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

DATA PACKAGE

GENERAL CHEMISTRY

PROJECT NAME : FT MEADE TIPTON AIRFIELD PARCEL RI - PO 0111169

WESTON SOLUTIONS

1400 Weston Way

PO Box 2653

West Chester, PA - 19380

Phone No: 610-701-7400

ORDER ID : P5117

ATTENTION : Nathan Fretz

Laboratory Certification ID # 20012

Table Of Contents for P5117

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

Cover Page

Order ID : P5117

Project ID : Ft Meade Tipton Airfield Parcel RI - PO 0111169

Client : Weston Solutions

Lab Sample Number	Client Sample Number
P5117-01	TAPIAL3-SB04I-10-120324-00-T1
P5117-02	TAPIAL2-IDW-SOIL-120424-00-T2

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

Signature : _____

Date: 12/13/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

CASE NARRATIVE

Weston Solutions
Project Name: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Project # N/A
Chemtech Project # P5117
Test Name: pH,Cyanide,TOC,Sulfide,Ignitability

A. Number of Samples and Date of Receipt:
2 Solid samples were received on 12/05/2024.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Anions Group1, Cyanide, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, PCB, pH, Sulfide, TCLP BNA, TCLP Extraction, TCLP Herbicide, TCLP ICP Metals, TCLP Mercury, TCLP METALS, TCLP Pesticide, TCLP VOA, TCLP ZHE Extraction, TOC and TS. This data package contains results for pH,Cyanide,TOC,Sulfide,Ignitability.

C. Analytical Techniques:
The analysis of Ignitability was based on method 1030, The analysis of Cyanide was based on method 9012B, The analysis of Sulfide was based on method 9034, The analysis of pH was based on method 9045D and The analysis of TOC was based on method 9060A.

D. QA/ QC Samples:
The Holding Times were met for all samples except for TAPIAL2-IDW-SOIL-120424-00-T2 of pH, for TAPIAL3-SB04I-10-120324-00-T1 of pH as sample receive out of holding time.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria for all samples.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

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_____

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

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

ALLIANCE **284 Sheffield Street, Mountainside New Jersey 07092**
NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P5117 MATRIX: Solid

METHOD: 1030,9012B,9034,9045D,9060A

		NA	NO	YES
1.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2.	Matrix Spike Duplicate Recoveries Met Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
	The Blank Spike met requirements for all samples.			
3.	Sample Duplicate Analysis Met QC Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
4.	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 TAPIAL2-IDW-SOIL-120424-00-T2 of pH, for TAPIAL3-SB04I-10-120324-00-T1 of pH as sample receive out of holding time.			

ADDITIONAL COMMENTS:

_____ _____

QA REVIEW Date

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P5117

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: SOHIL JODHANI **Date:** 12/13/2024

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

LAB CHRONICLE

OrderID:	P5117	**OrderDate:**	12/5/2024 10:55:00 AM
Client:	Weston Solutions	**Project:**	Ft Meade Tipton Airfield Parcel RI - PO 0111169
Contact:	Nathan Fretz	**Location:**	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5117-01	**TAPIAL3-SB04I-10-120324-00-T1**	**SOIL**			**12/03/24 14:00**			**12/05/24**
			pH	9045D			12/06/24 09:30	
			TOC	9060A			12/06/24 15:34	
P5117-02	**TAPIAL2-IDW-SOIL-120424-00-T2**	**SOIL**			**12/04/24 13:00**			**12/05/24**
			Sulfide	9034		12/11/24	12/11/24 14:41	
			Cyanide	9012B		12/07/24	12/09/24 12:54	
			Ignitability	1030			12/07/24 08:30	
			pH	9045D			12/06/24 09:35	

SAMPLE DATA

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

Report of Analysis

Client:	Weston Solutions	Date Collected:	12/03/24 14:00
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	12/05/24
Client Sample ID:	TAPIAL3-SB04I-10-120324-00-T1	SDG No.:	P5117
Lab Sample ID:	P5117-01	Matrix:	SOIL
		% Solid:	95.7

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
pH	7.21	H	1	0	0	0	pH		12/06/24 09:30	9045D
TOC	401		1	19.8	50.0	250	mg/Kg		12/06/24 15:34	9060A

Comments: pH result reported at temperature 20.8 °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

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

Report of Analysis

Client:	Weston Solutions	Date Collected:	12/04/24 13:00
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	Date Received:	12/05/24
Client Sample ID:	TAPIAL2-IDW-SOIL-120424-00-T2	SDG No.:	P5117
Lab Sample ID:	P5117-02	Matrix:	SOIL
		% Solid:	79.8

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.25	U	1	0.055	0.25	0.31	mg/Kg	12/07/24 10:00	12/09/24 12:54	9012B
Ignitability	NO		1	0	0	0	oC		12/07/24 08:30	1030
pH	6.41	H	1	0	0	0	pH		12/06/24 09:35	9045D
Sulfide	4.00	J	1	2.33	6.25	12.5	mg/Kg	12/11/24 10:10	12/11/24 14:41	9034

Comments: pH result reported at temperature 20.1 °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

QC RESULT SUMMARY

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

Initial and Continuing Calibration Verification

Client: Weston Solutions **SDG No.:** P5117

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169 **RunNo.:** LB133776

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: **ICV**						
pH	pH	7.00	7	100	90-110	12/06/2024
Sample ID: **CCV1**						
pH	pH	2.02	2.00	101	90-110	12/06/2024
Sample ID: **CCV2**						
pH	pH	12.02	12.00	100	90-110	12/06/2024

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

Initial and Continuing Calibration Verification

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB133779

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

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

Initial and Continuing Calibration Verification

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB133847

Analyte		Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID:	**ICV1**						
Cyanide		mg/L	0.1	0.099	101	90-110	12/09/2024
Sample ID:	**CCV1**						
Cyanide		mg/L	0.26	0.25	104	90-110	12/09/2024
Sample ID:	**CCV2**						
Cyanide		mg/L	0.25	0.25	100	90-110	12/09/2024
Sample ID:	**CCV3**						
Cyanide		mg/L	0.27	0.25	108	90-110	12/09/2024

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

Initial and Continuing Calibration Blank Summary

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB133779

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

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

Initial and Continuing Calibration Blank Summary

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**RunNo.:**	LB133847

Analyte		Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID:	ICB1							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	12/09/2024
Sample ID:	CCB1							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	12/09/2024
Sample ID:	CCB2							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	12/09/2024
Sample ID:	CCB3							
Cyanide		mg/L	< 0.0025	0.0025	U	0.00099	0.005	12/09/2024

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

Preparation Blank Summary

Client: Weston Solutions **SDG No.:** P5117

Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: **LB133779BLS**							
TOC	mg/Kg	< 125.0000	125.0000	U	19.8	250	12/06/2024
Sample ID: **PB165499BL**							
Cyanide	mg/Kg	< 0.1200	0.1200	U	0.042	0.24	12/09/2024
Sample ID: **PB165570BL**							
Sulfide	mg/Kg	< 5.0000	5.0000	U	1.86	10.0	12/11/2024

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

Matrix Spike Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5022-01
Client ID: TAPIAL2-SB02D-13-112424-00-T1MS
Percent Solids for Spike Sample: 92.9

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

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

Matrix Spike Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5022-01
Client ID: TAPIAL2-SB02D-13-112424-00-T1MSD
Percent Solids for Spike Sample: 92.9

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

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

Matrix Spike Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5117-02
Client ID: TAPIAL2-IDW-SOIL-120424-00-T2MS
Percent Solids for Spike Sample: 79.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.20		0.055	U	2.5	1	88		12/09/2024
Sulfide	mg/Kg	75-125	256		4.00	J	313	1	80		12/11/2024

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

Matrix Spike Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5117-02
Client ID: TAPIAL2-IDW-SOIL-120424-00-T2MSD
Percent Solids for Spike Sample: 79.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Cyanide	mg/Kg	75-125	2.20		0.055	U	2.5	1	88		12/09/2024
Sulfide	mg/Kg	75-125	254		4.00	J	313	1	80		12/11/2024

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

Duplicate Sample Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5022-01
Client ID: TAPIAL2-SB02D-13-112424-00-T1MSD
Percent Solids for Spike Sample: 92.9

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

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

Duplicate Sample Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5112-02
Client ID: 10TH-ST-SOILDUP
Percent Solids for Spike Sample: 100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Ignitability	oC	+/-20	NO		NO		1	0		12/07/2024

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

Duplicate Sample Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5117-01
Client ID: TAPIAL3-SB04I-10-120324-00-T1DUP
Percent Solids for Spike Sample: 95.7

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
pH	pH	+/-20	7.21		7.22		1	0.14		12/06/2024

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

Duplicate Sample Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5117-02
Client ID: TAPIAL2-IDW-SOIL-120424-00-T2DUP
Percent Solids for Spike Sample: 79.8

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.055	U	0.053	U	1	0		12/09/2024
Sulfide	mg/Kg	+/-20	4.00	J	4.00	J	1	0		12/11/2024

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

Duplicate Sample Summary

Client: Weston Solutions
SDG No.: P5117
Project: Ft Meade Tipton Airfield Parcel RI - PO 0111169
Sample ID: P5117-02
Client ID: TAPIAL2-IDW-SOIL-120424-00-T2MSD
Percent Solids for Spike Sample: 79.8

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	2.20		2.20		1	0		12/09/2024
Sulfide	mg/Kg	+/-20	256		254		1	0.78		12/11/2024

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

Laboratory Control Sample Summary

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**Run No.:**	LB133779

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

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

Laboratory Control Sample Summary

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**Run No.:**	LB133847

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **PB165499BS**								
Cyanide	mg/Kg	5	5.00		100	1	85-115	12/09/2024

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

Laboratory Control Sample Summary

Client:	Weston Solutions	**SDG No.:**	P5117
Project:	Ft Meade Tipton Airfield Parcel RI - PO 0111169	**Run No.:**	LB133898

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **PB165570BS**								
Sulfide	mg/Kg	250	213		85	1	80-120	12/11/2024

RAW DATA

Analytical Summary Report

Analysis Method: 9045D
Analyst By : jignesh
Parameter: pH
Supervisor Review By : Iwona
Run Number: LB133776
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)	W3005
Buffer Solution, PH12 (500ml)	W3072

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

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

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

Seq	LabID	DF	Matrix	Weight (gm)	Volume (ml)	Temperature (°C)	Result (pH)	Anal Date	Anal Time
1	CAL1	1	Water	NA	NA	20.2	4.01	12/06/2024	08:55
2	CAL2	1	Water	NA	NA	20.2	7.00	12/06/2024	08:56
3	CAL3	1	Water	NA	NA	20.3	10.02	12/06/2024	08:58
4	ICV	1	Water	NA	NA	20.3	7.00	12/06/2024	09:00
5	CCV1	1	Water	NA	NA	20.4	2.02	12/06/2024	09:20
6	P5117-01	1	Solid	20.02	20	20.8	7.21	12/06/2024	09:30
7	P5117-01DUP	1	Solid	20.03	20	20.9	7.22	12/06/2024	09:31
8	P5117-02	1	Solid	20.04	20	20.1	6.41	12/06/2024	09:35
9	CCV2	1	Water	NA	NA	20.3	12.02	12/06/2024	09:37

