

DATA PACKAGE GENERAL CHEMISTRY

PROJECT NAME : NYCDDC SANTWOBR BROOKLYN BRIDGE BBMCR

**RU2 ENGINEERING, LLC
2 Melinda Drive**

**Monroe Township, NJ - 08831
Phone No: 732-261-2236**

**ORDER ID : Q1206
ATTENTION : Rutu Manani**



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q1206

Project ID : NYCDDC SANTWOBR Brooklyn Bridge BBMCR

Client : RU2 Engineering, LLC

Lab Sample Number

Q1206-01
Q1206-02
Q1206-03
Q1206-04
Q1206-05
Q1206-06
Q1206-07
Q1206-08

Client Sample Number

JPP-20.1-012725
JPP-20.1-012725
JPP-20.1-012725
JPP-20.1-012725
JPP-16.3-012725
JPP-16.3-012725
JPP-16.3-012725
JPP-16.3-012725

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 10:41 am, Feb 12, 2025

Date: 2/3/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



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

CASE NARRATIVE

RU2 Engineering, LLC

Project Name: NYCDDC SANTWOBR Brooklyn Bridge BBMCR

Project # N/A

Chemtech Project # Q1206

Test Name: Corrosivity,Paint Filter,Ignitability,Reactive Cyanide,Reactive Sulfide

A. Number of Samples and Date of Receipt:

8 Solid samples were received on 01/28/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-TCL BNA -20, TCLP BNA, TCLP Extraction, TCLP Herbicide, TCLP ICP Metals, TCLP Mercury, TCLP Pesticide, TCLP VOA, TCLP ZHE Extraction, TCLP-FULL and VOCMS Group1. This data package contains results for Corrosivity,Paint Filter,Ignitability,Reactive Cyanide,Reactive Sulfide.

C. Analytical Techniques:

The analysis of Ignitability was based on method 1030, The analysis of Reactive Cyanide was based on method 9012B, The analysis of Reactive Sulfide was based on method 9034, The analysis of Corrosivity was based on method 9045D and The analysis of Paint Filter was based on method 9095B.

D. QA/ QC Samples:

The Holding Times were met for all samples except for JPP-16.3-012725 of Corrosivity, for JPP-20.1-012725 of Corrosivity as these samples 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:

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 10:41 am, Feb 12, 2025

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: Q1206

MATRIX: Solid

METHOD: 1030,9012B,9034,9045D,9095B

	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 JPP-16.3-012725 of Corrosivity, for JPP-20.1-012725 of Corrosivity as these samples received out of hold.			

ADDITIONAL COMMENTS:

QA REVIEW

REVIEWED

By Sohil Jodhani, QA/QC Director at 9:16 am, Feb 12, 2025

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1206

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: 02/03/2025

LAB CHRONICLE

OrderID:	Q1206	OrderDate:	1/28/2025 11:18:51 AM
Client:	RU2 Engineering, LLC	Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR
Contact:	Rutu Manani	Location:	E11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1206-03	JPP-20.1-012725	SOIL			01/27/25 14:18			01/28/25
			Paint Filter	9095B			01/29/25 12:25	
Q1206-04	JPP-20.1-012725	SOIL			01/27/25 14:18			01/28/25
			Corrosivity	9045D			01/28/25 15:10	
			Ignitability	1030			01/29/25 09:47	
			Reactive Cyanide	9012B		01/30/25	01/30/25 13:06	
			Reactive Sulfide	9034		01/30/25	01/30/25 15:09	
Q1206-07	JPP-16.3-012725	SOIL			01/27/25 15:17			01/28/25
			Paint Filter	9095B			01/29/25 12:32	
Q1206-08	JPP-16.3-012725	SOIL			01/27/25 15:17			01/28/25
			Corrosivity	9045D			01/28/25 15:15	
			Ignitability	1030			01/29/25 09:55	
			Reactive Cyanide	9012B		01/30/25	01/30/25 13:06	
			Reactive Sulfide	9034		01/30/25	01/30/25 15:12	



SAMPLE DATA

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Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/27/25 14:18
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/28/25
Client Sample ID:	JPP-20.1-012725	SDG No.:	Q1206
Lab Sample ID:	Q1206-03	Matrix:	SOIL
		% Solid:	85.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Paint Filter	1.00	U	1	1.00	1.00	ml/100gm		01/29/25 12:25	9095B

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:	RU2 Engineering, LLC	Date Collected:	01/27/25 14:18
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/28/25
Client Sample ID:	JPP-20.1-012725	SDG No.:	Q1206
Lab Sample ID:	Q1206-04	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	8.59	H	1	0	0	pH		01/28/25 15:10	9045D
Ignitability	NO		1	0	0	oC		01/29/25 09:47	1030
Reactive Cyanide	0.050	U	1	0.0088	0.050	mg/Kg	01/30/25 09:00	01/30/25 13:06	9012B
Reactive Sulfide	6.31	J	1	0.19	10.0	mg/Kg	01/30/25 11:00	01/30/25 15:09	9034

Comments: pH result reported at temperature 21.1 °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

Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/27/25 15:17
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/28/25
Client Sample ID:	JPP-16.3-012725	SDG No.:	Q1206
Lab Sample ID:	Q1206-07	Matrix:	SOIL
		% Solid:	84.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Paint Filter	1.00	U	1	1.00	1.00	ml/100gm		01/29/25 12:32	9095B

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:	RU2 Engineering, LLC	Date Collected:	01/27/25 15:17
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/28/25
Client Sample ID:	JPP-16.3-012725	SDG No.:	Q1206
Lab Sample ID:	Q1206-08	Matrix:	SOIL
		% Solid:	100

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Corrosivity	9.09	H	1	0	0	pH		01/28/25 15:15	9045D
Ignitability	NO		1	0	0	oC		01/29/25 09:55	1030
Reactive Cyanide	0.050	U	1	0.0087	0.050	mg/Kg	01/30/25 09:00	01/30/25 13:06	9012B
Reactive Sulfide	1.60	J	1	0.19	10.0	mg/Kg	01/30/25 11:00	01/30/25 15:12	9034

Comments: pH result reported at temperature 20.9 °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

- 1
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Initial and Continuing Calibration Verification

Client: RU2 Engineering, LLC

SDG No.: Q1206

Project: NYCDDC SANTWOBR Brooklyn Bridge BBMCR

RunNo.: LB134458

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Corrosivity	pH	7.01	7	100	90-110	01/28/2025
Sample ID: CCV1 Corrosivity	pH	2.01	2.00	101	90-110	01/28/2025
Sample ID: CCV2 Corrosivity	pH	12.02	12.00	100	90-110	01/28/2025
Sample ID: CCV3 Corrosivity	pH	2.01	2.00	101	90-110	01/28/2025

Initial and Continuing Calibration Verification

Client: RU2 Engineering, LLC

SDG No.: Q1206

Project: NYCDDC SANTWOBR Brooklyn Bridge BBMCR

RunNo.: LB134487

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Reactive Cyanide	mg/L	0.098	0.099	99	85-115	01/30/2025
Sample ID: CCV1 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	01/30/2025
Sample ID: CCV2 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	01/30/2025
Sample ID: CCV3 Reactive Cyanide	mg/L	0.24	0.25	96	90-110	01/30/2025
Sample ID: CCV4 Reactive Cyanide	mg/L	0.25	0.25	100	90-110	01/30/2025

Initial and Continuing Calibration Blank Summary

Client: RU2 Engineering, LLC

SDG No.: Q1206

Project: NYCDDC SANTWOBR Brooklyn Bridge BBMCR

RunNo.: LB134487

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	01/30/2025
Sample ID: CCB1 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	01/30/2025
Sample ID: CCB2 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	01/30/2025
Sample ID: CCB3 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	01/30/2025
Sample ID: CCB4 Reactive Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	01/30/2025

Preparation Blank Summary

Client: RU2 Engineering, LLC

SDG No.: Q1206

Project: NYCDDC SANTWOBR Brooklyn Bridge BBMCR

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB166323BL							
Reactive Sulfide	mg/Kg	< 5.0000	5.0000	U	0.186	10	01/30/2025
Sample ID: PB166380BL							
Reactive Cyanide	mg/Kg	< 0.0250	0.0250	U	0.0088	0.05	01/30/2025

Duplicate Sample Summary

Client:	RU2 Engineering, LLC	SDG No.:	Q1206
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Sample ID:	Q1205-01
Client ID:	VNJ-236DUP	Percent Solids for Spike Sample:	87.2

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/AD	Qual	Analysis Date
Paint Filter	ml/100gm	+/-20	1.00	U	1.00	U	1	0		01/29/2025
Ignitability	oC	+/-20	NO		NO		1	0		01/29/2025

Duplicate Sample Summary

Client:	RU2 Engineering, LLC	SDG No.:	Q1206
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Sample ID:	Q1205-02
Client ID:	VNJ-236DUP	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
Corrosivity	pH	+/-20	5.85		5.86		1	0.17		01/28/2025
Reactive Cyanide	mg/Kg	+/-20	0.0087	U	0.0088	U	1	0		01/30/2025
Reactive Sulfide	mg/Kg	+/-20	3.17	J	3.17	J	1	0		01/30/2025



RAW DATA

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Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: Corrosivity

Supervisor Review By : Iwona

Run Number: LB134458

Slope : 98.6

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].

