

Cover Page

Order ID : P4860

Project ID : Ocean County Landfill 2024

Client : Tetra Tech

Lab Sample Number

P4860-01
P4860-02
P4860-03
P4860-04
P4860-05
P4860-06
P4860-07
P4860-08
P4860-09
P4860-10

Client Sample Number

DUP-01
PH2-BOT-001
PH2-BOT-002
PH2-BOT-003
PH2-BOT-004
PH2-BOT-009
PH2-BOT-008
PH2-BOT-007
PH2-BOT-006
PH2-BOT-005

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: 11/23/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P4860

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: PATEL VAISHALI

Date: 11/23/2024

LAB CHRONICLE

OrderID:	P4860	OrderDate:	11/14/2024 1:36:41 PM
Client:	Tetra Tech	Project:	Ocean County Landfill 2024
Contact:	John Giuliano	Location:	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4860-01	DUP-01	SOIL			11/14/24 12:00			11/14/24
			Hexavalent Chromium	7196A		11/18/24	11/18/24 15:44	
			pH	9045D			11/15/24 17:33	
			Cyanide	9012B		11/15/24	11/15/24 16:48	
P4860-02	PH2-BOT-001	SOIL			11/14/24 08:20			11/14/24
			Cyanide	9012B		11/15/24	11/15/24 16:48	
			Hexavalent Chromium	7196A		11/18/24	11/18/24 15:49	
			pH	9045D			11/15/24 17:37	
P4860-03	PH2-BOT-002	SOIL			11/14/24 08:45			11/14/24
			Cyanide	9012B		11/15/24	11/15/24 16:48	
			Hexavalent Chromium	7196A		11/18/24	11/18/24 15:50	
			pH	9045D			11/15/24 17:40	
P4860-04	PH2-BOT-003	SOIL			11/14/24 09:05			11/14/24
			Cyanide	9012B		11/15/24	11/15/24 16:48	
			Hexavalent Chromium	7196A		11/18/24	11/18/24 15:51	

LAB CHRONICLE

			pH	9045D		11/15/24 17:44	
P4860-05	PH2-BOT-004	SOIL			11/14/24 09:25		11/14/24
			Cyanide	9012B	11/15/24	11/15/24 16:48	
			Hexavalent Chromium	7196A	11/18/24	11/18/24 15:54	
			pH	9045D		11/15/24 17:47	
P4860-06	PH2-BOT-009	SOIL			11/14/24 09:45		11/14/24
			Cyanide	9012B	11/15/24	11/15/24 16:56	
			Hexavalent Chromium	7196A	11/18/24	11/18/24 15:55	
			pH	9045D		11/15/24 17:50	
P4860-07	PH2-BOT-008	SOIL			11/14/24 10:00		11/14/24
			Cyanide	9012B	11/15/24	11/15/24 16:56	
			Hexavalent Chromium	7196A	11/18/24	11/18/24 15:56	
			pH	9045D		11/15/24 17:55	
P4860-08	PH2-BOT-007	SOIL			11/14/24 10:15		11/14/24
			Cyanide	9012B	11/15/24	11/15/24 16:56	
			Hexavalent Chromium	7196A	11/18/24	11/18/24 15:57	
			pH	9045D		11/15/24 18:00	
P4860-09	PH2-BOT-006	SOIL			11/14/24 10:30		11/14/24

LAB CHRONICLE

Cyanide	9012B	11/15/24	11/15/24 16:56
Hexavalent Chromium	7196A	11/18/24	11/18/24 15:58
pH	9045D		11/15/24 18:10

P4860-10

PH2-BOT-005

SOIL

**11/14/24
10:45**

11/14/24

Cyanide	9012B	11/15/24	11/15/24 16:56
Hexavalent Chromium	7196A	11/18/24	11/18/24 15:59
pH	9045D		11/15/24 18:25



SAMPLE DATA

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 00:00
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	DUP-01	SDG No.:	P4860
Lab Sample ID:	P4860-01	Matrix:	SOIL
		% Solid:	96.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.15	J	1	0.045	0.26	mg/Kg	11/15/24 12:20	11/15/24 16:48	9012B
Hexavalent Chromium	0.080	U	1	0.080	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:44	7196A
pH	8.30	H	1	0	0	pH		11/15/24 17:33	9045D

Comments: pH result reported at temperature 23.3 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 08:20
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-001	SDG No.:	P4860
Lab Sample ID:	P4860-02	Matrix:	SOIL
		% Solid:	96.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.61		1	0.045	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:48	9012B
Hexavalent Chromium	0.081	U	1	0.081	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:49	7196A
pH	6.72	H	1	0	0	pH		11/15/24 17:37	9045D

Comments: pH result reported at temperature 23.4 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 08:45
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-002	SDG No.:	P4860
Lab Sample ID:	P4860-03	Matrix:	SOIL
		% Solid:	96.6

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.38		1	0.044	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:48	9012B
Hexavalent Chromium	0.080	U	1	0.080	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:50	7196A
pH	7.03	H	1	0	0	pH		11/15/24 17:40	9045D

Comments: pH result reported at temperature 23.0 °C

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

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

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 09:05
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-003	SDG No.:	P4860
Lab Sample ID:	P4860-04	Matrix:	SOIL
		% Solid:	97.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.15	J	1	0.043	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:48	9012B
Hexavalent Chromium	0.28	J	1	0.080	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:51	7196A
pH	6.95	H	1	0	0	pH		11/15/24 17:44	9045D

Comments: pH result reported at temperature 23.0 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 09:25
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-004	SDG No.:	P4860
Lab Sample ID:	P4860-05	Matrix:	SOIL
		% Solid:	98.1

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.057	J	1	0.043	0.24	mg/Kg	11/15/24 12:20	11/15/24 16:48	9012B
Hexavalent Chromium	0.080	U	1	0.080	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:54	7196A
pH	6.91	H	1	0	0	pH		11/15/24 17:47	9045D

Comments: pH result reported at temperature 22.7 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 09:45
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-009	SDG No.:	P4860
Lab Sample ID:	P4860-06	Matrix:	SOIL
		% Solid:	98.3

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.066	J	1	0.044	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:56	9012B
Hexavalent Chromium	0.079	U	1	0.079	0.40	mg/Kg	11/18/24 09:20	11/18/24 15:55	7196A
pH	6.88	H	1	0	0	pH		11/15/24 17:50	9045D