WORKLIST(Hardcopy Internal Chain)

VB 133776

WorkList Name : PH P5117 **WorkList ID :** 186055 **Department :** Wet-Chemistry **Date :** 12-06-2024 08:44:41

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5117-01	TAPIAL3-SB04I-10-120324-00-	Solid	pH	Cool 4 deg C	WEST04	L41	12/05/2024	9045D
P5117-02	TAPIAL2-IDW-SOIL-120424-00-	Solid	pH	Cool 4 deg C	WEST04	L41	12/05/2024	9045D

Date/Time 12/06/24 08:50

Raw Sample Received by: WC1

Raw Sample Relinquished by:

Date/Time 12/06/24 13:00

Raw Sample Received by:

Raw Sample Relinquished by:

Reviewed By:Iwona
On:12/10/2024 9:22:06 AM
Inst Id :Appolo-9000
LB :LB133779

Sample Results Report Print Date/Time: 2024/12/06 17:08:49

Sample ID	Result	Std. Dev.	RSD	Mode	ALT
CCV1	906.9207			TOC	
CCV1	946.1523			TOC	
CCV1	943.5790			TOC	
CCV1	952.4374	..	...	TOC	..
CCB1	24.7643			TOC	
CCB1	7.8669			TOC	
CCB1	30.2333	..	...	TOC	..
CCB1	23.6075			TOC	
LB133779BLS	2.3765			TOC	
LB133779BLS	1.9132	..	...	TOC	..
LB133779BLS	5.4325			TOC	
LB133779BLS	13.4427			TOC	
LB133779BSS	960.5422	..	...	TOC	..
LB133779BSS	966.7218			TOC	
LB133779BSS	945.8391			TOC	
LB133779BSS	973.9248	..	...	TOC	..
P5113-01	313.2646			TOC	
P5113-01	331.6778			TOC	
P5113-01	232.7811	..	...	TOC	..
P5113-01	231.7867			TOC	
P5113-02	424.3524			TOC	
P5113-02	348.4884	..	...	TOC	..
P5113-02	404.6520			TOC	
P5113-02	409.2955			TOC	
P5022-01	1592.4867	..	...	TOC	..
P5022-01	1520.0836			TOC	
P5022-01	1924.7922			TOC	
P5022-01	1631.9971	..	...	TOC	..
P5022-01MS	2194.9075			TOC	
P5022-01MS	2786.8528			TOC	
P5022-01MS	2944.4070	..	...	TOC	..
P5022-01MS	2298.9773			TOC	
P5022-01MSD	2434.9634			TOC	
P5022-01MSD	2164.7324	..	...	TOC	..
P5022-01MSD	3038.4358			TOC	
P5022-01MSD	2567.5728			TOC	
P5076-01	1049.1886	..	...	TOC	..
P5076-01	1247.4980			TOC	
P5076-01	1138.2893			TOC	
P5076-01	1132.0439	..	...	TOC	..
P5117-01	477.3856			TOC	
P5117-01	409.1736			TOC	
P5117-01	378.8983	..	...	TOC	..
P5117-01	338.3237			TOC	
CCV2	1074.5073			TOC	
CCV2	980.9690	..	...	TOC	..
CCV2	974.1614			TOC	
CCV2	965.5085			TOC	
CCB2	5.6898	..	...	TOC	..
CCB2	17.7748			TOC	
CCB2	43.7854			TOC	
CCB2	7.1315	..	...	TOC	..

Sample Results Report Print Date/Time: 2024/12/06 17:08:49

Method ID	Sample Type	Vial	Timestamp	Message
Boat Sampler	Sample		2024/12/06 10:01	
Boat Sampler	Sample		2024/12/06 10:09	
Boat Sampler	Sample		2024/12/06 10:12	
Boat Sampler	...Sample	..	..2024/12/06 10:16	..
Boat Sampler	Sample		2024/12/06 10:21	
Boat Sampler	Sample		2024/12/06 10:24	Low Sample Detected
Boat Sampler	...Sample	..	..2024/12/06 10:26	..
Boat Sampler	Sample		2024/12/06 10:28	
Boat Sampler	Sample		2024/12/06 10:32	Low Sample Detected
Boat Sampler	...Sample	..	..2024/12/06 10:36	..Low Sample Detected
Boat Sampler	Sample		2024/12/06 10:52	Low Sample Detected
Boat Sampler	Sample		2024/12/06 10:59	
Boat Sampler	...Sample	..	..2024/12/06 11:04	..
Boat Sampler	Sample		2024/12/06 11:06	
Boat Sampler	Sample		2024/12/06 11:10	
Boat Sampler	...Sample	..	..2024/12/06 11:15	..
Boat Sampler	Sample		2024/12/06 11:45	
Boat Sampler	Sample		2024/12/06 11:53	
Boat Sampler	...Sample	..	..2024/12/06 12:05	..
Boat Sampler	Sample		2024/12/06 12:09	
Boat Sampler	Sample		2024/12/06 12:43	
Boat Sampler	...Sample	..	..2024/12/06 12:51	..
Boat Sampler	Sample		2024/12/06 12:55	
Boat Sampler	Sample		2024/12/06 13:00	
Boat Sampler	...Sample	..	..2024/12/06 13:17	..
Boat Sampler	Sample		2024/12/06 13:23	
Boat Sampler	Sample		2024/12/06 13:27	
Boat Sampler	...Sample	..	..2024/12/06 13:55	..
Boat Sampler	Sample		2024/12/06 14:02	
Boat Sampler	Sample		2024/12/06 14:05	
Boat Sampler	...Sample	..	..2024/12/06 14:09	..
Boat Sampler	Sample		2024/12/06 14:12	
Boat Sampler	Sample		2024/12/06 14:16	
Boat Sampler	...Sample	..	..2024/12/06 14:20	..
Boat Sampler	Sample		2024/12/06 14:23	
Boat Sampler	Sample		2024/12/06 14:25	
Boat Sampler	...Sample	..	..2024/12/06 14:51	..
Boat Sampler	Sample		2024/12/06 14:55	
Boat Sampler	Sample		2024/12/06 15:12	
Boat Sampler	...Sample	..	..2024/12/06 15:17	..
Boat Sampler	Sample		2024/12/06 15:24	
Boat Sampler	Sample		2024/12/06 15:27	
Boat Sampler	...Sample	..	..2024/12/06 15:30	..
Boat Sampler	Sample		2024/12/06 15:34	
Boat Sampler	Sample		2024/12/06 15:38	
Boat Sampler	...Sample	..	..2024/12/06 15:41	..
Boat Sampler	Sample		2024/12/06 15:43	
Boat Sampler	Sample		2024/12/06 15:46	
Boat Sampler	...Sample	..	..2024/12/06 15:50	..Low Sample Detected
Boat Sampler	Sample		2024/12/06 15:55	
Boat Sampler	Sample		2024/12/06 15:59	
Boat Sampler	...Sample	..	..2024/12/06 16:02	..Low Sample Detected

Detailed Analysis Report Print Date/Time: 2024/12/06 17:09:57

Sample ID:	CCV1			Mode:	TOC	
Method:	Boat Sampler			Filename:	12060959	
Cal. Curve:	TOC SOIL			Timestamp:	2024/12/06 10:01	
Operator ID:	NF IZ			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	906.9207	36.2768	2568813	-2.407	-1.410	61

Sample ID:	CCV1			Mode:	TOC	
Method:	Boat Sampler			Filename:	12061007	
Cal. Curve:	TOC SOIL			Timestamp:	2024/12/06 10:09	
Operator ID:	NF IZ			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	946.1523	37.8461	2679935	-2.725	-1.728	68

Sample ID:	CCV1			Mode:	TOC	
Method:	Boat Sampler			Filename:	12061011	
Cal. Curve:	TOC SOIL			Timestamp:	2024/12/06 10:12	
Operator ID:	NF IZ			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.5790	37.7432	2672646	-2.636	-1.640	66

Sample ID:	CCV1			Mode:	TOC	
Method:	Boat Sampler			Filename:	12061014	
Cal. Curve:	TOC SOIL			Timestamp:	2024/12/06 10:16	
Operator ID:	NF IZ			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	952.4374	38.0975	2697737	-2.727	-1.732	64

Sample ID:	CCB1			Mode:	TOC	
Method:	Boat Sampler			Filename:	12061019	
Cal. Curve:	TOC SOIL			Timestamp:	2024/12/06 10:21	
Operator ID:	NF IZ			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	24.7643	0.9906	70144	-2.914	-1.925	38

Sample ID:	CCB1			Mode:	TOC	
Method:	Boat Sampler			Filename:	12061021	
Cal. Curve:	TOC SOIL			Timestamp:	2024/12/06 10:24	
Operator ID:	NF IZ			Sample Type:	Sample	

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7.8669	0.3147	22283	-2.922	-2.992	120

Last Message: Low Sample Detected

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 12061025
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:26
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	30.2333	1.2093	85634	-2.969	-1.983	37

Sample ID: CCB1 Mode: TOC
Method: Boat Sampler Filename: 12061027
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:28
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	23.6075	0.9443	66867	-2.937	-1.944	33

Sample ID: LB133779BLS Mode: TOC
Method: Boat Sampler Filename: 12061029
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:32
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.3765	0.0951	6731	-2.943	-3.029	120

Last Message: Low Sample Detected

Sample ID: LB133779BLS Mode: TOC
Method: Boat Sampler Filename: 12061033
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:36
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.9132	0.0765	5419	-2.979	-3.048	120

Last Message: Low Sample Detected

Sample ID: LB133779BLS Mode: TOC
Method: Boat Sampler Filename: 12061049
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:52
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.4325	0.2173	15387	-3.102	-3.151	120

Last Message: Low Sample Detected

Sample ID: LB133779BLS Mode: TOC
Method: Boat Sampler Filename: 12061058
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 10:59
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	13.4427	0.5377	38076	-3.204	-2.207	32

Sample ID: LB133779BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 12061102
Timestamp: 2024/12/06 11:04
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	960.5422	38.4217	2720693	-3.023	-2.028	65

Sample ID: LB133779BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 12061104
Timestamp: 2024/12/06 11:06
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	966.7218	38.6689	2738197	-2.960	-1.965	67

Sample ID: LB133779BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 12061108
Timestamp: 2024/12/06 11:10
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	945.8391	37.8336	2679048	-3.196	-2.200	68

Sample ID: LB133779BSS
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 12061113
Timestamp: 2024/12/06 11:15
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	973.9248	38.9570	2758599			
-3.246	-2.248	69				

Sample ID: P5113-01
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 12061143
Timestamp: 2024/12/06 11:45
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	313.2646	1.9422	137533	-3.371	-2.381	36

Sample ID: P5113-01
Method: Boat Sampler
Cal. Curve: TOC SOIL
Operator ID: NF IZ
Mode: TOC
Filename: 12061152
Timestamp: 2024/12/06 11:53
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	331.6778	2.4212	171452	-3.383	-2.390	37