True Value of CCV3 = 2.00 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	01/28/2025	14:40
2	CAL2	1	Water	NA	NA	20.2	7.00	01/28/2025	14:41
3	CAL3	1	Water	NA	NA	20.2	10.02	01/28/2025	14:45
4	ICV	1	Water	NA	NA	20.3	7.01	01/28/2025	14:48
5	CCV1	1	Water	NA	NA	20.2	2.01	01/28/2025	15:00
6	Q1205-02	1	Solid	20.02	20	20.2	5.85	01/28/2025	15:05
7	Q1205-02DUP	1	Solid	20.03	20	20.3	5.86	01/28/2025	15:06
8	Q1206-04	1	Solid	20.01	20	21.1	8.59	01/28/2025	15:10
9	Q1206-08	1	Solid	20.03	20	20.9	9.09	01/28/2025	15:15
10	Q1207-04	1	Solid	20.02	20	21.0	8.88	01/28/2025	15:25
11	Q1207-08	1	Solid	20.03	20	21.3	11.13	01/28/2025	15:30
12	Q1207-12	1	Solid	20.02	20	21.0	10.33	01/28/2025	15:40
13	Q1207-16	1	Solid	20.05	20	21.5	10.58	01/28/2025	15:47
14	Q1207-20	1	Solid	20.02	20	21.4	9.26	01/28/2025	15:55
15	Q1209-04	1	Solid	20.03	20	20.2	6.31	01/28/2025	16:00
16	CCV2	1	Water	NA	NA	20.1	12.02	01/28/2025	16:05
17	Q1209-08	1	Solid	20.04	20	21.1	6.74	01/28/2025	16:10
18	CCV3	1	Water	NA	NA	20.2	2.01	01/28/2025	16:11

WORKLIST(Hardcopy Internal Chain)

WorkList Name : corrosivity q1109

WorkList ID : 187226

Department : Wet-Chemistry

Date : 01-28-2025 14:22:40

UP 134458

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1205-02	VNJ-236	Solid	Corrosivity	Cool 4 deg C	PSEG03	N31	01/28/2025	9045D
Q1206-04	JPP-20.1-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1206-08	JPP-16.3-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1207-04	JPP-2.1-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1207-08	JPP-5.1-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1207-12	JPP-4.5-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1207-16	JPP-16.2-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1207-20	JPP-20.2-012725	Solid	Corrosivity	Cool 4 deg C	RUTW01	E11	01/27/2025	9045D
Q1209-04	WC-4	Solid	Corrosivity	Cool 4 deg C	PSEG03	N41	01/28/2025	9045D
Q1209-08	WC-5	Solid	Corrosivity	Cool 4 deg C	PSEG03	N41	01/28/2025	9045D

Date/Time 01/28/25 14:30

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 01/28/25 17:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Analytical Summary Report

Analysis Method: 9095B
Parameter: Paint Filter
Run Number: LB134462

Reviewed By: rubina
Supervisor Review By: Iwona
BalanceID: WC SC-7

Seq	LabID	ClientID	Dilution	Weight (g)	Inst. Conc (ml/100g)	Anal Date	Anal Time
1	Q1205-01	VNJ-236	1	100.02	0.00	01/29/2025	12:10
2	Q1205-01DUP	VNJ-236DUP	1	100.02	0.00	01/29/2025	12:18
3	Q1206-03	JPP-20.1-012725	1	100.06	0.00	01/29/2025	12:25
4	Q1206-07	JPP-16.3-012725	1	100.04	0.00	01/29/2025	12:32
5	Q1207-03	JPP-2.1-012725	1	100.04	0.00	01/29/2025	12:40
6	Q1207-07	JPP-5.1-012725	1	100.07	0.00	01/29/2025	12:48
7	Q1207-11	JPP-4.5-012725	1	100.05	0.00	01/29/2025	12:55
8	Q1207-15	JPP-16.2-012725	1	100.02	0.00	01/29/2025	13:02
9	Q1207-19	JPP-20.2-012725	1	100.07	0.00	01/29/2025	13:10
10	Q1209-01	WC-4	1	100.03	0.00	01/29/2025	13:18
11	Q1209-05	WC-5	1	100.04	0.00	01/29/2025	13:25

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PF-1-28

WorkList ID : 187233

Department : Wet-Chemistry

Date : 01-28-2025 15:48:55

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1205-01	VNJ-236	Solid	Paint Filter	Cool 4 deg C	PSEG03	N31	01/28/2025	9095B
Q1206-03	JPP-20.1-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1206-07	JPP-16.3-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1207-03	JPP-2.1-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1207-07	JPP-5.1-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1207-11	JPP-4.5-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1207-15	JPP-16.2-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1207-19	JPP-20.2-012725	Solid	Paint Filter	Cool 4 deg C	RUTW01	E11	01/27/2025	9095B
Q1209-01	WC-4	Solid	Paint Filter	Cool 4 deg C	PSEG03	N41	01/28/2025	9095B
Q1209-05	WC-5	Solid	Paint Filter	Cool 4 deg C	PSEG03	N41	01/28/2025	9095B

Date/Time

01/29/2025 09.15

Raw Sample Received by:

RM

Raw Sample Relinquished by:

76/6002

Date/Time

01/29/2025

Raw Sample Received by:

76/6002

Raw Sample Relinquished by:

RM

66134462

Analytical Summary Report

Analysis Method: 1030
Parameter: Ignitability
Run Number: LB134463

Reviewed By: rubina
Supervisor Review By: Iwona

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	Q1205-01	VNJ-236	1	Solid	NO	0.00	01/29/2025	09:25
2	Q1205-01DUP	VNJ-236DUP	1	Solid	NO	0.00	01/29/2025	09:32
3	Q1205-02	VNJ-236	1	Solid	NO	0.00	01/29/2025	09:40
4	Q1206-04	JPP-20.1-012725	1	Solid	NO	0.00	01/29/2025	09:47
5	Q1206-08	JPP-16.3-012725	1	Solid	NO	0.00	01/29/2025	09:55
6	Q1207-04	JPP-2.1-012725	1	Solid	NO	0.00	01/29/2025	10:02
7	Q1207-08	JPP-5.1-012725	1	Solid	NO	0.00	01/29/2025	10:40
8	Q1207-12	JPP-4.5-012725	1	Solid	NO	0.00	01/29/2025	10:48
9	Q1207-16	JPP-16.2-012725	1	Solid	NO	0.00	01/29/2025	10:55
10	Q1207-20	JPP-20.2-012725	1	Solid	NO	0.00	01/29/2025	11:02
11	Q1209-01	WC-4	1	Solid	NO	0.00	01/29/2025	11:10
12	Q1209-04	WC-4	1	Solid	NO	0.00	01/29/2025	11:18
13	Q1209-05	WC-5	1	Solid	NO	0.00	01/29/2025	11:25
14	Q1209-08	WC-5	1	Solid	NO	0.00	01/29/2025	11:32

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

WORKLIST(Hardcopy Internal Chain)

16134463

WorkList Name : IGN-1-28

WorkList ID : 187232

Department : Wet-Chemistry

Date : 01-28-2025 15:48:51

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1205-01	VNJ-236	Solid	Ignitability	Cool 4 deg C	PSEG03	N31	01/28/2025	1030
Q1205-02	VNJ-236	Solid	Ignitability	Cool 4 deg C	PSEG03	N31	01/28/2025	1030
Q1206-04	JPP-20.1-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1206-08	JPP-16.3-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1207-04	JPP-2.1-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1207-08	JPP-5.1-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1207-12	JPP-4.5-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1207-16	JPP-16.2-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1207-20	JPP-20.2-012725	Solid	Ignitability	Cool 4 deg C	RUTW01	E11	01/27/2025	1030
Q1209-01	WC-4	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	01/28/2025	1030
Q1209-04	WC-4	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	01/28/2025	1030
Q1209-05	WC-5	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	01/28/2025	1030
Q1209-08	WC-5	Solid	Ignitability	Cool 4 deg C	PSEG03	N41	01/28/2025	1030

Date/Time

01/29/2025 09.15

Raw Sample Received by:

RM cwc

Raw Sample Relinquished by:

RM cwc

Date/Time

01/29/2025 13.45

Raw Sample Received by:

RM cwc

Raw Sample Relinquished by:

RM cwc

LB13

Test results

Aquakem 7.2AQ1

Page: 1

CHEMTECH CONSULTING GROUP INC
284 Sheffield Street, Mountainside, NJ 07092

1/30/2025 13:28

Reviewed by : NF

Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	97.837	0.0	0.073	
ICB1	-0.274	0.0	0.002	
CCV1	243.808	0.0	0.180	
CCB1	-0.079	0.0	0.002	
PB166380BL	-0.191	0.0	0.002	
Q1205-02	-0.419	0.0	0.002	
Q1205-02DUP	-0.420	0.0	0.002	
Q1206-04	-0.431	0.0	0.002	
Q1206-08	-0.462	0.0	0.002	
Q1207-04	-0.409	0.0	0.002	
Q1207-08	-0.366	0.0	0.002	
Q1207-12	-0.424	0.0	0.002	
Q1207-16	-0.658	0.0	0.002	
Q1207-20	-0.281	0.0	0.002	
CCV2	241.843	0.0	0.178	
CCB2	-0.412	0.0	0.002	
Q1209-04	-0.419	0.0	0.002	
Q1209-08	-0.362	0.0	0.002	
Q1215-04	-0.612	0.0	0.002	
Q1215-08	-0.362	0.0	0.002	
Q1216-04	-0.363	0.0	0.002	
Q1216-08	-0.371	0.0	0.002	
Q1216-12	-0.322	0.0	0.002	
Q1216-16	-0.191	0.0	0.002	
Q1216-20	-0.468	0.0	0.002	
Q1218-02	-0.238	0.0	0.002	
CCV3	243.542	0.0	0.180	
CCB3	-0.220	0.0	0.002	
Q1219-02	-0.326	0.0	0.002	
Q1221-02	-0.115	0.0	0.002	
FVBX BZ	0.542	0.0	0.002	
FVBX	0.061	0.0	0.002	
CCV4	246.465	0.0	0.182	
CCB4	0.184	0.0	0.002	