Comments: pH result reported at temperature 22.1 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 10:00
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-008	SDG No.:	P4860
Lab Sample ID:	P4860-07	Matrix:	SOIL
		% Solid:	96.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.18	J	1	0.044	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:56	9012B
Hexavalent Chromium	0.081	U	1	0.081	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:56	7196A
pH	7.29	H	1	0	0	pH		11/15/24 17:55	9045D

Comments: pH result reported at temperature 23.1 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 10:15
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-007	SDG No.:	P4860
Lab Sample ID:	P4860-08	Matrix:	SOIL
		% Solid:	98

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.11	J	1	0.044	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:56	9012B
Hexavalent Chromium	0.079	U	1	0.079	0.40	mg/Kg	11/18/24 09:20	11/18/24 15:57	7196A
pH	7.33	H	1	0	0	pH		11/15/24 18:00	9045D

Comments: pH result reported at temperature 23.0 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 10:30
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-006	SDG No.:	P4860
Lab Sample ID:	P4860-09	Matrix:	SOIL
		% Solid:	97.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.080	J	1	0.043	0.24	mg/Kg	11/15/24 12:20	11/15/24 16:56	9012B
Hexavalent Chromium	0.29	J	1	0.081	0.41	mg/Kg	11/18/24 09:20	11/18/24 15:58	7196A
pH	6.73	H	1	0	0	pH		11/15/24 18:10	9045D

Comments: pH result reported at temperature 22.7 °C

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

D = Dilution

Q = indicates LCS control criteria did not meet requirements

H = Sample Analysis Out Of Hold Time

J = Estimated Value

B = Analyte Found in Associated Method Blank

* = indicates the duplicate analysis is not within control limits.

E = Indicates the reported value is estimated because of the presence of interference.

OR = Over Range

N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech	Date Collected:	11/14/24 10:45
Project:	Ocean County Landfill 2024	Date Received:	11/14/24
Client Sample ID:	PH2-BOT-005	SDG No.:	P4860
Lab Sample ID:	P4860-10	Matrix:	SOIL
		% Solid:	97.6

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Cyanide	0.044	U	1	0.044	0.25	mg/Kg	11/15/24 12:20	11/15/24 16:56	9012B
Hexavalent Chromium	0.080	U	1	0.080	0.40	mg/Kg	11/18/24 09:20	11/18/24 15:59	7196A
pH	8.41	H	1	0	0	pH		11/15/24 18:25	9045D

Comments: pH result reported at temperature 23.2 °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: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

RunNo.: LB133478

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV pH	pH	7.01	7	100	90-110	11/15/2024
Sample ID: CCV1 pH	pH	2.01	2.00	101	90-110	11/15/2024
Sample ID: CCV2 pH	pH	12.02	12.00	100	90-110	11/15/2024
Sample ID: CCV3 pH	pH	2.01	2.00	101	90-110	11/15/2024

Initial and Continuing Calibration Verification

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

RunNo.: LB133487

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV1 Cyanide	mg/L	0.097	0.099	98	90-110	11/15/2024
Sample ID: CCV1 Cyanide	mg/L	0.25	0.25	100	90-110	11/15/2024
Sample ID: CCV2 Cyanide	mg/L	0.25	0.25	100	90-110	11/15/2024
Sample ID: CCV3 Cyanide	mg/L	0.25	0.25	100	90-110	11/15/2024
Sample ID: CCV4 Cyanide	mg/L	0.25	0.25	100	90-110	11/15/2024

Initial and Continuing Calibration Verification

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

RunNo.: LB133497

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV Hexavalent Chromium	mg/L	0.502	0.5	100	90-110	11/18/2024
Sample ID: CCV1 Hexavalent Chromium	mg/L	0.499	0.5	100	90-110	11/18/2024
Sample ID: CCV2 Hexavalent Chromium	mg/L	0.499	0.5	100	90-110	11/18/2024
Sample ID: CCV3 Hexavalent Chromium	mg/L	0.500	0.5	100	90-110	11/18/2024
Sample ID: CCV4 Hexavalent Chromium	mg/L	0.498	0.5	100	90-110	11/18/2024

Initial and Continuing Calibration Blank Summary

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

RunNo.: LB133487

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	11/15/2024
Sample ID: CCB1 Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/15/2024
Sample ID: CCB2 Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/15/2024
Sample ID: CCB3 Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/15/2024
Sample ID: CCB4 Cyanide	mg/L	< 0.0025	0.0025	U	0.00099	0.005	11/15/2024

Initial and Continuing Calibration Blank Summary

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

RunNo.: LB133497

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB1 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB2 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB3 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024
Sample ID: CCB4 Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	11/18/2024

Preparation Blank Summary

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB165016BL Cyanide	mg/Kg	< 0.1250	0.1250	U	0.044	0.25	11/15/2024
Sample ID: PB165024BL Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.079	0.4	11/18/2024

Matrix Spike Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4822-02
Client ID:	SOIL-1MS	Percent Solids for Spike Sample:	92.4

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	2.60		0.15	J	2.1	1	117		11/15/2024

Matrix Spike Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4822-02
Client ID:	SOIL-1MSD	Percent Solids for Spike Sample:	92.4

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	2.60		0.15	J	2.1	1	117		11/15/2024

Matrix Spike Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4860-01
Client ID:	DUP-01MS	Percent Solids for Spike Sample:	96.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	1290		0.080	U	1330	40	97		11/18/2024

Matrix Spike Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4860-01
Client ID:	DUP-01MS	Percent Solids for Spike Sample:	96.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	85-115	40.2		0.080	U	41.3	2	97		11/18/2024

Matrix Spike Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4860-01
Client ID:	DUP-01MS	Percent Solids for Spike Sample:	96.8

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	33.8		0.080	U	41.3	2	82		11/18/2024

Duplicate Sample Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4822-02
Client ID:	SOIL-1DUP	Percent Solids for Spike Sample:	92.4

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	0.15	J	0.14	J	1	7		11/15/2024

Duplicate Sample Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4822-02
Client ID:	SOIL-1MSD	Percent Solids for Spike Sample:	92.4

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Cyanide	mg/Kg	+/-20	2.60		2.60		1	0		11/15/2024

Duplicate Sample Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4860-01
Client ID:	DUP-01DUP	Percent Solids for Spike Sample:	96.8

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.080	U	0.080	U	1	0		11/18/2024

Duplicate Sample Summary

Client:	Tetra Tech	SDG No.:	P4860
Project:	Ocean County Landfill 2024	Sample ID:	P4860-01
Client ID:	DUP-01DUP	Percent Solids for Spike Sample:	100

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
pH	pH	+/-20	8.30		8.31		1	0.12		11/15/2024

Laboratory Control Sample Summary

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

Run No.: LB133487

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB165016BS							
Cyanide	mg/Kg	5	4.80		96	1	85-115	11/15/2024

Laboratory Control Sample Summary

Client: Tetra Tech

SDG No.: P4860

Project: Ocean County Landfill 2024

Run No.: LB133497

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID	PB165024BS							
Hexavalent Chromium	mg/Kg	20	20.1		101	1	84-110	11/18/2024



RAW DATA

Analytical Summary Report

Analysis Method: 9045D

Analyst By : jignesh

Parameter: pH

Supervisor Review By : Iwona

Run Number: LB133478

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].