Sample ID: P5113-01 Mode: TOC
Method: Boat Sampler Filename: 12061204
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 12:05
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	232.7811	1.6062	113737	-3.366	-2.367	36

Sample ID: P5113-01 Mode: TOC
Method: Boat Sampler Filename: 12061208
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 12:09
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	231.7867	1.5761	111609	-3.419	-2.425	34

Sample ID: P5113-02 Mode: TOC
Method: Boat Sampler Filename: 12061242
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 12:43
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	424.3524	3.0553	216353	-3.366	-2.373	42

Sample ID: P5113-02 Mode: TOC
Method: Boat Sampler Filename: 12061250
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 12:51
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	348.4884	2.0909	148062	-3.386	-2.387	42

Sample ID: P5113-02 Mode: TOC
Method: Boat Sampler Filename: 12061254
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 12:55
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	404.6520	2.2661	160462	-3.350	-2.358	40

Sample ID: P5113-02 Mode: TOC
Method: Boat Sampler Filename: 12061259
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 13:00
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time

1	409.2955	2.4558	173897	-3.416	-2.418	41

Sample ID: P5022-01 Mode: TOC
Method: Boat Sampler Filename: 12061315
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 13:17
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1592.4867	12.7399	902130	-3.460	-2.463	53

Sample ID: P5022-01 Mode: TOC
Method: Boat Sampler Filename: 12061322
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 13:23
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1520.0836	10.3366	731947	-3.406	-2.412	51

Sample ID: P5022-01 Mode: TOC
Method: Boat Sampler Filename: 12061325
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 13:27
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1924.7922	11.1638	790524	-3.446	-2.453	52

Sample ID: P5022-01 Mode: TOC
Method: Boat Sampler Filename: 12061354
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 13:55
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1631.9971	10.2816	728053	-3.216	-2.222	49

Sample ID: P5022-01MS Mode: TOC
Method: Boat Sampler Filename: 12061400
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:02
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2194.9075	12.7305	901462	-3.349	-2.353	54

Sample ID: P5022-01MS Mode: TOC
Method: Boat Sampler Filename: 12061403
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:05
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2786.8528	15.3277	1085375	-3.316	-2.321	59

Sample ID: P5022-01MS Mode: TOC
Method: Boat Sampler Filename: 12061407
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:09
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2944.4070	18.2553	1292685	-3.368	-2.374	62

Sample ID: P5022-01MS Mode: TOC
Method: Boat Sampler Filename: 12061411
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:12
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2298.9773	14.2537	1009322	-3.389	-2.396	57

Sample ID: P5022-01MSD Mode: TOC
Method: Boat Sampler Filename: 12061414
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:16
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2434.9634	16.5578	1172477	-3.359	-2.360	59

Sample ID: P5022-01MSD Mode: TOC
Method: Boat Sampler Filename: 12061418
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:20
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2164.7324	12.9884	919726	-3.330	-2.331	54

Sample ID: P5022-01MSD Mode: TOC
Method: Boat Sampler Filename: 12061421
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:23
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3038.4358	18.8383	1333967	-3.342	-2.344	61

Sample ID: P5022-01MSD Mode: TOC
Method: Boat Sampler Filename: 12061424
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:25
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2567.5728	14.8919	1054518	-3.298	-2.298	57

Sample ID: P5076-01 Mode: TOC
Method: Boat Sampler Filename: 12061449
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:51
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1049.1886	5.6656	401190	-3.439	-2.439	46

Sample ID: P5076-01 Mode: TOC
Method: Boat Sampler Filename: 12061453
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 14:55
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1247.4980	6.7365	477020	-3.456	-2.459	47

Sample ID: P5076-01 Mode: TOC
Method: Boat Sampler Filename: 12061511
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:12
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1138.2893	6.6021	467502	-3.417	-2.425	50

Sample ID: P5076-01 Mode: TOC
Method: Boat Sampler Filename: 12061516
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:17
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1132.0439	6.2262	440889	-3.397	-2.398	45

Sample ID: P5117-01 Mode: TOC
Method: Boat Sampler Filename: 12061522
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:24
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	477.3856	3.4372	243391	-3.413	-2.424	39

Sample ID: P5117-01 Mode: TOC
Method: Boat Sampler Filename: 12061526
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:27
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	409.1736	2.7824	197024	-3.384	-2.392	38

Sample ID: P5117-01 Mode: TOC

Method: Boat Sampler Filename: 12061529
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:30
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	378.8983	3.0312	214643	-3.379	-2.382	36

Sample ID: P5117-01 Mode: TOC
Method: Boat Sampler Filename: 12061533
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:34
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	338.3237	1.9623	138952	-3.396	-2.402	36

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 12061535
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:38
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1074.5073	42.9803	3043495	-3.365	-2.366	88

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 12061539
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:41
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	980.9690	39.2388	2778551	-3.194	-2.195	71

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 12061542
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:43
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	974.1614	38.9665	2759269	-3.147	-2.151	71

Sample ID: CCV2 Mode: TOC
Method: Boat Sampler Filename: 12061544
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:46
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	965.5085	38.6203	2734760	-3.083	-2.083	68

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 12061547
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:50

Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	5.6898	0.2276	16116	-3.126	-3.264	120

Last Message: Low Sample Detected

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 12061554
Cal. Curve: TOC SOIL
Timestamp: 2024/12/06 15:55
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	17.7748	0.7110	50346	-3.273	-2.286	32

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 12061558
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 15:59
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	43.7854	1.7514	124020	-3.256	-2.258	42

Sample ID: CCB2 Mode: TOC
Method: Boat Sampler Filename: 12061559
Cal. Curve: TOC SOIL Timestamp: 2024/12/06 16:02
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7.1315	0.2853	20200	-3.217	-3.281	120

Last Message: Low Sample Detected

Sample Results Report Print Date/Time: 2024/11/12 17:13:44

Sample ID	Result	Std. Dev.	RSD	Mode	ALT
BLANK	9263	5695	61.48	TOC	
250mg/l	813930	31881	3.92	TOC	
500mg/l	1580916	138813	8.78	TOC	
1000mg/l.....	2797885...	74757..	2.67...	TOC	..
2000mg/l	5752648	21216	0.37	TOC	
ICV	943.9813			TOC	
ICV.....	919.2893...	..	...	TOC	..
ICV	940.0988			TOC	
ICV	933.3373			TOC	
ICB.....	4.4514...	..	...	TOC	..
ICB	9.3085			TOC	
ICB	6.7305			TOC	
ICB.....	7.5078...	..	...	TOC	..

Sample Results Report Print Date/Time: 2024/11/12 17:13:44

Method ID	Sample Type	Vial	Timestamp	Message
Boat Sampler	TOC Standard		2024/11/12 11:01	Low Sample Detected
Boat Sampler	TOC Standard		2024/11/12 11:15	
Boat Sampler	TOC Standard		2024/11/12 11:27	
Boat Sampler	...TOC Standard	..	..2024/11/12 11:36	..
Boat Sampler	TOC Standard		2024/11/12 12:05	
Boat Sampler	Sample		2024/11/12 12:12	
Boat Sampler	...Sample	..	..2024/11/12 12:14	..
Boat Sampler	Sample		2024/11/12 12:16	
Boat Sampler	Sample		2024/11/12 12:18	
Boat Sampler	...Sample	..	..2024/11/12 12:23	..Low Sample Detected
Boat Sampler	Sample		2024/11/12 12:26	Low Sample Detected
Boat Sampler	Sample		2024/11/12 12:29	Low Sample Detected
Boat Sampler	...Sample	..	..2024/11/12 12:32	..Low Sample Detected

Detailed Analysis Report Print Date/Time: 2024/11/12 17:14:04

Sample ID: BLANK Mode: TOC
Method: Boat Sampler Filename: 11121049
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 11:01
Operator ID: NF IZ Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			15553	-2.075	-2.098	120
2			1727	-2.021	-2.147	120
3			9608	-2.149	-2.198	120
4			10164	-2.127	-2.213	120

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 9263 Std Dev: 5695 RSD: 61.48

Sample ID: 250mg/l Mode: TOC
Method: Boat Sampler Filename: 11121108
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 11:15
Operator ID: NF IZ Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			804219	-2.222	-1.226	44
2			860284	-2.138	-1.145	79
3			803824	-2.215	-1.219	58
4			787394	-2.222	-1.224	54

<<<Statistics>>> Mean: 813930 Std Dev: 31881 RSD: 3.92

Sample ID: 500mg/l Mode: TOC
Method: Boat Sampler Filename: 11121119
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 11:27
Operator ID: NF IZ Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			1530483	-2.276	-1.281	53
2			1492472	-2.156	-1.157	95
3			1787829	-2.254	-1.256	63
4			1512882	-2.186	-1.194	55

<<<Statistics>>> Mean: 1580916 Std Dev: 138813 RSD: 8.78

Sample ID: 1000mg/l Mode: TOC
Method: Boat Sampler Filename: 11121128
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 11:36
Operator ID: NF IZ Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			2717535	-2.380	-1.381	63
2			2887558	-2.069	-1.076	61
3			2826578	-1.987	-0.990	62
4			2759868	-2.106	-1.108	63

<<<Statistics>>> Mean: 2797885 Std Dev: 74757 RSD: 2.67

Sample ID: 2000mg/l Mode: TOC
Method: Boat Sampler Filename: 11121155
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:05
Operator ID: NF IZ Sample Type: TOC Standard

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			5772363	-2.492	-1.493	116
2			5763448	-2.138	-1.139	91
3			5723617	-0.015	0.979	57
4			5751163	-0.355	0.644	62

<<<Statistics>>> Mean: 5752648 Std Dev: 21216 RSD: 0.37

Sample ID: ICV Mode: TOC
Method: Boat Sampler Filename: 11121210
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:12
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	943.9813	37.7593	2673786	-2.569	-1.574	83

Sample ID: ICV Mode: TOC
Method: Boat Sampler Filename: 11121212
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:14
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	919.2893	36.7716	2603846	-2.379	-1.380	64

Sample ID: ICV Mode: TOC
Method: Boat Sampler Filename: 11121214
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:16
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	940.0988	37.6040	2662788	-2.346	-1.346	61

Sample ID: ICV Mode: TOC
Method: Boat Sampler Filename: 11121217
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:18
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	933.3373	37.3335	2643637	-2.443	-1.445	63

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121220
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:23
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.4514	0.1781	12608	-2.598	-2.685	120

Last Message: Low Sample Detected

==========

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121223
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:26
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	9.3085	0.3723	26366	-2.661	-2.693	120

Last Message: Low Sample Detected

==========

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121226
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:29
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	6.7305	0.2692	19064	-2.649	-2.682	120

Last Message: Low Sample Detected

==========

Sample ID: ICB Mode: TOC
Method: Boat Sampler Filename: 11121230
Cal. Curve: TOC SOIL Timestamp: 2024/11/12 12:32
Operator ID: NF IZ Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7.5078	0.3003	2			
1266	-2.657	-2.679	120			

Last Message: Low Sample Detected

==========

Calibration Report Print Date/Time: 2024/11/12 12:05:31

Cal. Curve ID: TOC SOIL
Created: 2024/11/12 12:05
Calibration Factor (m): 7.081e+04
Y Intercept (b): 66586
r-squared: 0.99875