NF
01.30.2025

N 34
Mean 31.291
SD 80.5803
CV% 257.52

Aquakem v. 7.2AQ1

Results from time period:

Thu Jan 30 09:43:55 2025

Thu Jan 30 13:21:33 2025

Sample Id	Sam/Ctr/c	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	-0.5528	µg/l	1/30/2025 10:07:36	
5.0PPBCN	A	Total CN	P	4.2646	µg/l	1/30/2025 10:07:37	
10PPBCN	A	Total CN	P	9.1795	µg/l	1/30/2025 10:07:38	
50PPBCN	A	Total CN	P	50.4325	µg/l	1/30/2025 10:07:39	
100PPBCN	A	Total CN	P	101.9819	µg/l	1/30/2025 10:07:40	
250PPBCN	A	Total CN	P	250.2204	µg/l	1/30/2025 10:07:41	
500PPBCN	A	Total CN	P	499.474	µg/l	1/30/2025 10:07:42	
ICV1	S	Total CN	P	97.8367	µg/l	1/30/2025 12:59:11	
ICB1	S	Total CN	P	-0.2745	µg/l	1/30/2025 12:59:13	
CCV1	S	Total CN	P	243.8076	µg/l	1/30/2025 12:59:14	
CCB1	S	Total CN	P	-0.0788	µg/l	1/30/2025 12:59:16	
PB166380BL	S	Total CN	P	-0.1912	µg/l	1/30/2025 12:59:18	
Q1205-02	S	Total CN	P	-0.4194	µg/l	1/30/2025 12:59:20	
Q1205-02DUP	S	Total CN	P	-0.4199	µg/l	1/30/2025 13:06:45	
Q1206-04	S	Total CN	P	-0.4315	µg/l	1/30/2025 13:06:46	
Q1206-08	S	Total CN	P	-0.4622	µg/l	1/30/2025 13:06:47	
Q1207-04	S	Total CN	P	-0.4086	µg/l	1/30/2025 13:06:48	
Q1207-08	S	Total CN	P	-0.3661	µg/l	1/30/2025 13:06:49	
Q1207-12	S	Total CN	P	-0.4239	µg/l	1/30/2025 13:06:50	
Q1207-16	S	Total CN	P	-0.6577	µg/l	1/30/2025 13:06:51	
Q1207-20	S	Total CN	P	-0.2813	µg/l	1/30/2025 13:06:52	
CCV2	S	Total CN	P	241.8429	µg/l	1/30/2025 13:06:55	
CCB2	S	Total CN	P	-0.4122	µg/l	1/30/2025 13:14:17	
Q1209-04	S	Total CN	P	-0.4187	µg/l	1/30/2025 13:14:18	
Q1209-08	S	Total CN	P	-0.3621	µg/l	1/30/2025 13:14:19	
Q1215-04	S	Total CN	P	-0.6121	µg/l	1/30/2025 13:14:20	
Q1215-08	S	Total CN	P	-0.3625	µg/l	1/30/2025 13:14:21	
Q1216-04	S	Total CN	P	-0.3632	µg/l	1/30/2025 13:14:22	
Q1216-08	S	Total CN	P	-0.3709	µg/l	1/30/2025 13:14:23	
Q1216-12	S	Total CN	P	-0.3224	µg/l	1/30/2025 13:14:24	
Q1216-16	S	Total CN	P	-0.1914	µg/l	1/30/2025 13:14:25	
Q1216-20	S	Total CN	P	-0.4679	µg/l	1/30/2025 13:14:26	
Q1218-02	S	Total CN	P	-0.2381	µg/l	1/30/2025 13:14:27	
CCV3	S	Total CN	P	243.5423	µg/l	1/30/2025 13:21:26	
CCB3	S	Total CN	P	-0.2196	µg/l	1/30/2025 13:21:27	
Q1219-02	S	Total CN	P	-0.3263	µg/l	1/30/2025 13:21:28	
Q1221-02	S	Total CN	P	-0.1153	µg/l	1/30/2025 13:21:29	
CCV4	S	Total CN	P	246.465	µg/l	1/30/2025 13:21:32	
CCB4	S	Total CN	P	0.1836	µg/l	1/30/2025 13:21:33	

Calibration results

Aquakem 7.2AQ1

Page: 1

CHEMTECH CONSULTING GROUP INC
284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : NF

Instrument ID : Konelab

1/30/2025 10:08

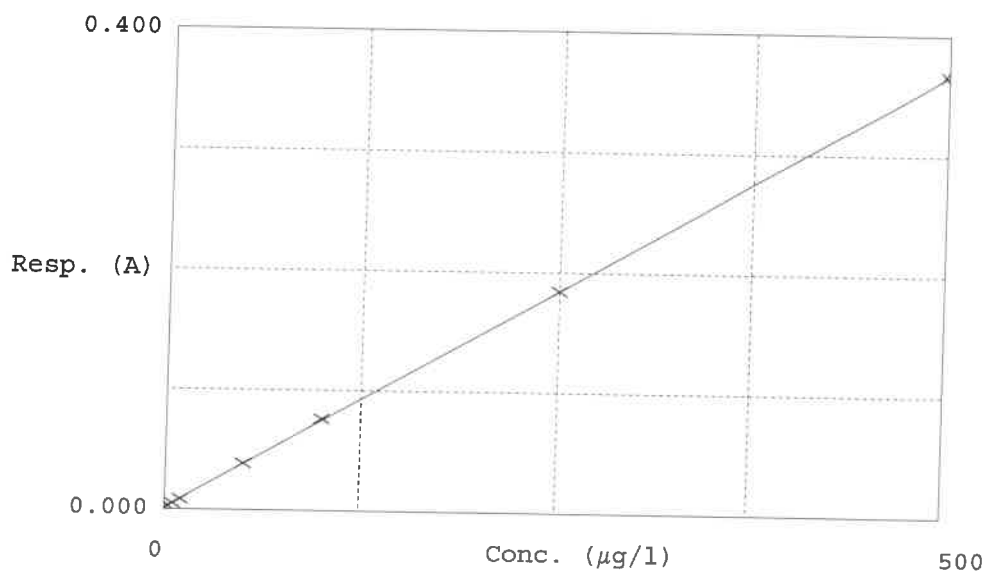
Test Total CN

Accepted 1/30/2025 10:08

Factor 1371
Bias 0.002

Coeff. of det. 0.999971

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors
1	0.0PPBCN	0.002	-0.5528	0.0000	
2	5.0PPBCN	0.005	4.2646	5.0000	-14.7
3	10PPBCN	0.009	9.1795	10.0000	-8.2
4	50PPBCN	0.039	50.4325	50.0000	0.9
5	100PPBCN	0.076	101.9819	100.0000	2.0
6	250PPBCN	0.184	250.2204	250.0000	0.1
7	500PPBCN	0.366	499.4740	500.0000	-0.1

NF
01.30.2025

Analysis Method: 9034

ANALYST: Iwona

Parameter: Reactive Sulfide

SUPERVISOR REVIEW BY: jignesh

Run Number: LB134488

Constant: 16000

Normality1: 0.025

Normality2: 0.025

Reagent/Standard	Lot/Log #
SODIUM THIOSULFATE, 0.025N, 4LITRE	W3105
IODINE SOLUTION .025N 1L	W3114
Starch Solution, 4L	W3149

Seq	Lab ID	True Value (mg/l)	DF	Initial Weight (g)	Final Volume (ml)	T1 (ml)	T2 Initial	T2 Final	T2 Diff. (ml)	T1 - T2 Diff (mL)	Value Corrected With Blank	Result (ppm)	Anal Date	Anal Time
1	PB166323BL		1	5.00	50	2.00	0.00	1.94	1.94	0.06	0.00	0.00	01/30/2025	15:00
2	Q1205-02		1	5.04	50	2.00	0.00	1.90	1.90	0.10	0.04	3.17	01/30/2025	15:03
3	Q1205-02DUP		1	5.04	50	2.00	0.00	1.90	1.90	0.10	0.04	3.17	01/30/2025	15:06
4	Q1206-04		1	5.07	50	2.00	0.00	1.86	1.86	0.14	0.08	6.31	01/30/2025	15:09
5	Q1206-08		1	5.01	50	2.00	0.00	1.92	1.92	0.08	0.02	1.60	01/30/2025	15:12
6	Q1207-04		1	5.04	50	2.00	0.00	1.90	1.90	0.10	0.04	3.17	01/30/2025	15:15
7	Q1207-08		1	5.02	50	2.00	0.00	1.84	1.84	0.16	0.10	7.97	01/30/2025	15:18
8	Q1207-12		1	5.07	50	2.00	0.00	1.90	1.90	0.10	0.04	3.16	01/30/2025	15:21
9	Q1207-16		1	5.06	50	2.00	0.00	1.92	1.92	0.08	0.02	1.58	01/30/2025	15:24
10	Q1207-20		1	5.07	50	2.00	0.00	1.86	1.86	0.14	0.08	6.31	01/30/2025	15:27
11	Q1209-04		1	5.05	50	2.00	0.00	1.92	1.92	0.08	0.02	1.58	01/30/2025	15:30
12	Q1209-08		1	5.02	50	2.00	0.00	1.88	1.88	0.12	0.06	4.78	01/30/2025	15:33