True Value of CCV3 = 2.00 Control Limits[+/- 0.1].

Seq	LabID	DF	Matrix	Weight (gm)	Volume (ml)	Temperature (°C)	Result (pH)	Anal Date	Anal Time
1	CAL1	1	Water	NA	NA	20.2	4.01	11/15/2024	17:20
2	CAL2	1	Water	NA	NA	20.2	7.01	11/15/2024	17:21
3	CAL3	1	Water	NA	NA	20.1	10.02	11/15/2024	17:22
4	ICV	1	Water	NA	NA	20.2	7.01	11/15/2024	17:25
5	CCV1	1	Water	NA	NA	20.3	2.01	11/15/2024	17:30
6	P4860-01	1	Solid	20.02	20	23.3	8.30	11/15/2024	17:33
7	P4860-01DUP	1	Solid	20.03	20	23.4	8.31	11/15/2024	17:34
8	P4860-02	1	Solid	20.04	20	23.4	6.72	11/15/2024	17:37
9	P4860-03	1	Solid	20.02	20	23.0	7.03	11/15/2024	17:40
10	P4860-04	1	Solid	20.03	20	23.0	6.95	11/15/2024	17:44
11	P4860-05	1	Solid	20.05	20	22.7	6.91	11/15/2024	17:47
12	P4860-06	1	Solid	20.02	20	22.1	6.88	11/15/2024	17:50
13	P4860-07	1	Solid	20.01	20	23.1	7.29	11/15/2024	17:55
14	P4860-08	1	Solid	20.03	20	23.0	7.33	11/15/2024	18:00
15	P4860-09	1	Solid	20.04	20	22.7	6.73	11/15/2024	18:10
16	CCV2	1	Water	NA	NA	20.3	12.02	11/15/2024	18:15
17	P4860-10	1	Solid	20.02	20	23.2	8.41	11/15/2024	18:25
18	CCV3	1	Water	NA	NA	20.2	2.01	11/15/2024	18:26

WORKLIST(Hardcopy Internal Chain)

133478

WorkList Name : ph s p4860 WorkList ID : 185497 Department : Wet-Chemistry Date : 11-15-2024 17:06:58

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4860-01	DUP-01	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-02	PH2-BPT-001	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-03	PH2-BPT-002	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-04	PH2-BPT-003	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-05	PH2-BPT-004	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-06	PH2-BPT-009	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-07	PH2-BPT-008	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-08	PH2-BPT-007	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-09	PH2-BPT-006	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D
P4860-10	PH2-BPT-005	Solid	pH	Cool 4 deg C	CORN02	L41	11/14/2024	9045D

Date/Time 11-15-24 17:10
 Raw Sample Received by: [Signature]
 Raw Sample Relinquished by: [Signature]

Date/Time 11-15-24
 Raw Sample Received by: [Signature]
 Raw Sample Relinquished by: [Signature]

Test results

Aquakem 7.2AQ1

Page:

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

Reviewed by : NF Instrument ID : Konelab

11/15/2024 17:49

Test: Total CN

Sample Id	Result	Dil. 1 +	Response	Errors
ICV1	96.715	0.0	0.071	
ICB1	0.697	0.0	0.002	
CCV1	247.056	0.0	0.180	
CCB1	0.532	0.0	0.002	
PB165016BL	0.594	0.0	0.002	
PB165016BS	96.865	0.0	0.071	
LOWPB165016	10.369	0.0	0.009	
HIGHPB165016	490.477	0.0	0.355	
P4822-02	2.812	0.0	0.004	
P4822-02DUP	2.530	0.0	0.003	
P4822-02MS	48.695	0.0	0.037	
P4822-02MSD	49.218	0.0	0.037	
P4822-04	23.975	0.0	0.019	
P4822-06	8.140	0.0	0.007	
CCV2	247.198	0.0	0.180	
CCB2	0.660	0.0	0.002	
P4822-08	11.710	0.0	0.010	
P4822-10	3.356	0.0	0.004	
P4860-01	2.909	0.0	0.004	
P4860-02	12.097	0.0	0.010	
P4860-03	7.536	0.0	0.007	
P4860-04	3.048	0.0	0.004	
P4860-05	1.168	0.0	0.002	
P4860-06	1.329	0.0	0.002	
P4860-07	3.573	0.0	0.004	
P4860-08	2.193	0.0	0.003	
CCV3	248.545	0.0	0.181	
CCB3	0.975	0.0	0.002	
P4860-09	1.645	0.0	0.003	
P4860-10	0.717	0.0	0.002	
P4822-12	5.818	0.0	0.006	
CCV4	250.207	0.0	0.182	
CCB4	0.153	0.0	0.002	

N 33
Mean 57.076
SD 112.4039
CV% 196.94

Aquakem v. 7.2AQ1

Results from time period:

Fri Nov 15 16:33:19 2024

Fri Nov 15 17:42:08 2024

Sample Id	Sam/Ctr/c/	Test short r	Test type	Result	Result unit	Result date and time	Stat
0.0PPBCN	A	Total CN	P	0.0251	µg/l	11/15/2024 10:43:37	
5.0PPBCN	A	Total CN	P	5.1462	µg/l	11/15/2024 10:43:38	
10PPBCN	A	Total CN	P	10.3136	µg/l	11/15/2024 10:43:39	
50PPBCN	A	Total CN	P	48.5273	µg/l	11/15/2024 10:43:40	
100PPBCN	A	Total CN	P	98.9192	µg/l	11/15/2024 10:43:41	
250PPBCN	A	Total CN	P	253.4259	µg/l	11/15/2024 10:43:42	
500PPBCN	A	Total CN	P	498.6428	µg/l	11/15/2024 10:43:43	
ICV1	S	Total CN	P	96.715	µg/l	11/15/2024 16:33:19	
ICB1	S	Total CN	P	0.6966	µg/l	11/15/2024 16:33:21	
CCV1	S	Total CN	P	247.0558	µg/l	11/15/2024 16:33:23	
CCB1	S	Total CN	P	0.532	µg/l	11/15/2024 16:33:26	
PB165016BL	S	Total CN	P	0.5937	µg/l	11/15/2024 16:33:27	
PB165016BS	S	Total CN	P	96.865	µg/l	11/15/2024 16:33:29	
LOWPB165016	S	Total CN	P	10.3689	µg/l	11/15/2024 16:40:55	
HIGHPB165016	S	Total CN	P	490.4773	µg/l	11/15/2024 16:40:57	
P4822-02	S	Total CN	P	2.8123	µg/l	11/15/2024 16:40:59	
P4822-02DUP	S	Total CN	P	2.5304	µg/l	11/15/2024 16:41:00	
P4822-02MS	S	Total CN	P	48.6948	µg/l	11/15/2024 16:41:01	
P4822-02MSD	S	Total CN	P	49.218	µg/l	11/15/2024 16:41:02	
P4822-04	S	Total CN	P	23.9748	µg/l	11/15/2024 16:48:29	
P4822-06	S	Total CN	P	8.1402	µg/l	11/15/2024 16:48:30	
CCV2	S	Total CN	P	247.1982	µg/l	11/15/2024 16:48:31	
CCB2	S	Total CN	P	0.6604	µg/l	11/15/2024 16:48:32	
P4822-08	S	Total CN	P	11.7097	µg/l	11/15/2024 16:48:33	
P4822-10	S	Total CN	P	3.3555	µg/l	11/15/2024 16:48:34	
P4860-01	S	Total CN	P	2.9094	µg/l	11/15/2024 16:48:35	
P4860-02	S	Total CN	P	12.0967	µg/l	11/15/2024 16:48:36	
P4860-03	S	Total CN	P	7.5359	µg/l	11/15/2024 16:48:37	
P4860-04	S	Total CN	P	3.0484	µg/l	11/15/2024 16:48:38	
P4860-05	S	Total CN	P	1.1683	µg/l	11/15/2024 16:48:39	
P4860-06	S	Total CN	P	1.329	µg/l	11/15/2024 16:56:01	
P4860-07	S	Total CN	P	3.5733	µg/l	11/15/2024 16:56:02	
P4860-08	S	Total CN	P	2.1934	µg/l	11/15/2024 16:56:03	
CCV3	S	Total CN	P	248.5445	µg/l	11/15/2024 16:56:06	
CCB3	S	Total CN	P	0.9749	µg/l	11/15/2024 16:56:07	
P4860-09	S	Total CN	P	1.6447	µg/l	11/15/2024 16:56:08	
P4860-10	S	Total CN	P	0.717	µg/l	11/15/2024 16:56:09	
P4822-12	S	Total CN	P	5.8177	µg/l	11/15/2024 17:03:43	
CCV4	S	Total CN	P	250.2072	µg/l	11/15/2024 17:03:44	
CCB4	S	Total CN	P	0.1532	µg/l	11/15/2024 17:03:45	

Calibration results

Aquakem 7.2AQ1

Page:

CHEMTECH CONSULTING GROUP INC

284 Sheffield Street, Mountainside, NJ 07092

Reviewed by : NF

Instrument ID : Konelab

11/15/2024 11:58

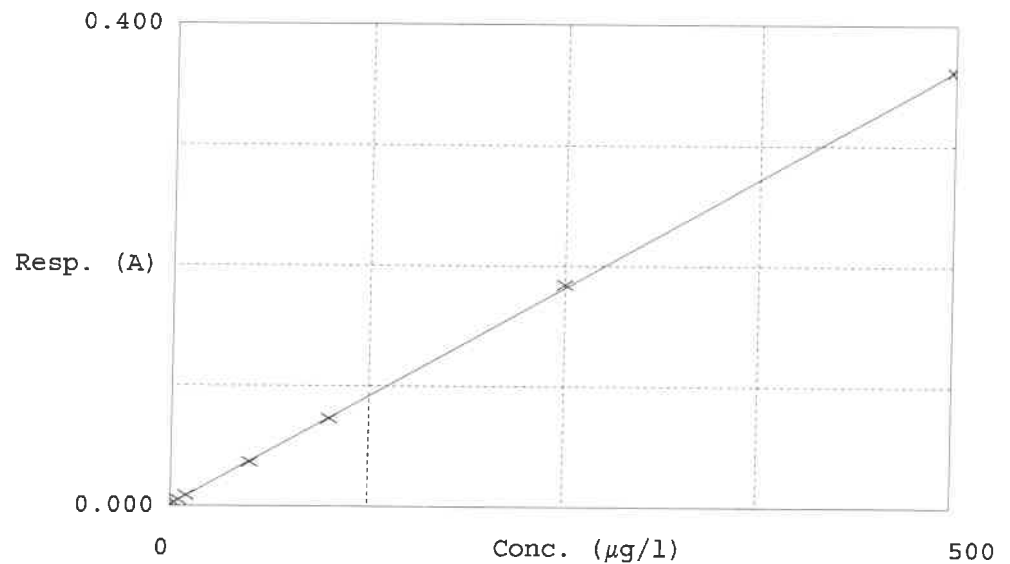
Test Total CN

Accepted 11/15/2024 11:58

Factor 1386
Bias 0.002

Coeff. of det. 0.999917

Errors



	Calibrator	Response	Calc. con.	Conc.	Re Errors	
1	0.0PPBCN	0.002	0.0251	0.0000		
2	5.0PPBCN	0.005	5.1462	5.0000	2.9	
3	10PPBCN	0.009	10.3136	10.0000	3.1	
4	50PPBCN	0.037	48.5273	50.0000	-2.9	
5	100PPBCN	0.073	98.9192	100.0000	-1.1	NF
6	250PPBCN	0.184	253.4259	250.0000	1.4	
7	500PPBCN	0.361	498.6428	500.0000	-0.3	11.15.2024