Re

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
BLANK	9263	0.000	-0.810	-	2024/11/12 11:01
250mg/l	813930	10.000	10.554	5.5	2024/11/12 11:15
500mg/l	1580917	20.000	21.385	6.9	2024/11/12 11:27
1000mg/l	2797884	40.000	38.571	-3.6	2024/11/12 11:36
2000mg/l	5752648	80.000	80.299	0.4	2024/11/12 12:05

12
11/12/24

WORKLIST(Hardcopy Internal Chain)

LB133779

WorkList Name : TOC SOIL-12032024 **WorkList ID :** 185934 **Department :** Wet-Chemistry **Date :** 12-03-2024 15:04:40

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5113-01	FES-SB406-4345	Solid	TOC	Cool 4 deg C	TETR06	L31	12/04/2024	9060A
P5113-02	FES-SB406-7375	Solid	TOC	Cool 4 deg C	TETR06	L31	12/04/2024	9060A
P5022-01	TAPIAL2-SB02D-13-112424-00-	Solid	TOC	Cool 4 deg C	TETR06	L31	12/04/2024	9060A
P5076-01	TAPIAL2-SB02I-7.5-120224-00-	Solid	TOC	Cool 4 deg C	WEST04	L41	11/24/2024	9060A
P5117-01	TAPIAL3-SB04I-10-120324-00-	Solid	TOC	Cool 4 deg C	WEST04	L61	12/02/2024	9060A
					WEST04	L41	12/05/2024	9060A

Date/Time 12.06.2024, 08:30

Raw Sample Received by: NF(WC)

Raw Sample Relinquished by: Mule

Date/Time 12.06.2024, 11:0

Raw Sample Received by:

Raw Sample Relinquished by: NFW

Analytical Summary Report

Analysis Method: 1030 **Reviewed By:** rubina

Parameter: Ignitability **Supervisor Review By:** Iwona

Run Number: LB133820

Seq	LabID	ClientID	DF	matrix	Result Status	Burning Rate	Anal Date	Anal Time
1	P5112-02	10TH-ST-SOIL	1	Solid	NO	0.00	12/07/2024	08:15
2	P5112-02DUP	10TH-ST-SOILDUP	1	Solid	NO	0.00	12/07/2024	08:22
3	P5117-02	TAPIAL2-IDW-SOIL-120	1	Solid	NO	0.00	12/07/2024	08:30
4	P5133-01	MOO-24-00374	1	Solid	NO	0.00	12/07/2024	08:37
5	P5133-02	MOO-24-00374	1	Solid	NO	0.00	12/07/2024	09:45
6	P5136-01	COMP-1	1	Solid	NO	0.00	12/07/2024	08:52
7	P5136-02	COMP-1	1	Solid	NO	0.00	12/07/2024	09:00
8	P5159-01	COMP-A-B	1	Solid	NO	0.00	12/07/2024	09:08
9	P5174-01	ROLL-OFF-COMP	1	Solid	NO	0.00	12/07/2024	09:15
10	P5174-02	ROLL-OFF-COMP	1	Solid	NO	0.00	12/07/2024	09:22
11	P5196-01	MH-761	1	Solid	NO	0.00	12/07/2024	09:30
12	P5196-04	MH-761	1	Solid	NO	0.00	12/07/2024	09:37

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

WORKLIST(Hardcopy Internal Chain)

LB133820

WorkList Name : ign12-06 **WorkList ID :** 186035 **Department :** Wet-Chemistry **Date :** 12-06-2024 08:15:57

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5112-02	10TH-ST-SOIL	Solid	Ignitability	Cool 4 deg C	TULL02	L51	12/05/2024	1030
P5117-02	TAPIAL2-IDW-SOIL-120424-00-	Solid	Ignitability	Cool 4 deg C	WEST04	L41	12/05/2024	1030
P5133-01	MOO-24-00374	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	12/05/2024	1030
P5133-02	MOO-24-00374	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	12/05/2024	1030
P5136-01	COMP-1	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	12/05/2024	1030
P5136-02	COMP-1	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	12/05/2024	1030
P5159-01	COMP-A-B	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	12/05/2024	1030
P5174-01	ROLL-OFF-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	L61	12/06/2024	1030
P5174-02	ROLL-OFF-COMP	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	12/06/2024	1030
P5196-01	MH-761	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	12/06/2024	1030
P5196-04	MH-761	Solid	Ignitability	Cool 4 deg C	PSEG03	L51	12/06/2024	1030

Date/Time 12/07/2024 08:00

Raw Sample Received by: RM (WC)

Raw Sample Relinquished by:

Date/Time 12/07/2024 09:

Raw Sample Received by: (WC)

Raw Sample Relinquished by: RM (WC)

Test results — Aquakem 7.2AQ1 — Page: 1

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

12/9/2024 13:01 — Reviewed by : NF — Instrument ID : Konelab

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	102.772	0.0	0.071	
ICB1	-0.077	0.0	0.002	
CCV1	256.384	0.0	0.174	
CCB1	-0.300	0.0	0.002	
PB165498BL	-0.420	0.0	0.002	
PB165498BS	102.356	0.0	0.071	
LOWPB165498	10.309	0.0	0.009	
HIGHPB165498	502.004	0.0	0.338	
P5093-01	1.018	0.0	0.003	
P5093-02	-0.359	0.0	0.002	
P5093-02DUP	-0.408	0.0	0.002	
P5093-02MS	38.453	0.0	0.028	
P5093-02MSD	37.749	0.0	0.027	
P5141-02	2.415	0.0	0.004	
CCV2	249.536	0.0	0.169	
CCB2	-0.276	0.0	0.002	
PB165499BL	-0.462	0.0	0.002	
PB165499BS	99.679	0.0	0.069	
P5117-02	-0.014	0.0	0.002	
P5117-02DUP	0.480	0.0	0.003	
P5117-02MS	35.929	0.0	0.026	
P5117-02MSD	36.112	0.0	0.026	
CCV3	272.285	0.0	0.184	
CCB3	-0.422	0.0	0.002	

103 % } (90 - 110) NF 12.09.2024
100 % }

N	24
Mean	72.698
SD	125.7840
CV%	173.02

Aquakem v. 7.2AQ1
Results from time period:
Mon Dec 09 12:39:46 2024
Mon Dec 09 12:58:46 2024

Sample Id	Sam/Ctr/cA	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	-1.0904	µg/l	12/9/2024 11:10:55	
5.0PPBCN	A	Total CN	P	3.6171	µg/l	12/9/2024 11:10:56	
10PPBCN	A	Total CN	P	10.2339	µg/l	12/9/2024 11:10:57	
50PPBCN	A	Total CN	P	50.8618	µg/l	12/9/2024 11:10:58	
100PPBCN	A	Total CN	P	103.4693	µg/l	12/9/2024 11:10:59	
250PPBCN	A	Total CN	P	247.3582	µg/l	12/9/2024 11:11:00	
500PPBCN	A	Total CN	P	500.55	µg/l	12/9/2024 11:11:01	
ICV1	S	Total CN	P	102.7721	µg/l	12/9/2024 12:39:47	
ICB1	S	Total CN	P	-0.0775	µg/l	12/9/2024 12:39:49	
CCV1	S	Total CN	P	256.3836	µg/l	12/9/2024 12:39:51	
CCB1	S	Total CN	P	-0.3002	µg/l	12/9/2024 12:39:52	
PB165498BL	S	Total CN	P	-0.4199	µg/l	12/9/2024 12:39:54	
PB165498BS	S	Total CN	P	102.3559	µg/l	12/9/2024 12:47:18	
LOWPB165498	S	Total CN	P	10.309	µg/l	12/9/2024 12:47:20	
HIGHPB165498	S	Total CN	P	502.0039	µg/l	12/9/2024 12:47:21	
P5093-01	S	Total CN	P	1.0184	µg/l	12/9/2024 12:47:23	
P5093-02	S	Total CN	P	-0.3594	µg/l	12/9/2024 12:47:24	
P5093-02DUP	S	Total CN	P	-0.408	µg/l	12/9/2024 12:47:25	
P5093-02MS	S	Total CN	P	38.4534	µg/l	12/9/2024 12:47:26	
P5093-02MSD	S	Total CN	P	37.7492	µg/l	12/9/2024 12:47:27	
P5141-02	S	Total CN	P	2.4147	µg/l	12/9/2024 12:54:54	
CCV2	S	Total CN	P	249.5362	µg/l	12/9/2024 12:54:55	
CCB2	S	Total CN	P	-0.2762	µg/l	12/9/2024 12:54:56	
PB165499BL	S	Total CN	P	-0.4622	µg/l	12/9/2024 12:54:57	
PB165499BS	S	Total CN	P	99.6788	µg/l	12/9/2024 12:54:58	
P5117-02	S	Total CN	P	-0.0135	µg/l	12/9/2024 12:54:59	
P5117-02DUP	S	Total CN	P	0.4804	µg/l	12/9/2024 12:55:00	
P5117-02MS	S	Total CN	P	35.9291	µg/l	12/9/2024 12:55:01	
P5117-02MSD	S	Total CN	P	36.1123	µg/l	12/9/2024 12:55:02	
CCV3	S	Total CN	P	272.2852	µg/l	12/9/2024 12:58:45	
CCB3	S	Total CN	P	-0.4223	µg/l	12/9/2024 12:58:46	

Calibration results Aquakem 7.2AQ1 Page: 1

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

Reviewed by : Nf

12/9/2024 11:11 Instrument ID : Konelab

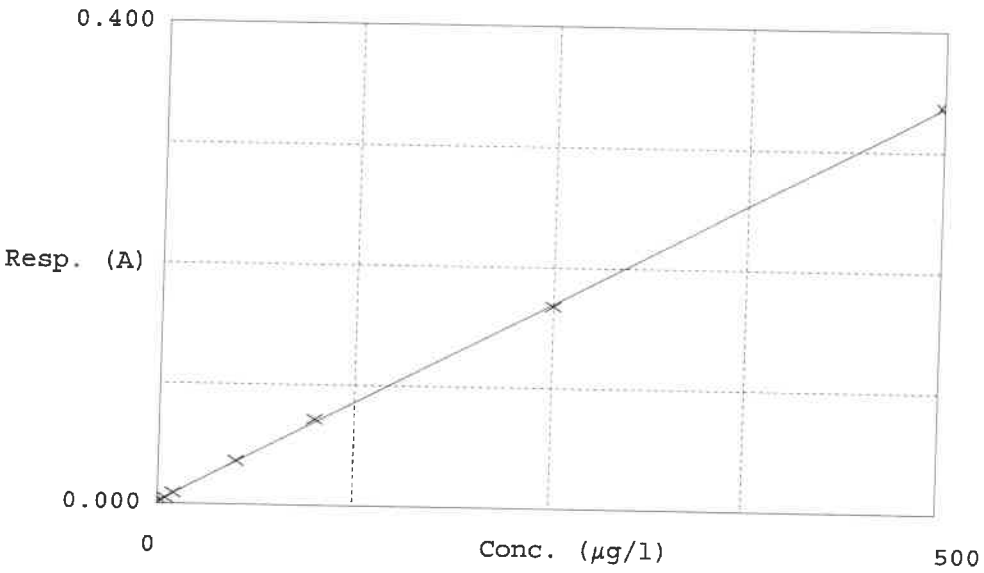
Test Total CN

Accepted 12/9/2024 11:11

Factor 1494
Bias 0.002

Coeff. of det. 0.999887

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	0.0PPBCN	0.001	-1.0904	0.0000	
2	5.0PPBCN	0.005	3.6171	5.0000	-27.7
3	10PPBCN	0.009	10.2339	10.0000	2.3
4	50PPBCN	0.036	50.8618	50.0000	1.7
5	100PPBCN	0.071	103.4693	100.0000	3.5
6	250PPBCN	0.168	247.3582	250.0000	-1.1
7	500PPBCN	0.337	500.5500	500.0000	0.1