T1 = Titrant1

T2 = Titrant2

T2 Diff = T2 Final - T2 Initial

Value Corrected With Blank = ((T1 - T2 Diff) - Blank Correction(BL))

Result = ((T1 * Normality1) - ((T1 - Value Corrected With Blank) * Normality2)) * Constant / Initial Volume

Analysis Method: 9034

Parameter: Reactive Sulfide

Run Number: LB134488

ANALYST: Iwona

SUPERVISOR REVIEW BY: jignesh

Constant: 16000

Normality1: 0.025

Normality2: 0.025

Reagent/Standard	Lot/Log #
SODIUM THIOSULFATE, 0.025N, 4LITRE	W3105
IODINE SOLUTION .025N 1L	W3114
Starch Solution, 4L	W3149

Seq	Lab ID	True Value (mg/l)	DF	Initial Weight (g)	Final Volume (ml)	T1 (ml)	T2 Initial	T2 Final	T2 Diff. (ml)	T1 - T2 Diff (mL)	Value Corrected With Blank	Result (ppm)	Anal Date	Anal Time
13	Q1215-04		1	5.02	50	2.00	0.00	1.88	1.88	0.12	0.06	4.78	01/30/2025	15:36
14	Q1215-08		1	5.01	50	2.00	0.00	1.90	1.90	0.10	0.04	3.19	01/30/2025	15:39
15	Q1216-04		1	5.04	50	2.00	0.00	1.92	1.92	0.08	0.02	1.59	01/30/2025	15:42
16	Q1216-08		1	5.02	50	2.00	0.00	1.84	1.84	0.16	0.10	7.97	01/30/2025	15:45
17	Q1216-12		1	5.03	50	2.00	0.00	1.92	1.92	0.08	0.02	1.59	01/30/2025	15:48
18	Q1216-16		1	5.06	50	2.00	0.00	1.88	1.88	0.12	0.06	4.74	01/30/2025	15:52
19	Q1216-20		1	5.04	50	2.00	0.00	1.88	1.88	0.12	0.06	4.76	01/30/2025	15:55
20	Q1218-02		1	5.04	50	2.00	0.00	1.86	1.86	0.14	0.08	6.35	01/30/2025	15:58
21	Q1219-02		1	5.01	50	2.00	0.00	1.84	1.84	0.16	0.10	7.98	01/30/2025	16:02
22	Q1221-02		1	5.05	50	2.00	0.00	1.90	1.90	0.10	0.04	3.17	01/30/2025	16:05

T1 = Titrant1

T2 = Titrant2

T2 Diff = T2 Final - T2 Initial

Value Corrected With Blank = ((T1 - T2 Diff) - Blank Correction(BL))

Result = ((T1 * Normality1) - ((T1 - Value Corrected With Blank) * Normality2)) * Constant / Initial Volume

SOP ID : M9030B-Sulfide-12

SDG No : N/A

Matrix : SOIL

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Block ID : MC-1,MC-2

Weigh By : RM

Start Digest Date: 01/30/2025 Time : 11:00 Temp : N/A

End Digest Date: 01/30/2025 Time : 12:30 Temp : N/A

Ind Bolch 01/30/2025 13:00 *NA*
01/30/2025 14:30 *NA*

Digestion tube ID : M5595

Block Thermometer ID : N/A

Filter paper ID : N/A

Prep Technician Signature: *JP*

pH Meter ID : N/A

Supervisor Signature: *12*

Standard Name	MLS USED	STD REF. # FROM LOG
PBS003	50.0ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.5M ZINC ACETATE	5.0ML	WP111004
FORMALDEHYDE	2.0ML	W2725
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/Nitrite	Comment	Prep Pos
PB166323BL	PBS323	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1205-02DUP	VNJ-236DUP	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1205-02	VNJ-236	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1206-04	JPP-20.1-012725	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1206-08	JPP-16.3-012725	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-04	JPP-2.1-012725	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-08	JPP-5.1-012725	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-12	JPP-4.5-012725	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-16	JPP-16.2-012725	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-20	JPP-20.2-012725	5.07	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1209-04	WC-4	5.05	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1209-08	WC-5	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1215-04	JPP-29.1-012825	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1215-08	JPP-29.2-012825	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-04	JPP-18.1-012825	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-08	JPP-21.1-012825	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-12	JPP-21.2-012825	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-16	JPP-26.1-012825	5.06	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-20	JPP-26.2-012825	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1218-02	BELL-25-002	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1219-02	LAW-25-0015	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1221-02	CHESTNUT-CONCRETE	5.05	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : RSF-013025

WorkList ID : 187292

Department : Distillation

Date : 01-30-2025 09:41:30

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1205-02	VNJ-236	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	N31	01/28/2025	9034
Q1206-04	JPP-20.1-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1206-08	JPP-16.3-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1207-04	JPP-2.1-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1207-08	JPP-5.1-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1207-12	JPP-4.5-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1207-16	JPP-16.2-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1207-20	JPP-20.2-012725	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1209-04	WC-4	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/27/2025	9034
Q1209-08	WC-5	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	N41	01/28/2025	9034
Q1215-04	JPP-29.1-012825	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	N41	01/28/2025	9034
Q1215-08	JPP-29.2-012825	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1216-04	JPP-18.1-012825	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1216-08	JPP-21.1-012825	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1216-12	JPP-21.2-012825	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1216-16	JPP-26.1-012825	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1216-20	JPP-26.2-012825	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1218-02	BELL-25-002	Solid	Reactive Sulfide	Cool 4 deg C	RUTW01	E11	01/28/2025	9034
Q1219-02	LAW-25-0015	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	N41	01/29/2025	9034
Q1221-02	CHESTNUT-CONCRETE	Solid	Reactive Sulfide	Cool 4 deg C	PSEG03	N41	01/29/2025	9034

Date/Time 01/30/25 10:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 01/30/25 13:20

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

SOP ID : M9012B-Total, Amenable and Reactive Cyanide-20

SDG No : N/A

Start Digest Date: 01/30/2025 Time : 09:00 Temp : N/A

Matrix : SOIL

End Digest Date: 01/30/2025 Time : 10:30 Temp : N/A

Pipette ID : N/A

II batch 01/30/2025 11:00 N/A
01/30/2025 12:30 N/A } NF

Balance ID : WC SC-7

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : N/A

Block ID : MC-1, MC-2

Filter paper ID : N/A

Prep Technician Signature: *NF*

Weigh By : NF

pH Meter ID : N/A

Supervisor Signature: *12*

Standardized Name	MLS USED	STD REF. # FROM LOG
PBS003	50.0ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP111294
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Comment

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01.30.2025, 12:40	<i>NF(WC)</i>	<i>NF(WC)</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/Nitrite	Comment	Prep Pos
PB166380BL	PBS380	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1205-02DUP	VNJ-236DUP	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1205-02	VNJ-236	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1206-04	JPP-20.1-012725	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1206-08	JPP-16.3-012725	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-04	JPP-2.1-012725	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-08	JPP-5.1-012725	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-12	JPP-4.5-012725	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-16	JPP-16.2-012725	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1207-20	JPP-20.2-012725	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1209-04	WC-4	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1209-08	WC-5	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1215-04	JPP-29.1-012825	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1215-08	JPP-29.2-012825	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-04	JPP-18.1-012825	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-08	JPP-21.1-012825	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-12	JPP-21.2-012825	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-16	JPP-26.1-012825	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1216-20	JPP-26.2-012825	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1218-02	BELL-25-002	5.04	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1219-02	LAW-25-0015	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
Q1221-02	CHESTNUT-CONCRETE	5.03	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : RCN S-01302025 WorkList ID : 187284

Department : Distillation

Date : 01-30-2025 08:30:05

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1205-02	VNJ-236	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	N31	01/28/2025	9012B
Q1206-04	JPP-20.1-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1206-08	JPP-16.3-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1207-04	JPP-2.1-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1207-08	JPP-5.1-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1207-12	JPP-4.5-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1207-16	JPP-16.2-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1207-20	JPP-20.2-012725	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1209-04	WC-4	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/27/2025	9012B
Q1209-08	WC-5	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	N41	01/28/2025	9012B
Q1215-04	JPP-29.1-012825	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	N41	01/28/2025	9012B
Q1215-08	JPP-29.2-012825	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1216-04	JPP-18.1-012825	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1216-08	JPP-21.1-012825	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1216-12	JPP-21.2-012825	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1216-16	JPP-26.1-012825	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1216-20	JPP-26.2-012825	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1218-02	BELL-25-002	Solid	Reactive Cyanide	Cool 4 deg C	RUTW01	E11	01/28/2025	9012B
Q1219-02	LAW-25-0015	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	N41	01/29/2025	9012B
Q1221-02	CHESTNUT-CONCRETE	Solid	Reactive Cyanide	Cool 4 deg C	PSEG03	N41	01/29/2025	9012B

Date/Time 01/30/2025, 08:35

Raw Sample Received by: NFLWCJ

Raw Sample Relinquished by: NFLWCJ

Date/Time 01/30/2025 19:45
Raw Sample Received by: NFLWCJ
Raw Sample Relinquished by: NFLWCJ