Analytical Summary Report

Analysis Method: 7196A

ANALYST: rubina

Parameter: ~~Hexavalent Chromium~~

SUPERVISOR REVIEW BY: Iwona

Run Number: LB133497

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP110722
5N sulfuric acid	WP110380
HNO3 Hex-Chrome, 5M	WP110381
Hexchrome Cleaning Solution	WP108645

Intercept: 0.001

Slope: 0.7674

Regression: 0.99999

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HNO3	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100	1.80	1.76	0.000	0.000	0.000	-0.00		11/18/2024	15:30
2	CAL2	0.01	1	100	100	7.38	1.85	0.000	0.009	0.009	0.010	0	11/18/2024	15:31
3	CAL3	0.025	1	100	100	7.35	1.87	0.000	0.020	0.020	0.024	-4	11/18/2024	15:32
4	CAL4	0.05	1	100	100	7.40	1.85	0.000	0.039	0.039	0.049	-2	11/18/2024	15:33
5	CAL5	0.1	1	100	100	7.41	1.88	0.000	0.080	0.080	0.102	2	11/18/2024	15:34
6	CAL6	0.5	1	100	100	7.38	1.86	0.000	0.383	0.383	0.497	-0.6	11/18/2024	15:35
7	CAL7	1	1	100	100	7.39	1.88	0.000	0.769	0.769	1.000	0	11/18/2024	15:36

Analytical Summary Report

Analysis Method: 7196A

ANALYST:rubina

Parameter: Hexavalent Chromium

SUPERVISOR REVIEW BY:Iwona

Run Number: LB133497

pH Meter ID:WC pH Meter-1

Seq	Lab ID	True Value	DF	Initial Vol (ml/gm)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at540nm		Absorbance Difference	Intermediate Result (mg/L)	Anal Date	Anal Time
								Backgrnd	Color				
1	ICV	0.5	1	100	100	7.40	1.92	0.000	0.386	0.386	0.502	11/18/2024	15:37
2	ICB		1	100	100	7.27	1.81	0.000	0.001	0.001	0.000	11/18/2024	15:38
3	CCV1	0.5	1	100	100	7.43	1.96	0.000	0.384	0.384	0.499	11/18/2024	15:39
4	CCB1		1	100	100	7.28	1.75	0.000	0.001	0.001	0.000	11/18/2024	15:40
5	RL Check	0.01	1	100	100	7.40	1.91	0.000	0.009	0.009	0.010	11/18/2024	15:41
6	PB165024BL		1	2.50	100	7.25	1.77	0.000	0.001	0.001	0.000	11/18/2024	15:42
7	PB165024BS	20	1	2.50	100	7.44	1.94	0.000	0.386	0.386	0.502	11/18/2024	15:43
8	P4860-01		1	2.54	100	7.55	2.10	0.003	0.004	0.001	0.000	11/18/2024	15:44
9	P4860-01DU		1	2.54	100	7.58	2.06	0.003	0.004	0.001	0.000	11/18/2024	15:45
10	P4860-01MS	40	2	2.54	100	7.52	2.06	0.000	0.320	0.320	0.416	11/18/2024	15:46
11	P4860-01MS	1284	40	2.54	100	7.52	2.10	0.000	0.610	0.610	0.794	11/18/2024	15:47
12	P4860-01MS	40	2	2.54	100	7.58	2.16	0.000	0.380	0.380	0.494	11/18/2024	15:48
13	P4860-02		1	2.51	100	7.60	2.10	0.001	0.001	0.000	-0.001	11/18/2024	15:49
14	P4860-03		1	2.54	100	7.52	2.14	0.006	0.007	0.001	0.000	11/18/2024	15:50
15	P4860-04		1	2.52	100	7.66	2.06	0.001	0.007	0.006	0.007	11/18/2024	15:51
16	CCV2	0.5	1	100	100	7.47	1.95	0.000	0.384	0.384	0.499	11/18/2024	15:52
17	CCB2		1	100	100	7.30	1.79	0.000	0.000	0.000	-0.001	11/18/2024	15:53
18	P4860-05		1	2.51	100	7.67	2.20	0.003	0.004	0.001	0.000	11/18/2024	15:54
19	P4860-06		1	2.54	100	7.62	2.24	0.001	0.001	0.000	-0.001	11/18/2024	15:55
20	P4860-07		1	2.52	100	7.52	2.10	0.001	0.001	0.000	-0.001	11/18/2024	15:56
21	P4860-08		1	2.54	100	7.56	2.06	0.001	0.002	0.001	0.000	11/18/2024	15:57
22	P4860-09		1	2.51	100	7.55	2.06	0.001	0.007	0.006	0.007	11/18/2024	15:58
23	P4860-10		1	2.54	100	7.60	2.12	0.001	0.001	0.000	-0.001	11/18/2024	15:59
24	P4869-01		1	2.53	100	7.62	2.18	0.032	0.032	0.000	-0.001	11/18/2024	16:00
25	P4887-01		1	2.53	100	7.60	2.06	0.001	0.002	0.001	0.000	11/18/2024	16:01
26	P4887-05		1	2.51	100	7.64	2.10	0.002	0.002	0.000	-0.001	11/18/2024	16:02
27	P4892-01		1	2.52	100	7.67	2.16	0.018	0.019	0.001	0.000	11/18/2024	16:03
28	CCV3	0.5	1	100	100	7.42	1.92	0.000	0.385	0.385	0.500	11/18/2024	16:04
29	CCB3		1	100	100	7.24	1.74	0.000	0.001	0.001	0.000	11/18/2024	16:05
30	P4892-02		1	2.51	100	7.53	2.10	0.001	0.001	0.000	-0.001	11/18/2024	16:06
31	P4893-01		1	2.51	100	7.56	2.06	0.001	0.002	0.001	0.000	11/18/2024	16:07
32	P4893-05		1	2.54	100	7.52	2.08	0.002	0.002	0.000	-0.001	11/18/2024	16:08
33	CCV4	0.5	1	100	100	7.44	1.96	0.000	0.383	0.383	0.498	11/18/2024	16:09
34	CCB4		1	100	100	7.29	1.76	0.000	0.001	0.001	0.000	11/18/2024	16:10

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

SDG No : N/A

Start Digest Date: 11/15/2024 Time : 12:20 Temp : 123 °C

Matrix : SOIL

End Digest Date: 11/15/2024 Time : 13:50 Temp : 126 °C

Pipette ID : WC

II batch 11/15/2024 14:15 123 °C
11/15/2024 15:45 126 °C

Balance ID : WC SC-7

Hood ID : HOOD#1

Digestion tube ID : M5595

Block Thermometer ID : WC CYANIDE

Block ID : MC-1, MC-2

Filter paper ID : N/A

Prep Technician Signature: [Signature]