Re

Nf
12.09.2024

Alliance TECHNICAL GROUP

Analytical Summary Report

Analysis Method: 9034
Parameter: Sulfide
Run Number: LB133898

ANALYST: rubina
SUPERVISOR REVIEW BY: Iwona
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)	AnalDate	Anal Time
1	PB165570BL		1	5.00	50	5.00	0.00	4.90	4.90	0.10	0.00	0.00	12/11/2024	14:35
2	PB165570BS	250	1	5.00	50	5.00	0.00	2.24	2.24	2.76	2.66	212.80	12/11/2024	14:38
3	P5117-02		1	5.01	50	5.00	0.00	4.86	4.86	0.14	0.04	3.19	12/11/2024	14:41
4	P5117-02DUP		1	5.01	50	5.00	0.00	4.86	4.86	0.14	0.04	3.19	12/11/2024	14:44
5	P5117-02MS	250	1	5.02	50	5.00	0.00	2.34	2.34	2.66	2.56	203.98	12/11/2024	14:47
6	P5117-02MSD	250	1	5.02	50	5.00	0.00	2.36	2.36	2.64	2.54	202.39	12/11/2024	14:50

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

Alliance TECHNICAL GROUP

Soil/Sludge Cyanide Preparation Sheet

PB165499

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

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Block ID : MC-1, MC-2

Weigh By : JP

Start Digest Date: 12/07/2024 **Time :** 10:00 **Temp :** 123 °C

End Digest Date: 12/07/2024 **Time :** 11:30 **Temp :** 126 °C

Digestion tube ID : M5595

Filter paper ID : N/A

pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE

Prep Technician Signature: ZP

Supervisor Signature: 12

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1ML	WP109549
PBS003	50.0ML	W3112
MS/MSD SPIKE SOL.	0.40ML	WP110899
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50ML	WP108640
50% v/v H2SO4	5ML	WP110391
51% w/v MgCL2	2ML	WP110390
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	Wt(g)/Vol(ml)	Comment
S0	S0	N/A	N/A
S5.0	S5.0	N/A	N/A
S10.0	S10.0	N/A	N/A
S100.0	S100.0	N/A	N/A
S250.0	S250.0	N/A	N/A
S500.0	S500.0	N/A	N/A
ICV	ICV	0.5ML	AS PER PB165498
ICB	ICB	N/A	N/A
CCV	CCV	N/A	N/A
CCB	CCB	N/A	N/A
Midrange	Midrange	N/A	N/A
HIGHSTD	HIGHSTD	5.0ML	AS PER PB165498
LOWSTD	LOWSTD	0.1ML	AS PER PB165498

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
12.07.2024, 11:40	ZP JWC	NF(WC)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Cyanide Preparation Sheet

PB165499

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P5117-02	TAPIAL2-IDW-SOIL-120424-00-T2	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P5117-02DUP	TAPIAL2-IDW-SOIL-120424-00-T2DUP	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P5117-02MS	TAPIAL2-IDW-SOIL-120424-00-T2MS	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P5117-02MSD	TAPIAL2-IDW-SOIL-120424-00-T2MSD	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165499BL	PBS499	1.05	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165499BS	LCS499	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : CN S P5117 **WorkList ID :** 186087 **Department :** Distillation **Date :** 12-07-2024 07:54:20

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5117-02	TAPIAL2-IDW-SOIL-120424-00-	Solid	Cyanide	Cool 4 deg C	WEST04	L41	12/05/2024	9012B

Date/Time 12.07.2024, 09:00
Raw Sample Received by: JD WDC
Raw Sample Relinquished by: RM (WDC)

Date/Time 12.07.2024, 11.09
Raw Sample Received by: RM (WDC)
Raw Sample Relinquished by: JD WDC

Alliance TECHNICAL GROUP

Soil/Sludge Sulfide Preparation Sheet

PB165570

SOP ID : M9030B-Sulfide-12

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#1

Block ID : MC-1

Weigh By : RM

Start Digest Date: 12/11/2024 **Time :** 10:10 **Temp :** 70 °C

End Digest Date: 12/11/2024 **Time :** 11:40 **Temp :** 70 °C

Digestion tube ID : M5595

Filter paper ID : N/A

pH Meter ID : N/A

Block Thermometer ID : WC CYANIDE

Prep Technician Signature: RM

Supervisor Signature: 12

Standared Name	MLS USED	STD REF. # FROM LOG
LCSS	1.25ML	WP111053
PBS003	50.0ML	W3112
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
CONC H2SO4	N/A	M6126
pH Paper 0-14	N/A	W3140
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:

12/11/2024 RM

N/A

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

Alliance TECHNICAL GROUP

Soil/Sludge Sulfide Preparation Sheet

PB165570

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P5117-02DUP	TAPIAL2-IDW-SOIL-120424-00-T2DUP	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P5117-02MS	TAPIAL2-IDW-SOIL-120424-00-T2MS	5.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P5117-02MSD	TAPIAL2-IDW-SOIL-120424-00-T2MSD	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P5117-02	TAPIAL2-IDW-SOIL-120424-00-T2	5.01	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165570BL	PBS570	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165570BS	LCS570	5.00	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : sulfide-12-24 **WorkList ID :** 186249 **Department :** Distillation **Date :** 12-11-2024 08:17:10

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5117-02	TAPIAL2-IDW-SOIL-120424-00·	Solid	Sulfide	Cool 4 deg C	WEST04	L41	12/04/2024	9034

Date/Time 12/11/2024 09.45
Raw Sample Received by: RM CWG
Raw Sample Relinquished by: JB (CWG)

Date/Time 12/11/2024 10.20
Raw Sample Received by: JB (CWG)
Raw Sample Relinquished by: RM CWG

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

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133776

Review By	jignesh	Review On	12/6/2024 9:04:32 AM
Supervise By	Iwona	Supervise On	12/6/2024 10:43:48 AM
SubDirectory	LB133776	Test	pH

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	W3107,W3093,W3094,W3071,W3005,W3072

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	12/06/24 08:55		Jignesh	OK
2	CAL2	CAL2	CAL	12/06/24 08:56		Jignesh	OK
3	CAL3	CAL3	CAL	12/06/24 08:58		Jignesh	OK
4	ICV	ICV	ICV	12/06/24 09:00		Jignesh	OK
5	CCV1	CCV1	CCV	12/06/24 09:20		Jignesh	OK
6	P5117-01	TAPIAL3-SB04I-10-12	SAM	12/06/24 09:30		Jignesh	OK
7	P5117-01DUP	TAPIAL3-SB04I-10-12	DUP	12/06/24 09:31		Jignesh	OK
8	P5117-02	TAPIAL2-IDW-SOIL-1	SAM	12/06/24 09:35		Jignesh	OK
9	CCV2	CCV2	CCV	12/06/24 09:37		Jignesh	OK

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

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QCBatch ID # LB133779

Review By	Niha	Review On	12/9/2024 2:36:05 PM
Supervise By	Iwona	Supervise On	12/10/2024 9:22:06 AM
SubDirectory	LB133779	Test	TOC

STD. NAME	STD REF.#
ICAL Standard	WP110667,WP110662,WP110663,WP110664,WP110665
ICV Standard	WP110666
CCV Standard	WP111002
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP111003
Chk Standard	WP109225

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	BLANK	BLANK	CAL1	11/12/24 11:01		NF IZ	OK
2	250mg/l	250mg/l	CAL2	11/12/24 11:15		NF IZ	OK
3	500mg/l	500mg/l	CAL3	11/12/24 11:27		NF IZ	OK
4	1000mg/l	1000mg/l	CAL4	11/12/24 11:36		NF IZ	OK
5	2000mg/l	2000mg/l	CAL5	11/12/24 12:05		NF IZ	OK
6	ICV1	ICV1	ICV	11/12/24 12:18		NF IZ	OK
7	ICB1	ICB1	ICB	11/12/24 12:32		NF IZ	OK
8	CCV1	CCV1	CCV	12/06/24 10:16		NF IZ	OK
9	CCB1	CCB1	CCB	12/06/24 10:28		NF IZ	OK
10	LB133779BLS	LB133779BLS	MB	12/06/24 10:59		NF IZ	OK
11	LB133779BSS	LB133779BSS	LCS	12/06/24 11:15		NF IZ	OK
12	P5113-01	FES-SB406-4345	SAM	12/06/24 12:09		NF IZ	OK
13	P5113-02	FES-SB406-7375	SAM	12/06/24 13:00		NF IZ	OK
14	P5022-01	TAPIAL2-SB02D-13-1	SAM	12/06/24 13:55		NF IZ	OK
15	P5022-01MS	TAPIAL2-SB02D-13-1	MS	12/06/24 14:12	sample + 40ul of 111002	NF IZ	OK
16	P5022-01MSD	TAPIAL2-SB02D-13-1	MSD	12/06/24 14:25	sample + 40ul of 111002	NF IZ	OK
17	P5076-01	TAPIAL2-SB02I-7.5-1	SAM	12/06/24 15:17		NF IZ	OK
18	P5117-01	TAPIAL3-SB04I-10-12	SAM	12/06/24 15:34		NF IZ	OK

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

Instrument ID: TOC

Daily Analysis Runlog For Sequence/QCBatch ID # LB133779

Review By	Niha	Review On	12/9/2024 2:36:05 PM
Supervise By	Iwona	Supervise On	12/10/2024 9:22:06 AM
SubDirectory	LB133779	Test	TOC

STD. NAME	STD REF.#
ICAL Standard	WP110667,WP110662,WP110663,WP110664,WP110665
ICV Standard	WP110666
CCV Standard	WP111002
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP111003
Chk Standard	WP109225