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB134458

Review By	jignesh	Review On	1/28/2025 4:35:54 PM
Supervise By	Iwona	Supervise On	1/29/2025 9:32:50 AM
SubDirectory	LB134458	Test	Corrosivity
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	01/28/25 14:40		Jignesh	OK
2	CAL2	CAL2	CAL	01/28/25 14:41		Jignesh	OK
3	CAL3	CAL3	CAL	01/28/25 14:45		Jignesh	OK
4	ICV	ICV	ICV	01/28/25 14:48		Jignesh	OK
5	CCV1	CCV1	CCV	01/28/25 15:00		Jignesh	OK
6	Q1205-02	VNJ-236	SAM	01/28/25 15:05		Jignesh	OK
7	Q1205-02DUP	VNJ-236DUP	DUP	01/28/25 15:06		Jignesh	OK
8	Q1206-04	JPP-20.1-012725	SAM	01/28/25 15:10		Jignesh	OK
9	Q1206-08	JPP-16.3-012725	SAM	01/28/25 15:15		Jignesh	OK
10	Q1207-04	JPP-2.1-012725	SAM	01/28/25 15:25		Jignesh	OK
11	Q1207-08	JPP-5.1-012725	SAM	01/28/25 15:30		Jignesh	OK
12	Q1207-12	JPP-4.5-012725	SAM	01/28/25 15:40		Jignesh	OK
13	Q1207-16	JPP-16.2-012725	SAM	01/28/25 15:47		Jignesh	OK
14	Q1207-20	JPP-20.2-012725	SAM	01/28/25 15:55		Jignesh	OK
15	Q1209-04	WC-4	SAM	01/28/25 16:00		Jignesh	OK
16	CCV2	CCV2	CCV	01/28/25 16:05		Jignesh	OK
17	Q1209-08	WC-5	SAM	01/28/25 16:10		Jignesh	OK
18	CCV3	CCV3	CCV	01/28/25 16:11		Jignesh	OK

Instrument ID: FILTER/GRAVIMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB134462

Review By	rubina	Review On	1/29/2025 3:15:33 PM
Supervise By	Iwona	Supervise On	1/29/2025 4:21:38 PM
SubDirectory	LB134462	Test	Paint Filter
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	Q1205-01	VNJ-236	SAM	01/29/25 12:10		rubina	OK
2	Q1205-01DUP	VNJ-236DUP	DUP	01/29/25 12:18		rubina	OK
3	Q1206-03	JPP-20.1-012725	SAM	01/29/25 12:25		rubina	OK
4	Q1206-07	JPP-16.3-012725	SAM	01/29/25 12:32		rubina	OK
5	Q1207-03	JPP-2.1-012725	SAM	01/29/25 12:40		rubina	OK
6	Q1207-07	JPP-5.1-012725	SAM	01/29/25 12:48		rubina	OK
7	Q1207-11	JPP-4.5-012725	SAM	01/29/25 12:55		rubina	OK
8	Q1207-15	JPP-16.2-012725	SAM	01/29/25 13:02		rubina	OK
9	Q1207-19	JPP-20.2-012725	SAM	01/29/25 13:10		rubina	OK
10	Q1209-01	WC-4	SAM	01/29/25 13:18		rubina	OK
11	Q1209-05	WC-5	SAM	01/29/25 13:25		rubina	OK

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QC Batch ID # LB134463

Review By	rubina	Review On	1/29/2025 3:16:14 PM
Supervise By	Iwona	Supervise On	1/29/2025 4:21:26 PM
SubDirectory	LB134463	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	Q1205-01	VNJ-236	SAM	01/29/25 09:25		rubina	OK
2	Q1205-01DUP	VNJ-236DUP	DUP	01/29/25 09:32		rubina	OK
3	Q1205-02	VNJ-236	SAM	01/29/25 09:40		rubina	OK
4	Q1206-04	JPP-20.1-012725	SAM	01/29/25 09:47		rubina	OK
5	Q1206-08	JPP-16.3-012725	SAM	01/29/25 09:55		rubina	OK
6	Q1207-04	JPP-2.1-012725	SAM	01/29/25 10:02		rubina	OK
7	Q1207-08	JPP-5.1-012725	SAM	01/29/25 10:40		rubina	OK
8	Q1207-12	JPP-4.5-012725	SAM	01/29/25 10:48		rubina	OK
9	Q1207-16	JPP-16.2-012725	SAM	01/29/25 10:55		rubina	OK
10	Q1207-20	JPP-20.2-012725	SAM	01/29/25 11:02		rubina	OK
11	Q1209-01	WC-4	SAM	01/29/25 11:10		rubina	OK
12	Q1209-04	WC-4	SAM	01/29/25 11:18		rubina	OK
13	Q1209-05	WC-5	SAM	01/29/25 11:25		rubina	OK
14	Q1209-08	WC-5	SAM	01/29/25 11:32		rubina	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB134487

Review By	Niha	Review On	1/31/2025 9:39:38 AM
Supervise By	Iwona	Supervise On	1/31/2025 11:13:20 AM
SubDirectory	LB134487	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP111709,WP111710,WP111711,WP111712,WP111713,WP111714,WP111715		
ICV Standard	WP111716		
CCV Standard	WP111709		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP111035,WP110103,WP111717		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	01/30/25 10:07		Niha	OK
2	5.0PPBCN	5.0PPBCN	CAL2	01/30/25 10:07		Niha	OK
3	10PPBCN	10PPBCN	CAL3	01/30/25 10:07		Niha	OK
4	50PPBCN	50PPBCN	CAL4	01/30/25 10:07		Niha	OK
5	100PPBCN	100PPBCN	CAL5	01/30/25 10:07		Niha	OK
6	250PPBCN	250PPBCN	CAL6	01/30/25 10:07		Niha	OK
7	500PPBCN	500PPBCN	CAL7	01/30/25 10:07		Niha	OK
8	ICV1	ICV1	ICV	01/30/25 12:59		Niha	OK
9	ICB1	ICB1	ICB	01/30/25 12:59		Niha	OK
10	CCV1	CCV1	CCV	01/30/25 12:59		Niha	OK
11	CCB1	CCB1	CCB	01/30/25 12:59		Niha	OK
12	PB166380BL	PB166380BL	MB	01/30/25 12:59		Niha	OK
13	Q1205-02	VNJ-236	SAM	01/30/25 12:59		Niha	OK
14	Q1205-02DUP	VNJ-236DUP	DUP	01/30/25 13:06		Niha	OK
15	Q1206-04	JPP-20.1-012725	SAM	01/30/25 13:06		Niha	OK
16	Q1206-08	JPP-16.3-012725	SAM	01/30/25 13:06		Niha	OK
17	Q1207-04	JPP-2.1-012725	SAM	01/30/25 13:06		Niha	OK
18	Q1207-08	JPP-5.1-012725	SAM	01/30/25 13:06		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB134487

Review By	Niha	Review On	1/31/2025 9:39:38 AM
Supervise By	Iwona	Supervise On	1/31/2025 11:13:20 AM
SubDirectory	LB134487	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP111709,WP111710,WP111711,WP111712,WP111713,WP111714,WP111715		
ICV Standard	WP111716		
CCV Standard	WP111709		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP111035,WP110103,WP111717		

19	Q1207-12	JPP-4.5-012725	SAM	01/30/25 13:06		Niha	OK
20	Q1207-16	JPP-16.2-012725	SAM	01/30/25 13:06		Niha	OK
21	Q1207-20	JPP-20.2-012725	SAM	01/30/25 13:06		Niha	OK
22	CCV2	CCV2	CCV	01/30/25 13:06		Niha	OK
23	CCB2	CCB2	CCB	01/30/25 13:14		Niha	OK
24	Q1209-04	WC-4	SAM	01/30/25 13:14		Niha	OK
25	Q1209-08	WC-5	SAM	01/30/25 13:14		Niha	OK
26	Q1215-04	JPP-29.1-012825	SAM	01/30/25 13:14		Niha	OK
27	Q1215-08	JPP-29.2-012825	SAM	01/30/25 13:14		Niha	OK
28	Q1216-04	JPP-18.1-012825	SAM	01/30/25 13:14		Niha	OK
29	Q1216-08	JPP-21.1-012825	SAM	01/30/25 13:14		Niha	OK
30	Q1216-12	JPP-21.2-012825	SAM	01/30/25 13:14		Niha	OK
31	Q1216-16	JPP-26.1-012825	SAM	01/30/25 13:14		Niha	OK
32	Q1216-20	JPP-26.2-012825	SAM	01/30/25 13:14		Niha	OK
33	Q1218-02	BELL-25-002	SAM	01/30/25 13:14		Niha	OK
34	CCV3	CCV3	CCV	01/30/25 13:21		Niha	OK
35	CCB3	CCB3	CCB	01/30/25 13:21		Niha	OK
36	Q1219-02	LAW-25-0015	SAM	01/30/25 13:21		Niha	OK
37	Q1221-02	CHESTNUT-CONCRE	SAM	01/30/25 13:21		Niha	OK
38	CCV4	CCV4	CCV	01/30/25 13:21		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB134487

Review By	Niha	Review On	1/31/2025 9:39:38 AM
Supervise By	Iwona	Supervise On	1/31/2025 11:13:20 AM
SubDirectory	LB134487	Test	Reactive Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP111709,WP111710,WP111711,WP111712,WP111713,WP111714,WP111715		
ICV Standard	WP111716		
CCV Standard	WP111709		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	N/A		
Chk Standard	WP111035,WP110103,WP111717		

39	CCB4	CCB4	CCB	01/30/25 13:21		Niha	OK
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Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB134488