Weigh By : JP

pH Meter ID : N/A

Supervisor Signature: [Signature]

Standard Name	MLS USED	STD REF. # FROM LOG
LCSS	1.0ML	WP109549
MS/MSD SPIKE SOL.	0.40ML	WP110035
PBS003	50ML	W3112
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
0.25N NaOH	50.0ML	WP108640
50% v/v H2SO4	5.0ML	WP110391
51% w/v MgCL2	2.0ML	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
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	W3011
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	WP110035
LOWSTD	LOWSTD	0.1ML	WP110035

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/15/2024, 16:00	[Signature] / WC	NF(WC)
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4822-02	SOIL-1	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-02DUP	SOIL-1DUP	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-02MS	SOIL-1MS	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-02MSD	SOIL-1MSD	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-04	SOIL-2	1.05	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-06	SOIL-3	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-08	SOIL-4	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-10	SOIL-5	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4822-12	SOIL-6	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01	DUP-01	1.01	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-02	PH2-BPT-001	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-03	PH2-BPT-002	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-04	PH2-BPT-003	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-05	PH2-BPT-004	1.05	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-06	PH2-BPT-009	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-07	PH2-BPT-008	1.04	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-08	PH2-BPT-007	1.03	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-09	PH2-BPT-006	1.05	50	N/A	N/A	N/A	N/A	N/A	N/A
P4860-10	PH2-BPT-005	1.02	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165016BL	PBS016	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A
PB165016BS	LCS016	1.00	50	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : cn p4799

WorkList ID : 185386

Department : Distillation

Date : 11-13-2024 08:30:42

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4822-02	SOIL-1	Solid	Cyanide	Cool 4 deg C	BAPS03	L21	11/12/2024	9012B
P4822-04	SOIL-2	Solid	Cyanide	Cool 4 deg C	BAPS03	L21	11/12/2024	9012B
P4822-06	SOIL-3	Solid	Cyanide	Cool 4 deg C	BAPS03	L21	11/12/2024	9012B
P4822-08	SOIL-4	Solid	Cyanide	Cool 4 deg C	BAPS03	L21	11/12/2024	9012B
P4822-10	SOIL-5	Solid	Cyanide	Cool 4 deg C	BAPS03	L21	11/12/2024	9012B
P4822-12	SOIL-6	Solid	Cyanide	Cool 4 deg C	BAPS03	L21	11/12/2024	9012B

Date/Time 11.15.2024 12:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

Date/Time 11.15.2024 15:00

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: [Signature]

WORKLIST(Hardcopy Internal Chain)

WorkList Name : CN S-11152024

WorkList ID : 185487

Department : Distillation

Date : 11-15-2024 10:58:38

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4860-01	DUP-01	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-02	PH2-BPT-001	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-03	PH2-BPT-002	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-04	PH2-BPT-003	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-05	PH2-BPT-004	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-06	PH2-BPT-009	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-07	PH2-BPT-008	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-08	PH2-BPT-007	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-09	PH2-BPT-006	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B
P4860-10	PH2-BPT-005	Solid	Cyanide	Cool 4 deg C	CORN02	L41	11/14/2024	9012B

Date/Time 11.15.2024 12:00
 Raw Sample Received by: M (eddy)
 Raw Sample Relinquished by: CFSR

Date/Time 11.15.2024 15:00
 Raw Sample Received by: [Signature]
 Raw Sample Relinquished by: [Signature]

SOP ID : M3060A,7196A-Hex.Chromium-26

SDG No : N/A

Matrix : SOIL

Pipette ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#3

Block ID : WC S-2, WC S-1

Weigh By : RM

Start Digest Date: 11/18/2024 Time : 09:20 Temp : 90 °C

End Digest Date: 11/18/2024 Time : 10:20 Temp : 95 °C

1 batch 11/18/2024 10:40 11/18/2024 11:40 9627RM 942JRM

Digestion tube ID : M6054

Block Thermometer ID : WC-Block#1

Filter paper ID : 400213

Prep Technician Signature: RM

pH Meter ID : WC pH meter-1

Supervisor Signature: 12

Standard Name	MLS USED	STD REF. # FROM LOG
PRE-DIGESTION SPIKE	2.0ML	WP108658
INSOLUBLE SPIKE	0.02GM	W2202
POST-DIGESTION SPIKE	2.0ML	WP108658
LCSS	1.0ML	WP108659
PBS003	50ML	W3112

Chemical Used	ML/SAMPLE USED	Lot Number
MAGNESIUM CHLORIDE	0.4GM	W3001
PHOSPHATE BUFFER	0.5ML	WP110498
HEX. DIGESTION SOLN.	50.0ML	WP110633
5M HNO3	5-7ML	WP110381
5N H2SO4	1-3ML	WP110380
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	Vol(ml)	Comment
CAL1	CAL1	2.5ML	W3112
CAL2	CAL2	0.2ML	WP110733
CAL3	CAL3	0.5ML	WP110733
CAL4	CAL4	1ML	WP110733
CAL5	CAL5	0.2ML	WP108658
CAL6	CAL6	1ML	WP108658
CAL7	CAL7	2.0ML	WP108658
ICV	ICV	1ML	WP108659
ICB	ICB	2.5ML	W3112
CCV	CCV	1ML	WP108658
CCB	CCB	2.5ML	W3112

Extraction Conformance/Non-Conformance Comments:

11/18/2024 RM

N/A

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

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P4860-01	DUP-01	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01MSPre	DUP-01MSPRE	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01MS2Ins	DUP-01MS2INS	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01MS3Post	DUP-01MS3POST	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-01DUP	DUP-01DUP	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-02	PH2-BPT-001	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-03	PH2-BPT-002	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-04	PH2-BPT-003	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-05	PH2-BPT-004	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-06	PH2-BPT-009	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-07	PH2-BPT-008	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-08	PH2-BPT-007	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-09	PH2-BPT-006	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4860-10	PH2-BPT-005	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P4869-01	EO-02-11152024	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4887-01	MH-739	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P4887-05	MH-760	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4892-01	WB-310-TOP	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P4892-02	WB-310-BOT	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4893-01	MH-763	2.51	100	N/A	N/A	N/A	N/A	N/A	N/A
P4893-05	MH-762	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
PB165024BL	PBS024	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB165024BS	LCS024	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : HEX-11-18