19	CCV2	CCV2	CCV	12/06/24 15:46		NF IZ	OK
20	CCB2	CCB2	CCB	12/06/24 16:02		NF IZ	OK

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

Instrument ID: FLAME

Daily Analysis Runlog For Sequence/QCBatch ID # LB133820

Review By	rubina	Review On	12/9/2024 9:36:17 AM
Supervise By	Iwona	Supervise On	12/9/2024 10:15:50 AM
SubDirectory	LB133820	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	P5112-02	10TH-ST-SOIL	SAM	12/07/24 08:15		rubina	OK
2	P5112-02DUP	10TH-ST-SOILDUP	DUP	12/07/24 08:22		rubina	OK
3	P5117-02	TAPIAL2-IDW-SOIL-1	SAM	12/07/24 08:30		rubina	OK
4	P5133-01	MOO-24-00374	SAM	12/07/24 08:37		rubina	OK
5	P5136-01	COMP-1	SAM	12/07/24 08:52		rubina	OK
6	P5136-02	COMP-1	SAM	12/07/24 09:00		rubina	OK
7	P5159-01	COMP-A-B	SAM	12/07/24 09:08		rubina	OK
8	P5174-01	ROLL-OFF-COMP	SAM	12/07/24 09:15		rubina	OK
9	P5174-02	ROLL-OFF-COMP	SAM	12/07/24 09:22		rubina	OK
10	P5196-01	MH-761	SAM	12/07/24 09:30		rubina	OK
11	P5196-04	MH-761	SAM	12/07/24 09:37		rubina	OK
12	P5133-02	MOO-24-00374	SAM	12/07/24 09:45		rubina	OK

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

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB133847

Review By	Niha	Review On	12/10/2024 11:11:44 AM
Supervise By	Iwona	Supervise On	12/10/2024 11:21:11 AM
SubDirectory	LB133847	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111012,WP111013,WP111014,WP111015,WP111016,WP111017,WP111018
ICV Standard	W3011
CCV Standard	WP111013
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP109549
Chk Standard	WP111035,WP110103,WP111019

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	12/09/24 11:10		Niha	OK
2	5.0PPBCN	5.0PPBCN	CAL2	12/09/24 11:10		Niha	OK
3	10PPBCN	10PPBCN	CAL3	12/09/24 11:10		Niha	OK
4	50PPBCN	50PPBCN	CAL4	12/09/24 11:10		Niha	OK
5	100PPBCN	100PPBCN	CAL5	12/09/24 11:10		Niha	OK
6	250PPBCN	250PPBCN	CAL6	12/09/24 11:11		Niha	OK
7	500PPBCN	500PPBCN	CAL7	12/09/24 11:11		Niha	OK
8	ICV1	ICV1	ICV	12/09/24 12:39		Niha	OK
9	ICB1	ICB1	ICB	12/09/24 12:39		Niha	OK
10	CCV1	CCV1	CCV	12/09/24 12:39		Niha	OK
11	CCB1	CCB1	CCB	12/09/24 12:39		Niha	OK
12	PB165498BL	PB165498BL	MB	12/09/24 12:39		Niha	OK
13	PB165498BS	PB165498BS	LCS	12/09/24 12:47		Niha	OK
14	LOWPB165498	LOWPB165498	SAM	12/09/24 12:47		Niha	OK
15	HIGHPB165498	HIGHPB165498	SAM	12/09/24 12:47		Niha	OK
16	P5093-01	LL-001	SAM	12/09/24 12:47		Niha	OK
17	P5093-02	LL-001-FB-12-4-24	SAM	12/09/24 12:47		Niha	OK
18	P5093-02DUP	LL-001-FB-12-4-24DU	DUP	12/09/24 12:47		Niha	OK

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

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QCBatch ID # LB133847

Review By	Niha	Review On	12/10/2024 11:11:44 AM
Supervise By	Iwona	Supervise On	12/10/2024 11:21:11 AM
SubDirectory	LB133847	Test	Cyanide

STD. NAME	STD REF.#
ICAL Standard	WP111012,WP111013,WP111014,WP111015,WP111016,WP111017,WP111018
ICV Standard	W3011
CCV Standard	WP111013
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	WP109549
Chk Standard	WP111035,WP110103,WP111019

19	P5093-02MS	LL-001-FB-12-4-24MS	MS	12/09/24 12:47		Niha	OK
20	P5093-02MSD	LL-001-FB-12-4-24MS	MSD	12/09/24 12:47		Niha	OK
21	P5141-02	WATER TREATMENT	SAM	12/09/24 12:54		Niha	OK
22	CCV2	CCV2	CCV	12/09/24 12:54		Niha	OK
23	CCB2	CCB2	CCB	12/09/24 12:54		Niha	OK
24	PB165499BL	PB165499BL	MB	12/09/24 12:54		Niha	OK
25	PB165499BS	PB165499BS	LCS	12/09/24 12:54		Niha	OK
26	P5117-02	TAPIAL2-IDW-SOIL-1	SAM	12/09/24 12:54		Niha	OK
27	P5117-02DUP	TAPIAL2-IDW-SOIL-1	DUP	12/09/24 12:55		Niha	OK
28	P5117-02MS	TAPIAL2-IDW-SOIL-1	MS	12/09/24 12:55		Niha	OK
29	P5117-02MSD	TAPIAL2-IDW-SOIL-1	MSD	12/09/24 12:55		Niha	OK
30	CCV3	CCV3	CCV	12/09/24 12:58		Niha	OK
31	CCB3	CCB3	CCB	12/09/24 12:58		Niha	OK

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

Instrument ID: TITRAMETRIC

Daily Analysis Runlog For Sequence/QCBatch ID # LB133898

Review By	rubina	Review On	12/11/2024 4:07:31 PM
Supervise By	Iwona	Supervise On	12/11/2024 4:10:32 PM
SubDirectory	LB133898	Test	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	PB165570BL	PB165570BL	MB	12/11/24 14:35		rubina	OK
2	PB165570BS	PB165570BS	LCS	12/11/24 14:38		rubina	OK
3	P5117-02	TAPIAL2-IDW-SOIL-1	SAM	12/11/24 14:41		rubina	OK
4	P5117-02DUP	TAPIAL2-IDW-SOIL-1	DUP	12/11/24 14:44		rubina	OK
5	P5117-02MS	TAPIAL2-IDW-SOIL-1	MS	12/11/24 14:47		rubina	OK
6	P5117-02MSD	TAPIAL2-IDW-SOIL-1	MSD	12/11/24 14:50		rubina	OK

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

Prep Standard - Chemical Standard Summary

Order ID : P5117

Test : Cyanide,Ignitability,Percent Solids,pH,Sulfide,TOC

Prepbatch ID : PB165499,PB165570,

Sequence ID/Qc Batch ID: LB133776,LB133779,LB133820,LB133847,LB133898,

Standard ID :
WP108640,WP109217,WP109218,WP109225,WP109549,WP110103,WP110390,WP110391,WP110662,WP110663,WP110664,WP110665,WP110666,WP110667,WP110899,WP111002,WP111003,WP111004,WP111011,WP111012,WP111013,WP111014,WP111015,WP111016,WP111017,WP111018,WP111019,WP111035,WP111053,

Chemical ID :
E3657,M5673,M6121,M6126,W2668,W2725,W2784,W2860,W2882,W2926,W3001,W3005,W3011,W3019,W3071,W3072,W3093,W3094,W3105,W3107,W3111,W3112,W3114,W3138,W3139,W3140,W3149,W3154,W3156,

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
11	Sodium hydroxide absorbing solution 0.25 N	WP108640	07/05/2024	01/05/2025	Rubina Mughal	WETCHEM_SCALE_4 (WCSC-4)	None	Iwona Zarych 07/08/2024

FROM 21.00000L of W3112 + 210.00000gram of E3657 = Final Quantity: 21.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2050	TOC STOCK STD, 4000PPM	WP109217	08/07/2024	01/18/2025	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 5.00000ml of W2860 + 8.51200gram of W3111 + 990.00000ml of W3112 = Final Quantity: 1000.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2051	TOC STOCK STD-SS, 4000PPM	WP109218	08/07/2024	02/07/2025	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 5.00000ml of W2860 + 8.51200gram of W2784 + 990.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2435	1:1 PHOSPHORIC ACID FOR TOC SOILS	WP109225	08/07/2024	02/07/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Mohan Bera 08/16/2024

FROM 50.00000ml of W2860 + 50.00000ml of W3112 = Final Quantity: 100.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3371	Cyanide LCS Spike Solution, 5PPM	WP109549	09/06/2024	01/05/2025	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 09/06/2024

FROM 1.00000ml of W3138 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
539	CN BUFFER	WP110103	10/08/2024	04/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/08/2024

FROM 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP110390	10/24/2024	04/24/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/24/2024

FROM 500.00000ml of W3112 + 510.00000gram of W3001 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1714	Sulfuric Acid, 50% (v/v)	WP110391	10/24/2024	04/24/2025	Niha Farheen Shaik	None	None	Iwona Zarych 10/24/2024

FROM 1000.00000ml of M5673 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
712	TOC SOIL cal 250ppm	WP110662	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024

FROM 15.00000ml of W3112 + 1.00000ml of WP109217 = Final Quantity: 16.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
710	TOC SOIL cal 500ppm	WP110663	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024

FROM 14.00000ml of W3112 + 2.00000ml of WP109217 = Final Quantity: 16.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3544	TOC SOIL Cal- CCV 1000PPM	WP110664	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
713	TOC SOIL cal 2000ppm	WP110665	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024

FROM 5.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 10.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2819	TOC ICV-LCSS, 1000PPM	WP110666	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109218 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
304	TOC CAL 0.00ppm	WP110667	11/12/2024	11/19/2024	Niha Farheen Shaik	None	None	Iwona Zarych 11/14/2024

FROM 100.00000ml of W3112 = Final Quantity: 100.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3850	Cyanide MS-MSD spiking solution, 5PPM	WP110899	12/02/2024	01/05/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 12/03/2024

FROM 1.00000ml of W3154 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3544	TOC SOIL Cal- CCV 1000PPM	WP111002	12/06/2024	12/13/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/09/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109217 = Final Quantity: 20.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2819	TOC ICV-LCSS, 1000PPM	WP111003	12/06/2024	12/13/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/09/2024

FROM 15.00000ml of W3112 + 5.00000ml of WP109218 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
160	0.5M ZINC ACETATE	WP111004	12/09/2024	05/13/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	WETCHEM_PIPETTE_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

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3456	Cyanide Intermediate Working Std, 5PPM	WP111011	12/09/2024	12/10/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/10/2024

FROM 0.25000ml of W3154 + 49.75000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4	Calibation standard 500 ppb	WP111012	12/09/2024	12/10/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/10/2024

FROM 45.00000ml of WP108640 + 5.00000ml of WP111011 = Final Quantity: 50.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3761	Calibration-CCV CN Standard 250 ppb	WP111013	12/09/2024	12/10/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/10/2024

FROM 2.50000ml of WP111011 + 47.50000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
6	Calibration Standard 100 ppb	WP111014	12/09/2024	12/10/2024	Niha Farheen Shaik	None	Glass Pipette-A	Iwona Zarych 12/10/2024

FROM 1.00000ml of WP111011 + 49.00000ml of WP108640 = Final Quantity: 50.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
7	Calibration Standard 50 ppb	WP111015	12/09/2024	12/10/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/10/2024

FROM 0.50000ml of WP111011 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
8	Calibration Standard 10 ppb	WP111016	12/09/2024	12/10/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/10/2024

FROM 1.00000ml of WP111012 + 49.00000ml of WP108640 = Final Quantity: 50.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
9	Calibration Standard 5 ppb	WP111017	12/09/2024	12/10/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/10/2024