Review By	Iwona	Review On	1/30/2025 4:13:16 PM
Supervise By	jignesh	Supervise On	1/30/2025 4:14:06 PM
SubDirectory	LB134488	Test	Reactive Sulfide
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	W3105,W3114,W3149		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	PB166323BL	PB166323BL	MB	01/30/25 15:00		Iwona	OK
2	Q1205-02	VNJ-236	SAM	01/30/25 15:03		Iwona	OK
3	Q1205-02DUP	VNJ-236DUP	DUP	01/30/25 15:06		Iwona	OK
4	Q1206-04	JPP-20.1-012725	SAM	01/30/25 15:09		Iwona	OK
5	Q1206-08	JPP-16.3-012725	SAM	01/30/25 15:12		Iwona	OK
6	Q1207-04	JPP-2.1-012725	SAM	01/30/25 15:15		Iwona	OK
7	Q1207-08	JPP-5.1-012725	SAM	01/30/25 15:18		Iwona	OK
8	Q1207-12	JPP-4.5-012725	SAM	01/30/25 15:21		Iwona	OK
9	Q1207-16	JPP-16.2-012725	SAM	01/30/25 15:24		Iwona	OK
10	Q1207-20	JPP-20.2-012725	SAM	01/30/25 15:27		Iwona	OK
11	Q1209-04	WC-4	SAM	01/30/25 15:30		Iwona	OK
12	Q1209-08	WC-5	SAM	01/30/25 15:33		Iwona	OK
13	Q1215-04	JPP-29.1-012825	SAM	01/30/25 15:36		Iwona	OK
14	Q1215-08	JPP-29.2-012825	SAM	01/30/25 15:39		Iwona	OK
15	Q1216-04	JPP-18.1-012825	SAM	01/30/25 15:42		Iwona	OK
16	Q1216-08	JPP-21.1-012825	SAM	01/30/25 15:45		Iwona	OK
17	Q1216-12	JPP-21.2-012825	SAM	01/30/25 15:48		Iwona	OK
18	Q1216-16	JPP-26.1-012825	SAM	01/30/25 15:52		Iwona	OK

Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QC Batch ID # LB134488

Review By	Iwona	Review On	1/30/2025 4:13:16 PM
Supervise By	jignesh	Supervise On	1/30/2025 4:14:06 PM
SubDirectory	LB134488	Test	Reactive Sulfide
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	W3105,W3114,W3149		

19	Q1216-20	JPP-26.2-012825	SAM	01/30/25 15:55		Iwona	OK
20	Q1218-02	BELL-25-002	SAM	01/30/25 15:58		Iwona	OK
21	Q1219-02	LAW-25-0015	SAM	01/30/25 16:02		Iwona	OK
22	Q1221-02	CHESTNUT-CONCRE	SAM	01/30/25 16:05		Iwona	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1206

Test : Corrosivity, Ignitability, Paint Filter, Percent Solids, Reactive Cyanide, Reactive Sulfide

Prepbatch ID : PB166323, PB166380,

Sequence ID/Qc Batch ID: LB134458, LB134462, LB134463, LB134487, LB134488,

Standard ID :

WP110103, WP111004, WP111035, WP111294, WP111296, WP111707, WP111709, WP111710, WP111711, WP111712, WP111713, WP111714, WP111715, WP111716, WP111717,

Chemical ID :

M6121, W2668, W2725, W2882, W2926, W3019, W3071, W3072, W3093, W3094, W3105, W3107, W3112, W3113, W3114, W3138, W3139, W3149, W3154, W3161,

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
539	CN BUFFER	WP110103	10/08/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 10/08/2024
FROM 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
160	0.5M ZINC ACETATE	WP111004	12/09/2024	05/13/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 12/09/2024
FROM 0.88900L of W3112 + 1.00000ml of M6121 + 110.00000gram of W2926 = Final Quantity: 1000.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
607	PYRIDINE-BARBITURIC ACID	WP111035	12/09/2024	04/30/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	Glass Pipette-A	Iwona Zarych 12/10/2024
FROM 145.00000ml of W3112 + 15.00000gram of W2882 + 15.00000ml of M6121 + 75.00000ml of W3019 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	WP111294	01/07/2025	07/07/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 01/07/2025
FROM 21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3371	Cyanide LCS Spike Solution, 5PPM	WP111296	01/07/2025	07/07/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/07/2025
FROM 1.00000ml of W3138 + 199.00000ml of WP111294 = Final Quantity: 200.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	WP111707	01/30/2025	01/31/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/31/2025
FROM 0.25000ml of W3154 + 49.75000ml of WP111294 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3761	Calibration-CCV CN Standard 250 ppb	WP111709	01/30/2025	01/31/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/31/2025

FROM 2.50000ml of WP111707 + 47.50000ml of WP111294 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4	Calibration standard 500 ppb	WP111710	01/30/2025	01/31/2025	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 01/31/2025

FROM 45.00000ml of WP111294 + 5.00000ml of WP111707 = Final Quantity: 50.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
6	Calibration Standard 100 ppb	WP111711	01/30/2025	01/31/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/31/2025
FROM 1.00000ml of WP111707 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
7	Calibration Standard 50 ppb	WP111712	01/30/2025	01/31/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/31/2025
FROM 0.50000ml of WP111707 + 49.50000ml of WP111294 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
8	Calibration Standard 10 ppb	WP111713	01/30/2025	01/31/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/31/2025
FROM 1.00000ml of WP111710 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
9	Calibration Standard 5 ppb	WP111714	01/30/2025	01/31/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 01/31/2025
FROM 0.50000ml of WP111710 + 49.50000ml of WP111294 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
167	0 ppb CN calibration std	WP111715	01/30/2025	01/31/2025	Niha Farheen Shaik	None	None	Iwona Zarych
								01/31/2025

FROM 50.00000ml of WP111294 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2168	RCN ICV STD, 100 PPB	WP111716	01/30/2025	01/31/2025	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3	Iwona Zarych
							(WC)	01/31/2025

FROM 1.00000ml of WP111296 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1582	Chloramine T solution, 0.014M	WP111717	01/30/2025	01/31/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 01/31/2025
FROM 0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYST, ACS, 2.5 KG	0000225799	12/03/2025	04/05/2021 / Alexander	02/10/2020 / apatel	W2668

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EMD-FX0410-5 / FORMALDEHYDE SOLUTION 450ML	60045	06/22/2025	08/19/2024 / lwona	06/22/2020 / apatel	W2725

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-BX0035-3 / Barbituric Acid, 100 gms	1.00132.0100	04/30/2025	12/07/2021 /	11/30/2021 / apatel	W2882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J4296-1 / ZINC ACETATE,DIHYD,CRYST,ACS,500G	383058	07/05/2027	07/05/2022 / ketankumar	07/05/2022 / ketankumar	W2926

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
SIGMA ALDRICH	270970-1L / Pyridine 1L	SHBQ2113	04/03/2028	04/03/2023 / lwona	04/03/2023 / lwona	W3019

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.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LIT RE	4403S13	09/30/2025	04/22/2024 / Iwona	04/22/2024 / Iwona	W3105

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	23B1556310	12/31/2025	07/08/2024 / lwona	07/08/2024 / lwona	W3113

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL35830-4 / IODINE SOLUTION .025N 1L	2405D89	05/31/2025	07/10/2024 / lwona	07/10/2024 / lwona	W3114

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	LC135457 / Cyanide Standard, 1000 PPM, Second Source	44080060	01/30/2025	09/06/2024 / lwona	08/28/2024 / lwona	W3138

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	JTE494-6 / CHLORAMINE-T BAKER 250GM	10239484	09/09/2029	09/09/2024 / lwona	09/09/2024 / lwona	W3139

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	4408P62	08/31/2026	10/16/2024 / lwona	10/16/2024 / lwona	W3149

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	1411J58	05/31/2025	12/02/2024 / lwona	12/02/2024 / lwona	W3154

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 / lwona	12/09/2024 / lwona	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.

W3019
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.comEmail USA: techserv@sial.comOutside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

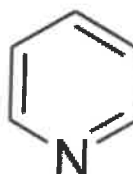
C₅H₅N

Formula Weight:

79.10 g/mol

Quality Release Date:

15 DEC 2022



Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
Infrared Spectrum	Conforms to Structure	Conforms
Purity (GC)	≥ 99.75 %	99.99 %
Water (by Karl Fischer)	≤ 0.003 %	0.002 %
Residue on Evaporation	≤ 0.0005 %	< 0.0001 %


Larry Coers, Director

Quality Control

Sheboygan Falls, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



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

Date of Release: 2/26/2020

Name: Formaldehyde Solution
GR ACS
Meets ACS Specifications

Item No: FX0410 all size codes

Lot / Batch No: 60045

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Assay	36.5	38.0	36.71	%
Chloride (Cl)		5	<5	ppm
Color (APHA)		10	<10	
Form			Passes test	
Heavy metals (as Pb)		5	<5	ppm
Iron (Fe)		5	0.6	ppm
Residue after ignition		0.005	<0.0050	%
Sulfate (SO ₄)		0.002	<0.0020	%
Titrate acid		0.006	<0.0060	meq/g

Heather Sinn,

Quality Control Manager

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EMD Millipore Corporation, an affiliate of Merck KGaA, Darmstadt, Germany
290 Concord Road
Billerica, MA 01821
U.S.A

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

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Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis



R → 16/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.6
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.190
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	1
ACS - Free Chlorine (as Cl ₂)	<= 0.5 ppm	< 0.5
Phosphate (PO ₄)	<= 0.05 ppm	< 0.03
Sulfate (SO ₄)	<= 0.5 ppm	< 0.3
Sulfite (SO ₃)	<= 0.8 ppm	0.3
Ammonium (NH ₄)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Test	Specification	Result
Trace Impurities – Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities – Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities – Iron (Fe)	<= 15.0 ppb	< 1
Trace Impurities – Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities – Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities – Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities – Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities – Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities – Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities – Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities – Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities – Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities – Selenium (Se), For Information Only	ppb	1.0
Trace Impurities – Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities – Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities – Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities – Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities – Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities – Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities – Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities – Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities – Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities – Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities – Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700



