Complete <input type="checkbox"/> YES <input type="checkbox"/> NO												
WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY																		

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (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