FROM 0.50000ml of WP111012 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
167	0 ppb CN calibration std	WP111018	12/09/2024	12/10/2024	Niha Farheen Shaik	None	None	Iwona Zarych 12/10/2024

FROM 50.00000ml of WP108640 = Final Quantity: 50.000 ml

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1582	Chloramine T solution, 0.014M	WP111019	12/09/2024	12/10/2024	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 12/10/2024

FROM 0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
607	PYRIDINE-BARBITURIC ACID	WP111035	12/09/2024	04/30/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WCSC-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

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

Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3311	Sulfide Int std, 1000PPM	WP111053	12/11/2024	12/12/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 12/11/2024

FROM 0.75000gram of W3156 + 99.00000ml of W3112 = Final Quantity: 100.000 ml

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-5 / Sodium Hydroxide Pellets 2.5 Kg, Pk of 4	23B1556310	12/31/2025	12/04/2023 / Rajesh	12/01/2023 / Rajesh	E3657

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	09/21/2023 / mohan	09/05/2023 / mohan	M5673

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 #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

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, CRYS, 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 / Iwona	06/22/2020 / apatel	W2725

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P243-500 / Potassium Hydrogen Phthalate, 500 gms	201089	06/30/2025	12/23/2020 / apatel	12/16/2020 / apatel	W2784

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0260-3 / Phosphoric Acid, 2.5 L	0000278313	01/31/2026	07/12/2021 / apatel	07/12/2021 / apatel	W2860

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 / apatel	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,CRYS,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 #
PCI Scientific Supply, Inc.	01237-10KG / Megnasium Chloride Hexahydrate ACS 10KG	002251-03319	06/06/2027	01/23/2023 / lwona	06/06/2022 / lwona	W3001

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)	4212E45	12/31/2024	01/31/2023 / lwona	01/31/2023 / lwona	W3005

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	/ ICV-CN	ICV6-400	12/31/2024	01/03/2024 / Iwona	02/20/2020 / Iwona	W3011

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 / Iwona	04/03/2023 / Iwona	W3019

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

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

CHEMICAL RECEIPT LOG BOOK

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,4LITRE	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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P243-500 / Potassium Hydrogen Phthalate, 500 gms	24A1956910	01/18/2025	06/26/2024 / Iwona	06/26/2024 / Iwona	W3111

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 / Iwona	07/03/2024 / Iwona	W3112

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 / Iwona	07/10/2024 / Iwona	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 / Iwona	08/28/2024 / Iwona	W3138

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

CHEMICAL RECEIPT LOG BOOK

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 / Iwona	09/09/2024 / Iwona	W3139

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	10D0142	09/17/2029	09/17/2024 / Iwona	09/17/2024 / Iwona	W3140

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 / Iwona	10/16/2024 / Iwona	W3149

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 / Iwona	12/02/2024 / Iwona	W3154

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3910-1 / Sodium Sulfide, 500 g	241836	11/30/2025	12/03/2024 / Iwona	12/03/2024 / Iwona	W3156

Phosphoric Acid
BAKER ANALYZED® A.C.S. Reagent

(orthophosphoric acid)

avantor™ | J.T.Baker®

Material No.: 0260-03
Batch No.: 0000278313
Manufactured Date: 2021/02/01
Retest Date: 2026/01/31
Revision No: 2

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (H_3PO_4) (by acidimetry)	85.0 - 87.0 %	85.8
Calcium (Ca)	<= 0.002 %	< 0.001
Color (APHA)	<= 10	5
Insoluble Matter	<= 0.001 %	< 0.001
ACS - Magnesium (Mg)	<= 0.002 %	<0.002
Sulfate (SO_4)	<= 12 ppm	< 4
Volatile Acids (as CH_3COOH)	<= 0.001 %	0.001
Reducing Substances	Passes Test	PT
Chloride (Cl)	<= 3 ppm	< 1
Nitrate (NO_3)	<= 5 ppm	< 2
Trace Impurities - Antimony (Sb)	<= 20.000 ppm	0.007
Trace Impurities - Arsenic (As)	<= 0.500 ppm	< 0.001
Trace Impurities - Iron (Fe)	<= 10.000 ppm	< 1.000
Heavy Metals (as Pb)	<= 8 ppm	< 3
Trace Impurities - Manganese (Mn)	<= 0.500 ppm	0.005
Trace Impurities - Potassium (K)	<= 40.000 ppm	< 0.001
Trace Impurities - Sodium (Na)	<= 200.000 ppm	0.082

For Laboratory, Research or Manufacturing Use
Exceeds A.C.S. Specifications
Meets Reagent Specifications for testing USP/NF monographs

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

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

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3071
Rec 12/6/23

Certificate of Analysis

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

~~W2918~~ W3001 Rec. 06/06/22 exp. 06/06/27

Chem-Impex International, Inc.

Tel: (630) 766-2112
E-mail: sales@chemimpex.com
Shipping and Correspondence:
935 Dillon Drive
Wood Dale, IL 60191

Fax: (630) 766-2218
Web site: www.chemimpex.com
Manufacturing site:
825 Dillon Drive
Wood Dale, IL 60191

Certificate of Analysis

Catalogue Number	01237
Product	**Magnesium chloride hexahydrate**
Lot Number	002251-03319
	Magnesium chloride•$6H_2O$
CAS Number	7791-18-6
Molecular Formula	$MgCl_2$•$6H_2O$
Molecular Weight	203.3

Appearance	Colorless crystals, very deliquescent
Heavy Metals	< 5 ppm
Anion	Nitrate : < 0.001% Phosphate : < 5 ppm Sulfate : < 0.002%
Cation	Ammonium : < 0.002% Barium : < 0.005% Calcium : 0.0006% Iron : < 5 ppm Manganese : 1.8 ppm Potassium : 0.0006% Sodium : 0.0008% Strontium : 0.0015%
Insoluble material	0.0025%
Assay by titration	100.29%
Grade	ACS reagent
Storage	Store at RT
Country of Origin	India

Certificate of Analysis

Catalog Number: 01237 **Lot Number: 002251-03319**

Remarks	See material safety data sheet for additional information
	For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier

Bala Kumar
Quality Control Manager

Sigma-Aldrich.

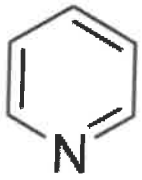
W3019
Rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside 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

RICCA CHEMICAL COMPANY®

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

W3072
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 (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

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 (SO4)		0.002	<0.0020	%
Titrable acid		0.006	<0.0060	meq/g

Heather Sinn,
_____
Quality Control Manager
This document has been produced electronically and is valid without a signature.

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

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P243	Quality Test / Release Date	06/19/2020
Lot Number	201089		
Description	POTASSIUM HYDROGEN PHTHALATE,ACIDIMETRIC STANDARD, A.C.S.		
Country of Origin	Spain	Suggested Retest Date	Jun/2025
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	WHITE CRYSTALS
ASSAY POTASSIUM HYDROGEN PHTHALATE	%	Inclusive Between 99.95 - 100.05	100.03
CHLORINE COMPOUNDS	%	<= 0.003	<0.003
HEAVY METALS (as Pb)	ppm	<= 5	<5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
PH OF 0.05M SOLUTION		Inclusive Between 4.00 - 4.02	4.00
SODIUM (Na)	%	<= 0.005	<0.005
SULFUR COMPOUNDS	%	<= 0.002	<0.002%
TRACEABLE TO NIST	SOD CARBONATE	= LOT 351a	351a
TRACEABLE TO NIST KHP STD	POT. ACID PHTHALATE	= LOT 84L	84L

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

VWR®

Certificate of Analysis

Sodium Hydroxide (Pellets)

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

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

Pellets

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

Storage: Room Temperature

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.

E 3657	E 3659
E 3654	E 3660

W3011
W3012
W3013
W3014
W3015

For ICP-MS use: dilute the ICV1 concentrate 50-fold with 1% (v/v) nitric acid; pipet 2 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA: dilute the ICV5 concentrate 100-fold with 2% (v/v) nitric acid; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide: dilute the ICV6 concentrate 100-fold with Type II water; pipet 1 mL of the concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2520	504
Sb	1010	202
As	997	199
Ba	518	104
Be	514	103
Cd	514	103
Ca	10000	2000
Cr	517	103
Co	521	104
Cu	505	101
Fe	10100	2020
Pb	1030	206
Mg	5990	1198
Mn	524	105
Ni	525	105
K	9940	1988
Se	1030	206
Ag	252	50
Na	10100	2020
Tl	1040	208
V	504	101
Zn	1010	202

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

9673-33
A-3

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities – Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities – Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

R → 10/13/24
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

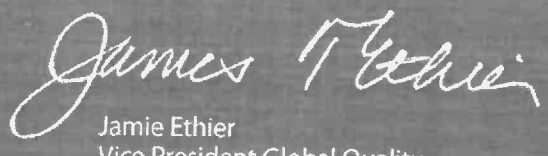
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000275677

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



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

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

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

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

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 ($NaH_2PO_4 \cdot H_2O$)	98.0 - 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 - 4.5	4.3
Insoluble Matter	<= 0.01 %	< 0.01
Chloride (Cl)	<= 5 ppm	< 5
ACS - Sulfate (SO_4)	<= 0.003 %	< 0.003
Calcium (Ca)	<= 0.005 %	<0.005
Potassium (K)	<= 0.01 %	< 0.01
Heavy Metals (as Pb)	<= 0.001 %	< 0.001
Trace Impurities - Iron (Fe)	<= 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

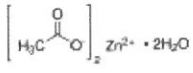
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

W2926
open 7/5/22
received
on
7/5/22

Certificate of Analysis

Product Name:
Zinc acetate dihydrate - ACS reagent, ≥98%



Product Number:	**383058**
Batch Number:	**MKCQ9159**
Brand:	SIGALD
CAS Number:	5970-45-6
MDL Number:	MFCD00066961
Formula:	C4H6O4Zn · 2H2O
Formula Weight:	219.51 g/mol
Quality Release Date:	06 JAN 2022

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder or Crystal or Chunk(s)	Powder
Infrared Spectrum	Conforms to Structure	Conforms
Insoluble Matter	≤ 0.005 %	0.003 %
Calcium (Ca)	≤ 0.005 %	0.003 %
Chloride (Cl)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 5 ppm	< 5 ppm
Potassium (K)	≤ 0.01 %	0.00 %
Magnesium (Mg)	≤ 0.005 %	0.003 %
Sodium (Na)	≤ 0.05 %	0.03 %
Lead (Pb)	≤ 0.002 %	< 0.001 %
pH	6.0 - 7.0	6.1
Sulfate (SO4)	≤ 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

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W 3005 REC. 1/31/23 12

Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C

Lot Number: 4212E45 **Product Number:** 1493

Manufacture Date: DEC 20, 202[illegible]

Expiration Date: DEC 202[illegible]

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)	2.000	0.02	185i, 186-I-g, 186-II-g

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)
1493-1	4 L natural poly	24 months
1493-16	500 mL natural poly	24 months
1493-32	1 L natural poly	24 months
1493-5	20 L Cubitainer®	24 months

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

Paul Brandon (12/20/2022)
Production Manager
This Certificate of Analysis 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

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3093 09412.. 04/03/2024 LG

Certificate of Analysis

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

Lot Number: 4401F99 **Product Number:** 1551

Manufacture Date: JAN 08, 2024
Expiration Date: DEC 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

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

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

Test	Specification	Result	
Appearance	Yellow liquid	Passed	*Not a certified value.