Certificate of Analysis

1.00132.0000 Barbituric acid for analysis EMSURE®
Batch N020065932

	Spec. Values		Batch Values	
Assay (acidimetric)	≥ 99	%	99.6	%
Identity (IR-spectrum)	passes test		passes test	
Chloride (Cl)	≤ 40	ppm	≤ 40	ppm
Heavy metals (as Pb)	≤ 50	ppm	≤ 50	ppm
Fe (Iron)	≤ 10	ppm	≤ 10	ppm
Sulfated ash	≤ 0.1	%	≤ 0.1	%
Loss on Drying (105 °C)	≤ 0.1	%	≤ 0.1	%
Suitability as reagent (for cyanide determination)	passes test		passes test	

Date of release (DD.MM.YYYY) 17.04.2020
Minimum shelf life (DD.MM.YYYY) 30.04.2025

Ioannis Chartomatsidis
Responsible laboratory manager quality control

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Sodium Phosphate, Monobasic, Monohydrate,
Crystal
BAKER ANALYZED® A.C.S. Reagent

(sodium dihydrogen phosphate, monohydrate)



Material No.: 3818-05
Batch No.: 0000225799
Manufactured Date: 2018/12/05
Retest Date: 2025/12/03
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$)	98.0 – 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 – 4.5	4.3
Insoluble Matter	$\leq 0.01 \%$	< 0.01
Chloride (Cl)	$\leq 5 \text{ ppm}$	< 5
ACS – Sulfate (SO_4)	$\leq 0.003 \%$	< 0.003
Calcium (Ca)	$\leq 0.005 \%$	< 0.005
Potassium (K)	$\leq 0.01 \%$	< 0.01
Heavy Metals (as Pb)	$\leq 0.001 \%$	< 0.001
Trace Impurities – Iron (Fe)	$\leq 0.001 \%$	< 0.001

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: IN
Packaging Site: Paris Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality

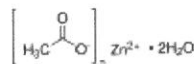
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Certificate of Analysis

Product Name:

Zinc acetate dihydrate - ACS reagent, $\geq 98\%$

Product Number: 383058
Batch Number: MKCQ9159
Brand: SIGALD
CAS Number: 5970-45-6
MDL Number: MFCD00066961
Formula: $C_4H_6O_4Zn \cdot 2H_2O$
Formula Weight: 219.51 g/mol
Quality Release Date: 06 JAN 2022



W2926
Open 7/5/22
received
on 7/5/22

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystal or Chunk(s)	Powder
Infrared Spectrum	Conforms to Structure	Conforms
Insoluble Matter	$\leq 0.005\%$	0.003 %
Calcium (Ca)	$\leq 0.005\%$	0.003 %
Chloride (Cl)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 5 ppm	< 5 ppm
Potassium (K)	$\leq 0.01\%$	0.00 %
Magnesium (Mg)	$\leq 0.005\%$	0.003 %
Sodium (Na)	$\leq 0.05\%$	0.03 %
Lead (Pb)	$\leq 0.002\%$	$< 0.001\%$
pH	6.0 - 7.0	6.1
Sulfate (SO ₄)	$\leq 0.005\%$	$< 0.005\%$
Complexometric EDTA	98.0 - 101.0 %	100.3 %
Meets ACS Requirements	Meets Requirements	Meets Requirements


Larry Coers, Director
Quality Control
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.





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

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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 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

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This product was tested in an ISO 17025 Accredited Laboratory

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Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4403S13

Product Number: 7900

Manufacture Date: MAR 29, 2024

Expiration Date: SEP 2025

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Iodate/Starch)	0.02499-0.02501 N at 20°C	0.02501 N at 20°C	136

Specification	Reference
Standard Sodium Thiosulfate Solution, 0.0250 N	APHA (4500-S2- F)
Standard Sodium Thiosulfate Titrant	APHA (4500-O D)
Standard Sodium Thiosulfate Titrant	APHA (4500-O E)
Standard Sodium Thiosulfate Titrant	APHA (4500-O F)
Standard Sodium Thiosulfate Titrant, 0.025 N	APHA (4500-CI B)
Standard Sodium Thiosulfate Titrant	APHA (4500-O C)
Standard Sodium Thiosulfate Titrant, 0.025 M	APHA (5530 C)
Standard Sodium Thiosulfate Solution (0.025 N)	EPA (SW-846) (9031)
Standard Sodium Thiosulfate solution (0.025 N)	EPA (SW-846) (9034)

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)
7900-1	4 L natural poly	18 months
7900-16	500 mL natural poly	18 months
7900-1CT	4 L Cubitainer®	18 months
7900-32	1 L natural poly	18 months

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

Paul Brandon

Paul Brandon (03/29/2024)

Production Manager

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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 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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Sodium Hydroxide (Pellets)

Material: 0583
Grade: ACS GRADE
Batch Number: 23B1556310

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

Pellets

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

This document has been electronically produced and is valid without a signature.

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.



Sodium Hydroxide (Pellets)

Material: 0583
Grade: ACS GRADE
Batch Number: 23B1556310

Chemical Formula:	NaOH	Manufacture Date:	12/14/2022
Molecular Weight:	40	Expiration Date:	12/31/2025
CAS #:	1310-73-2		
Appearance:		Storage:	Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature	Additional Information
We certify that this batch conforms to the specifications listed. This document has been electronically produced and is valid without a signature. Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon OH 44139 USA	Analysis may have been rounded to significant digits in specification limits. Product meets analytical specifications of the grades listed.

Certificate of Analysis

Iodine (Iodine-Iodide), 0.0250 Normal (N/40), 1 mL = 0.4008 mg S²⁻

Lot Number: 2405D89

Product Number: 3975

Manufacture Date: MAY 10, 2024

Expiration Date: MAY 2025

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Iodide	7681-11-0	ACS
Iodine	7553-56-2	ACS

Test	Specification	Result	NIST SRM#
Appearance	Dark brown liquid	Passed	
Assay (vs. Sodium Thiosulfate/Starch)	0.02498-0.02502 N at 20°C	0.02502 N at 20°C	136

Specification	Reference
Standard Iodine Solution, 0.0250 N	APHA (4500-S2- F)
Iodine Solution (approximately 0.025 N)	EPA (SW-846) (9031)
Standard Iodine Solution, 0.0250 N	EPA (376.1)
Iodine Solution (approximately 0.025 N)	EPA (SW-846) (9034)

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)
3975-1	4 L amber glass	12 months
3975-16	500 mL amber glass	12 months
3975-32	1 L amber glass	12 months

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



Jose Pena (05/10/2024)
Operations Manager

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Certificate of Analysis

Cyanide Standard 1000 ppm (1ml = 1mg CN)

Product Code: **LC13545**

Manufacture Date: August 01, 2024

Lot Number: **44080060**

Expiration Date: January 30, 2025

Test	Specification	Result
Appearance (clarity)	clear solution	clear solution
Appearance (color)	colorless	colorless
Concentration (CN)	0.990 - 1.010mg/mL	1.008mg/mL
Concentration (CN)	990 - 1,010ppm	1,008ppm
Traceable to NIST SRM	Report	999b

Intended Use - Product is intended for use in manufacturing procedures and laboratory procedures and protocols.

Storage Information - Unless noted on the product label, store the product under normal lab conditions in its tightly closed, original container. Do not pipet directly from the container or return unused portions to the container.

Instructions for Handling and Use - Please refer to the associated product label and Safety Data Sheet (SDS) for information regarding safety and handling of this product.

Preparation - All products are manufactured and tested according to established, documented procedures and methodology. Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.

The suffix of the product code may differ from what is on your product label. The suffix will designate the size and be associated with a numeric digit(s). Visit LabChem.com for more information

Suffix	1	2	3/3S/36/36S	4/4C	5	6	7	8	9	20	44	200	246	486
Size	500mL or g	1L or 1kg	2.5L/2.5L Coated/6x2.5L/6x2.5L Coated	4L	20L	10L	125mL	25g	100g	20x20mL	4x4L	200L	24x6mL	48x6mL



Michael Monteleone
Chemistry Supervisor - Quality Control

ISO9001:2015 Registration #0306-01

W3139 Received on 9/9/24 by IZ

Product No.: A12044
Product: Chloramine-T trihydrate, 98%
Lot No.: 10239484

Appearance:	White powder
Melting Point:	166°C(dec)
Assay (Iodometric titration):	100.5%
Identification (FTIR):	Conforms

Order our products online thermofisher.com/chemicals

This document has been electronically generated and does not require a signature.

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.