WorkList ID : 185525

Department : Distillation

Date : 11-18-2024 10:07:29

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4860-01	DUP-01	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-02	PH2-BPT-001	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-03	PH2-BPT-002	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-04	PH2-BPT-003	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-05	PH2-BPT-004	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-06	PH2-BPT-009	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-07	PH2-BPT-008	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-08	PH2-BPT-007	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-09	PH2-BPT-006	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4860-10	PH2-BPT-005	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4869-01	EO-02-11152024	Solid	Hexavalent Chromium	Cool 4 deg C	CORN02	L41	11/14/2024	7196A
P4887-01	MH-739	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	M11	11/15/2024	7196A
P4887-05	MH-760	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	M11	11/15/2024	7196A
P4892-01	WB-310-TOP	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	M11	11/15/2024	7196A
P4892-02	WB-310-BOT	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	M11	11/15/2024	7196A
P4893-01	WC-1	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	M11	11/15/2024	7196A
P4893-05	WC-2	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L51	11/16/2024	7196A

Date/Time 11/18/2024 08:45
 Raw Sample Received by: RM cwb
 Raw Sample Relinquished by: JF(007)

Date/Time 11/18/2024 10:50
 Raw Sample Received by: JF(007)
 Raw Sample Relinquished by: RM cwb

Instrument ID: WC PH METER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133478

Review By	jignesh	Review On	11/16/2024 8:43:34 AM
Supervise By	Iwona	Supervise On	11/18/2024 10:20:41 AM
SubDirectory	LB133478	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	11/15/24 17:20		Jignesh	OK
2	CAL2	CAL2	CAL	11/15/24 17:21		Jignesh	OK
3	CAL3	CAL3	CAL	11/15/24 17:22		Jignesh	OK
4	ICV	ICV	ICV	11/15/24 17:25		Jignesh	OK
5	CCV1	CCV1	CCV	11/15/24 17:30		Jignesh	OK
6	P4860-01	DUP-01	SAM	11/15/24 17:33		Jignesh	OK
7	P4860-01DUP	DUP-01DUP	DUP	11/15/24 17:34		Jignesh	OK
8	P4860-02	PH2-BOT-001	SAM	11/15/24 17:37		Jignesh	OK
9	P4860-03	PH2-BOT-002	SAM	11/15/24 17:40		Jignesh	OK
10	P4860-04	PH2-BOT-003	SAM	11/15/24 17:44		Jignesh	OK
11	P4860-05	PH2-BOT-004	SAM	11/15/24 17:47		Jignesh	OK
12	P4860-06	PH2-BOT-009	SAM	11/15/24 17:50		Jignesh	OK
13	P4860-07	PH2-BOT-008	SAM	11/15/24 17:55		Jignesh	OK
14	P4860-08	PH2-BOT-007	SAM	11/15/24 18:00		Jignesh	OK
15	P4860-09	PH2-BOT-006	SAM	11/15/24 18:10		Jignesh	OK
16	CCV2	CCV2	CCV	11/15/24 18:15		Jignesh	OK
17	P4860-10	PH2-BOT-005	SAM	11/15/24 18:25		Jignesh	OK
18	CCV3	CCV3	CCV	11/15/24 18:26		Jignesh	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB133487

Review By	Niha	Review On	11/19/2024 4:10:49 PM
Supervise By	Iwona	Supervise On	11/19/2024 4:31:25 PM
SubDirectory	LB133487	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP110724,WP110725,WP110726,WP110727,WP110728,WP110729,WP110730		
ICV Standard	W3011		
CCV Standard	WP110725		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP109549		
Chk Standard	WP109068,WP110103,WP110731		

Sr#	SampleID	ClientID	QcType	Date	Comment	Operator	Status
1	0.0PPBCN	0.0PPBCN	CAL1	11/15/24 10:43		Niha	OK
2	5.0PPBCN	5.0PPBCN	CAL2	11/15/24 10:43		Niha	OK
3	10PPBCN	10PPBCN	CAL3	11/15/24 10:43		Niha	OK
4	50PPBCN	50PPBCN	CAL4	11/15/24 10:43		Niha	OK
5	100PPBCN	100PPBCN	CAL5	11/15/24 10:43		Niha	OK
6	250PPBCN	250PPBCN	CAL6	11/15/24 10:43		Niha	OK
7	500PPBCN	500PPBCN	CAL7	11/15/24 10:43		Niha	OK
8	ICV1	ICV1	ICV	11/15/24 16:33		Niha	OK
9	ICB1	ICB1	ICB	11/15/24 16:33		Niha	OK
10	CCV1	CCV1	CCV	11/15/24 16:33		Niha	OK
11	CCB1	CCB1	CCB	11/15/24 16:33		Niha	OK
12	PB165016BL	PB165016BL	MB	11/15/24 16:33		Niha	OK
13	PB165016BS	PB165016BS	LCS	11/15/24 16:33		Niha	OK
14	LOWPB165016	LOWPB165016	SAM	11/15/24 16:40		Niha	OK
15	HIGHPB165016	HIGHPB165016	SAM	11/15/24 16:40		Niha	OK
16	P4822-02	SOIL-1	SAM	11/15/24 16:40		Niha	OK
17	P4822-02DUP	SOIL-1DUP	DUP	11/15/24 16:41		Niha	OK
18	P4822-02MS	SOIL-1MS	MS	11/15/24 16:41		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB133487

Review By	Niha	Review On	11/19/2024 4:10:49 PM
Supervise By	Iwona	Supervise On	11/19/2024 4:31:25 PM
SubDirectory	LB133487	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP110724,WP110725,WP110726,WP110727,WP110728,WP110729,WP110730		
ICV Standard	W3011		
CCV Standard	WP110725		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP109549		
Chk Standard	WP109068,WP110103,WP110731		