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

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

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

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

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

Paul Brandon (01/08/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3094 JB opure! 04/03/2025

Certificate of Analysis

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

Lot Number: 4310G83 **Product Number:** 1601 **Manufacture Date:** OCT 09, 2023
Expiration Date: MAR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

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

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

Test	Specification	Result	
Appearance	Blue liquid	Passed	*Not a certified value.

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

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

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

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

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

Paul Brandon (10/09/2023)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3105 Received on 4/22/24 by IZ

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-Cl 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 (03/29/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3107
38

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 (03/09/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

Certificate of Analysis

POTASSIUM HYDROGEN PHTHALATE

Material: **N983**

Grade: **ACS GRADE**

Batch Number: **24A1956910**

Chemical Formula: HOOCC6H4COOK
Molecular Weight: 204.22
CAS #: 877-24-7
Appearance:

White crystals.

Manufacture Date: 01/19/2022
Reassay Date: 01/18/2025

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Assay (dried basis)	99.95 - 100.05 %	99.97 %	PASS
Chlorine Compounds	<= 0.003 %	<0.003 %	PASS
Heavy Metals (as Pb)	<= 5 ppm	<5 ppm	PASS
Insoluble Matter	<= 0.005 %	0.003 %	PASS
Iron	<= 5 ppm	<5 ppm	PASS
pH (0.05M, Water) @25C	4.00 - 4.02	4.00	PASS
Sodium	<= 0.005 %	<0.005 %	PASS
Sulfur Compounds	<= 0.002 %	<0.002 %	PASS

Spec Set: N983ACS

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.

RICCA CHEMICAL COMPANY®

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

Certificate of Analysis

Iodine (Iodine-Iodide), 0.0250 Normal (N/40), 1 mL = 0.4008 mg S^{2-}

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

LabChem
Part of TCP Analytical Group
Jackson's Pointe Commerce Park- Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063

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

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

RICCA CHEMICAL COMPANY®

W3149 Received on 10/16/24 by IZ

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

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-Cl 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-Cl 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)

Paul Brandon (08/28/2024)
Production Manager

RICCA CHEMICAL COMPANY®
W3154 Rec. on 12/2/24 by IZ

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

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 certifiec 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

Certificate of Analysis

Item Number	Product Description	Lot Number
SX0770-1	Sodium Sulfide Nonahydrate, ACS Grade, 500GM	241836
Formula	**Molecular Weight**	**CAS Number**
$Na_2S \bullet 9H_2O$	240.18 g/mol	1313-84-4

QC TEST/RELEASE DATE: 10/09/2024 **SUGGESTED RETEST DATE:** 11/30/2025

S.No	Test	Unit	Specifications	Test Value
1	Appearance (Color)		Colorless to Very Faint Yellow and White to Faint Yellow	White
2	Appearance (Form)		Crystals or Chunks	Crystals
3	Titration by $Na_2S_2O_3$	%	≥ 98.0	98.1
4	Ammonium (NH_4)	%	≤ 0.005	< 0.005
5	Assay (Sulfite and Thiosulfate)	%	≤ 0.1	0.08
6	Iron (Fe)		Pass	passed
7	BSE/TSE Free		BSE/TSE Free	passed
8	Grade		Meets ACS Specifications	passed
9	Country of Origin		Ukraine	Ukraine

Intended for laboratory and manufacturing use only. Not for drug, food, or household use.
This is an electronically generated document and does not require signatures.

Certified By : Joe Schoellkopff,
Quality Control Manager

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A

Alliance TECHNICAL GROUP

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 12/6/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:00
In Date: 12/05/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:15
Out Date: 12/06/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133767

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
P5112-01	10TH-ST-SOIL	1	1.15	8.38	9.53	8.81	91.4	
P5113-01	FES-SB406-4345	2	1.15	8.81	9.96	8.94	88.4	
P5113-02	FES-SB406-7375	3	1.15	8.61	9.76	7.93	78.7	
P5117-01	TAPIAL3-SB04I-10-12032 4-00-T1	4	1.15	8.59	9.74	9.37	95.7	
P5117-02	TAPIAL2-IDW-SOIL-12042 4-00-T2	5	1.15	8.38	9.53	7.84	79.8	
P5120-01	TAPIAL2-IDW-SOIL-12042 4-00-T2	6	1.15	8.38	9.53	7.84	79.8	
P5133-01	MOO-24-00374	9	1.15	8.35	9.5	9.14	95.7	
P5134-01	MOO-24-00373	10	1.00	1.00	2.00	2.00	100.0	debris
P5135-01	LAW-23-00193	11	1.16	8.44	9.6	9.05	93.5	
P5136-01	COMP-1	12	1.16	8.49	9.65	7.26	71.8	
P5137-01	LAW-OILY-STONES	13	1.00	1.00	2.00	2.00	100.0	oily stone
P5137-02	LAW-OILY-STONES-E2	14	1.00	1.00	2.00	2.00	100.0	oily stone
P5144-01	60400	15	1.00	1.00	2.00	2.00	100.0	wipe sample
P5147-01	EX-8-TPH-1	7	1.15	8.82	9.97	8.29	81.0	
P5147-02	EX-8-TPH-2	8	1.15	8.76	9.91	8.1	79.3	

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

WORKLIST(Hardcopy Internal Chain)

VB 133767

WorkList Name : %1-120524 **WorkList ID :** 185988 **Department :** Wet-Chemistry **Date :** 12-05-2024 08:21:57

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5112-01	10TH-ST-SOIL	Solid	Percent Solids	Cool 4 deg C	TULL02	L51	12/05/2024	Chemtech -SO
P5113-01	FES-SB406-4345	Solid	Percent Solids	Cool 4 deg C	TETR06	L31	12/04/2024	Chemtech -SO
P5113-02	FES-SB406-7375	Solid	Percent Solids	Cool 4 deg C	TETR06	L31	12/04/2024	Chemtech -SO
P5117-01	TAPIAL3-SB04I-10-120324-00-	Solid	Percent Solids	Cool 4 deg C	WEST04	L41	12/05/2024	Chemtech -SO
P5117-02	TAPIAL2-IDW-SOIL-120424-00·	Solid	Percent Solids	Cool 4 deg C	WEST04	L41	12/05/2024	Chemtech -SO
P5120-01	TAPIAL2-IDW-SOIL-120424-00·	Solid	Percent Solids	Cool 4 deg C	WEST04	L51	11/27/2024	Chemtech -SO
P5133-01	MOO-24-00374	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	12/05/2024	Chemtech -SO
P5134-01	MOO-24-00373	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	12/05/2024	Chemtech -SO
P5135-01	LAW-23-00193	Solid	Percent Solids	Cool 4 deg C	PSEG03	L51	12/05/2024	Chemtech -SO
P5136-01	COMP-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	12/05/2024	Chemtech -SO
P5137-01	LAW-OILY-STONES	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	12/05/2024	Chemtech -SO
P5137-02	LAW-OILY-STONES-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L61	12/05/2024	Chemtech -SO
P5147-01	EX-8-TPH-1	Solid	Percent Solids	Cool 4 deg C	ENTA05	L41	12/05/2024	Chemtech -SO
P5147-02	EX-8-TPH-2	Solid	Percent Solids	Cool 4 deg C	ENTA05	L41	12/05/2024	Chemtech -SO

Date/Time 12/05/24 15:40

Raw Sample Received by: TD weC

Raw Sample Relinquished by: RJ CEXT-(ab)

Date/Time 12/05/24 17:10

Raw Sample Received by: RJ CEXT-(ab)

Raw Sample Relinquished by: TD weC

SHIPPING DOCUMENTS

P5117

Weston COC ID
Weston_20241204

Chain of Custody Record/Lab Work Request

Page 1 of 1

WESTON SOLUTIONS

Client:	Weston Solutions, Inc.		
Project Manager:	David Sembrot		
Street Address:	1400 Weston Way	City:	West Chester
Phone:	610-314-5456	ST, ZIP:	PA, 19038
e-mail:	david.sembrot@westonsolutions.com		
Sampled By:	Cheyenne Harrington		

Project Name:	Fort Meade RI	**Project POC:**	Nathan Fretz
PO Number	0111169	**Phone:**	484-524-5665
W.O. #:		**POC e-mail:**	nathan.fretz@westonsolutions.com
Lab:	CHEMTECH	**Lab POC:**	Jordan Hedvat
TAT (days):	21	**Lab Phone:**	908-728-3144
Lab Address:	284 Sheffield Street Mountainside, NJ 07092		

Matrix Codes
SB- Soil
SE - Sediment
SO - Solid
SL - Sludge
GW - Groundwater
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab Use Only		
Temperature of cooler when received (°C)		
COC Tape was present and unbroken on outer package?	Y	N
Samples received in good condition?	Y	N
Labels indicate properly preserved?	Y	N
Received within holding times?	Y	N
Discrepancies between sample labels and COC record?	Y	N

Analyses Requested:	pH by EPA 9045D	TAL Metals by EPA 6020B/7471B	TOC by 9060A	TCLP VOCs by EPA 8260D (1311)	TCLP SVOCs by EPA 8270E (1311)	TCLP Metals by EPA 6010D/7470A	TCLP Pesticides by EPA 8081B	TCLP Herbicides by EPA 8151A	Total Sulfide by EPA 9034	Total Cyanide by EPA 9012B	PCB by EPA 8082A	Ignitability by EPA 1030
Container Type:	Glass	Glass	Glass	Encore	Glass	Glass	Glass	Glass	Glass	Glass	Glass	Glass
Container Size:	8 oz	8 oz	8 oz	25g	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz	8 oz
Preservative:	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6	Ice to 0-6

#	Sample ID	G/C	Matrix	# Cont	MS/MSD	Date Collected	Time Collected	pH	TAL Metals	TOC	TCLP VOCs	TCLP SVOCs	TCLP Metals	TCLP Pesticides	TCLP Herbicides	Total Sulfide	Total Cyanide	PCB	Ignitability	Special Instructions/Comments
1	TAPIAL3-SB04I-10-120324-00-T1	g	SB	2	no	12/3/2024	14:00	X	X	X										
2	TAPIAL2-IDW-Soil-120424-00-T2	g	DS	7	no	12/4/2024	13:00	X			X	X	X	X	X	X	X	X	X	Make expedited 7 day TAT
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Shipping Airbill Number(s): 7704 9457 4944 / 7704 9457 4955

2.3 °C

Cooler Number: 1 of 2

	Relinquished By	Date	Time	Received By	Date	Time
1.)	[signature]	12/4/24	1600	[signature]	12-5-24	1010
2.)						
3.)						

Additional Comments

QSM 6.0 Compliant

Deliverable Requirements: DoD Level IV report, EnviroData EDD, and ERIS-compatible EDD

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