Certificate of Analysis

Starch Indicator, 0.5% (w/v), Mercury Free, for Iodometric Titrations

Lot Number: 4408P62

Product Number: 8000

Manufacture Date: AUG 28, 2024

Expiration Date: AUG 2026

This product is Mercury-free.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Starch, soluble	9005-84-9	ACS
Salicylic Acid	69-72-7	ACS

Test	Specification	Result
Appearance	White translucent liquid	Passed
Suitability for Use	Colorless (Iodine absent) - Blue (Iodine present)	Passed

Specification	Reference
Starch Solution	APHA (4500-S2- F)
Starch Indicator Solution	APHA (4500-CI B)
Starch Indicator	APHA (4500-SO32- B)
Starch indicator solution	APHA (2350 B)
Starch indicator solution	APHA (2350 E)
Starch Solution	APHA (510 B)
Starch Solution	APHA (5530 C)
Starch Indicator	APHA (4500-CI C)
Starch Indicator	EPA (345.1)

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)
8000-1	4 L natural poly	24 months
8000-16	500 mL natural poly	24 months
8000-32	1 L natural poly	24 months

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

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



Certificate of Analysis

Cyanide Standard, 1000 ppm CN⁻

Lot Number: 1411J58**Product Number:** 2543**Manufacture Date:** NOV 22, 2024**Expiration Date:** MAY 2025

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Potassium Cyanide	151-50-8	ACS
Sodium Hydroxide	1310-73-2	Reagent

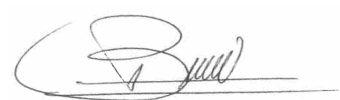
Test	Specification	Result
Appearance	Colorless liquid	Passed
Cyanide (CN ⁻)	995-1005 ppm	1000 ppm

Specification	Reference
Stock Standard Cyanide Solution	APHA (4500-CN- F)
Stock Cyanide Solution	APHA (4500-CN- E)
Stock Cyanide Solution	APHA (4500-CN- K)
Stock Cyanide Solution	APHA (4500-CN- H)
Cyanide Reference Solution (1000 mg/L)	EPA (SW-846) (7.3.3.2)
Cyanide Calibration Stock Solution (1,000 mg/L CN ⁻)	EPA (SW-846) (9213)
Stock Cyanide Solution	EPA (335.3)
Stock Cyanide Solution	EPA (335.2)
Cyanide Solution Stock	ASTM (D 4282)
Simple Cyanide Solution, Stock (1.0 g/L CN ⁻)	ASTM (D 4374)

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)
2543-16	500 mL amber poly	6 months
2543-32	1 L amber poly	6 months
2543-4	120 mL amber poly	6 months

Recommended Storage: 2°C - 8°C (36°F - 46°F)



Luis Briceno (11/22/2024)
Operations Supervisor

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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

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PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 1/29/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 16:40
In Date: 01/28/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:10
Out Date: 01/29/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB134456

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
Q1191-03	A44Y0	1	1.00	1.00	2.00	2.00	100.0	FB solids
Q1191-04	A44Y1	2	1.00	1.00	2.00	2.00	100.0	FB solids
Q1191-09	VHBLK002	3	1.00	1.00	2.00	2.00	100.0	vhblk
Q1205-01	VNJ-236	4	1.15	8.64	9.79	8.68	87.2	
Q1206-01	JPP-20.1-012725	5	1.18	8.42	9.6	8.38	85.5	
Q1206-03	JPP-20.1-012725	6	1.19	8.50	9.69	8.46	85.5	
Q1206-05	JPP-16.3-012725	7	1.16	8.80	9.96	8.72	85.9	
Q1206-07	JPP-16.3-012725	8	1.19	8.51	9.7	8.38	84.5	
Q1207-01	JPP-2.1-012725	9	1.15	8.51	9.66	8.54	86.8	
Q1207-04	JPP-2.1-012725	10	1.16	8.61	9.77	8.7	87.6	
Q1207-05	JPP-5.1-012725	11	1.15	8.59	9.74	8.98	91.2	
Q1207-07	JPP-5.1-012725	12	1.18	8.60	9.78	9.00	90.9	
Q1207-08	JPP-5.1-012725	13	1.18	8.60	9.78	9.00	90.9	
Q1207-09	JPP-4.5-012725	14	1.17	8.82	9.99	8.49	83.0	
Q1207-11	JPP-4.5-012725	15	1.19	8.80	9.99	8.37	81.6	
Q1207-12	JPP-4.5-012725	16	1.19	8.80	9.99	8.37	81.6	
Q1207-13	JPP-16.2-012725	17	1.13	8.80	9.93	9.02	89.7	
Q1207-15	JPP-16.2-012725	18	1.15	8.67	9.82	8.85	88.8	
Q1207-16	JPP-16.2-012725	19	1.15	8.67	9.82	8.85	88.8	
Q1207-17	JPP-20.2-012725	20	1.12	8.77	9.89	8.85	88.1	
Q1207-19	JPP-20.2-012725	21	1.17	8.53	9.7	8.66	87.8	
Q1207-20	JPP-20.2-012725	22	1.17	8.53	9.7	8.66	87.8	
Q1208-01	60304	23	1.00	1.00	2.00	2.00	100.0	oil sample
Q1209-01	WC-4	24	1.17	8.80	9.97	8.5	83.3	
Q1209-02	WC-4-EPH	25	1.15	8.64	9.79	8.39	83.8	
Q1209-03	WC-4-VOC	26	1.14	8.82	9.96	8.56	84.1	
Q1209-05	WC-5	27	1.15	8.82	9.97	8.95	88.4	
Q1209-06	WC-5-EPH	28	1.13	8.85	9.98	8.55	83.8	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 1/29/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 16:40
In Date: 01/28/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:10
Out Date: 01/29/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB134456

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
Q1209-07	WC-5-VOC	29	1.15	8.74	9.89	8.27	81.5	

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

WORKLIST(Hardcopy Internal Chain)

JF 124456

WorkList Name : %1-012825

WorkList ID : 187196

Department : Wet-Chemistry

Date : 01-28-2025 07:59:28

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1206-01	JPP-20.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1206-03	JPP-20.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1206-05	JPP-16.3-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1206-07	JPP-16.3-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-01	JPP-2.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-04	JPP-2.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-13	JPP-16.2-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-15	JPP-16.2-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-16	JPP-16.2-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-17	JPP-20.2-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-19	JPP-20.2-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-20	JPP-20.2-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-05	JPP-5.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-07	JPP-5.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-08	JPP-5.1-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-09	JPP-4.5-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-11	JPP-4.5-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1207-12	JPP-4.5-012725	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1205-01	VNUJ-236	Solid	Percent Solids	Cool 4 deg C	RUTW01	E11	01/27/2025	Chemtech -SO
Q1208-01	60304	Solid	Percent Solids	Cool 4 deg C	PSEG03	N31	01/28/2025	Chemtech -SO
Q1209-01	WC-4	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO

Date/Time 01/28/25 15:30
Raw Sample Received by: 10 WWC
Raw Sample Relinquished by: CFSR

Date/Time

01/28/25

Raw Sample Received by:

CFSR

Raw Sample Relinquished by:

10 WWC

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-012825

WorkList ID : 187196

Department : Wet-Chemistry

Date : 01-28-2025 07:59:28

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1209-02	WC-4-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO
Q1209-03	WC-4-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO
Q1209-05	WC-5	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO
Q1209-06	WC-5-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO
Q1209-07	WC-5-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO
Q1191-03	A44Y0	Solid	Percent Solids	Cool 4 deg C	PSEG03	N41	01/28/2025	Chemtech -SO
Q1191-04	A44Y1	Solid	Percent Solids	Cool 4 deg C	USEP04	B21	01/24/2025	Chemtech -SO
Q1191-09	VHBLK002	Solid	Percent Solids	Cool 4 deg C	USEP04	B21	01/24/2025	Chemtech -SO
					USEP04	B21	01/25/2025	Chemtech -SO

Date/Time 01/28/25 15:30
 Raw Sample Received by: SP Wong
 Raw Sample Relinquished by: SP Wong

Date/Time 01/28/25 17:10
 Raw Sample Received by: SP Wong
 Raw Sample Relinquished by: SP Wong



SHIPPING DOCUMENTS

- 1
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- 10
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- 14

- 1
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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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1206	RUTW01	Order Date : 1/28/2025 11:18:51 AM	YG	Project Mgr : Kiran
Client Name : RU2 Engineering, LLC		Project Name : SANTWOBR-BMCR-Bro 02/03/25		Report Type : NYS ASP B
Client Contact : Rutu Manani		Receive DateTime : 1/28/2025 12:59:00 PM		EDD Type : Excel NY
Invoice Name : RU2 Engineering, LLC		Purchase Order :		Hard Copy Date :
Invoice Contact : Rutu Manani				Date Signoff : 1/28/2025 2:56:10 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1206-01	JPP-20.1-012725	Solid	01/27/2025	14:15					
					VOCMS Group1		8260D	10 Bus. Days	
Q1206-05	JPP-16.3-012725	Solid	01/27/2025	15:10					
					VOCMS Group1		8260D	10 Bus. Days	

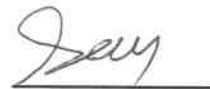
Relinquished By :

Date / Time :


1-28-25 1447

Received By :

Date / Time :


1/28/25 14:47 

Storage Area : VOA Refridgerator Room

LOGIN REPORT/SAMPLE TRANSFER

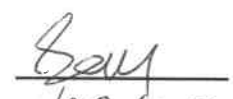
Order ID : Q1206	RUTW01	Order Date : 1/28/2025 11:18:51 AM	Project Mgr : Kiran
Client Name : RU2 Engineering, LLC	Project Name : SANTWOBR BMCR Bro NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Report Type : NYS ASP B	
Client Contact : Rutu Manani	Receive DateTime : 1/28/2025 12:59:00 PM	EDD Type : Excel NY	
Invoice Name : RU2 Engineering, LLC	Purchase Order :	Hard Copy Date :	
Invoice Contact : Rutu Manani		Date Signoff : 1/28/2025 2:56:10 PM	

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1206-0301	JPP-20.1-012725	Solid	01/27/2025	14:18 14:15	Gasoline Range Organics		8015D	10 Bus. Days	
Q1206-0705	JPP-16.3-012725	Solid	01/27/2025	15:17 15:10	Gasoline Range Organics		8015D	10 Bus. Days	
		YG	02/03/25						

Relinquished By: 

Date / Time :

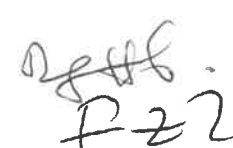
1-28-25 1447

Received By: 

Date / Time :

1/28/25 14.47

Storage Area : VOA Refridgerator Room


P22