19	P4822-02MSD	SOIL-1MSD	MSD	11/15/24 16:41		Niha	OK
20	P4822-04	SOIL-2	SAM	11/15/24 16:48		Niha	OK
21	P4822-06	SOIL-3	SAM	11/15/24 16:48		Niha	OK
22	CCV2	CCV2	CCV	11/15/24 16:48		Niha	OK
23	CCB2	CCB2	CCB	11/15/24 16:48		Niha	OK
24	P4822-08	SOIL-4	SAM	11/15/24 16:48		Niha	OK
25	P4822-10	SOIL-5	SAM	11/15/24 16:48		Niha	OK
26	P4860-01	DUP-01	SAM	11/15/24 16:48		Niha	OK
27	P4860-02	PH2-BOT-001	SAM	11/15/24 16:48		Niha	OK
28	P4860-03	PH2-BOT-002	SAM	11/15/24 16:48		Niha	OK
29	P4860-04	PH2-BOT-003	SAM	11/15/24 16:48		Niha	OK
30	P4860-05	PH2-BOT-004	SAM	11/15/24 16:48		Niha	OK
31	P4860-06	PH2-BOT-009	SAM	11/15/24 16:56		Niha	OK
32	P4860-07	PH2-BOT-008	SAM	11/15/24 16:56		Niha	OK
33	P4860-08	PH2-BOT-007	SAM	11/15/24 16:56		Niha	OK
34	CCV3	CCV3	CCV	11/15/24 16:56		Niha	OK
35	CCB3	CCB3	CCB	11/15/24 16:56		Niha	OK
36	P4860-09	PH2-BOT-006	SAM	11/15/24 16:56		Niha	OK
37	P4860-10	PH2-BOT-005	SAM	11/15/24 16:56		Niha	OK
38	P4822-12	SOIL-6	SAM	11/15/24 17:03		Niha	OK

Instrument ID: KONELAB

Daily Analysis Runlog For Sequence/QC Batch ID # LB133487

Review By	Niha	Review On	11/19/2024 4:10:49 PM
Supervise By	Iwona	Supervise On	11/19/2024 4:31:25 PM
SubDirectory	LB133487	Test	Cyanide
STD. NAME	STD REF.#		
ICAL Standard	WP110724,WP110725,WP110726,WP110727,WP110728,WP110729,WP110730		
ICV Standard	W3011		
CCV Standard	WP110725		
ICSA Standard	N/A		
CRI Standard	N/A		
LCS Standard	WP109549		
Chk Standard	WP109068,WP110103,WP110731		

39	CCV4	CCV4	CCV	11/15/24 17:03		Niha	OK
40	CCB4	CCB4	CCB	11/15/24 17:03		Niha	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133497

Review By	rubina	Review On	11/18/2024 4:36:35 PM
Supervise By	Iwona	Supervise On	11/18/2024 4:49:53 PM
SubDirectory	LB133497	Test	Hexavalent Chromium
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	WP110722,WP110380,WP110381,WP108645		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	11/18/24 15:30		rubina	OK
2	CAL2	CAL2	CAL	11/18/24 15:31		rubina	OK
3	CAL3	CAL3	CAL	11/18/24 15:32		rubina	OK
4	CAL4	CAL4	CAL	11/18/24 15:33		rubina	OK
5	CAL5	CAL5	CAL	11/18/24 15:34		rubina	OK
6	CAL6	CAL6	CAL	11/18/24 15:35		rubina	OK
7	CAL7	CAL7	CAL	11/18/24 15:36		rubina	OK
8	ICV	ICV	ICV	11/18/24 15:37		rubina	OK
9	ICB	ICB	ICB	11/18/24 15:38		rubina	OK
10	CCV1	CCV1	CCV	11/18/24 15:39		rubina	OK
11	CCB1	CCB1	CCB	11/18/24 15:40		rubina	OK
12	RL Check	RL Check	SAM	11/18/24 15:41		rubina	OK
13	PB165024BL	PB165024BL	MB	11/18/24 15:42		rubina	OK
14	PB165024BS	PB165024BS	LCS	11/18/24 15:43		rubina	OK
15	P4860-01	DUP-01	SAM	11/18/24 15:44		rubina	OK
16	P4860-01DUP	DUP-01DUP	DUP	11/18/24 15:45		rubina	OK
17	P4860-01MSPre	DUP-01MS	MS	11/18/24 15:46		rubina	OK
18	P4860-01MS2Ins	DUP-01MS	MS	11/18/24 15:47		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133497

Review By	rubina	Review On	11/18/2024 4:36:35 PM
Supervise By	Iwona	Supervise On	11/18/2024 4:49:53 PM
SubDirectory	LB133497	Test	Hexavalent Chromium
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	WP110722,WP110380,WP110381,WP108645		

19	P4860-01MS3Post	DUP-01MS	MS	11/18/24 15:48		rubina	OK
20	P4860-02	PH2-BOT-001	SAM	11/18/24 15:49		rubina	OK
21	P4860-03	PH2-BOT-002	SAM	11/18/24 15:50		rubina	OK
22	P4860-04	PH2-BOT-003	SAM	11/18/24 15:51		rubina	OK
23	CCV2	CCV2	CCV	11/18/24 15:52		rubina	OK
24	CCB2	CCB2	CCB	11/18/24 15:53		rubina	OK
25	P4860-05	PH2-BOT-004	SAM	11/18/24 15:54		rubina	OK
26	P4860-06	PH2-BOT-009	SAM	11/18/24 15:55		rubina	OK
27	P4860-07	PH2-BOT-008	SAM	11/18/24 15:56		rubina	OK
28	P4860-08	PH2-BOT-007	SAM	11/18/24 15:57		rubina	OK
29	P4860-09	PH2-BOT-006	SAM	11/18/24 15:58		rubina	OK
30	P4860-10	PH2-BOT-005	SAM	11/18/24 15:59		rubina	OK
31	P4869-01	EO-02-11152024	SAM	11/18/24 16:00		rubina	OK
32	P4887-01	MH-739	SAM	11/18/24 16:01		rubina	OK
33	P4887-05	MH-760	SAM	11/18/24 16:02		rubina	OK
34	P4892-01	WB-310-TOP	SAM	11/18/24 16:03		rubina	OK
35	CCV3	CCV3	CCV	11/18/24 16:04		rubina	OK
36	CCB3	CCB3	CCB	11/18/24 16:05		rubina	OK
37	P4892-02	WB-310-BOT	SAM	11/18/24 16:06		rubina	OK
38	P4893-01	MH-763	SAM	11/18/24 16:07		rubina	OK

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133497

Review By	rubina	Review On	11/18/2024 4:36:35 PM
Supervise By	Iwona	Supervise On	11/18/2024 4:49:53 PM
SubDirectory	LB133497	Test	Hexavalent Chromium
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	WP110722,WP110380,WP110381,WP108645		

39	P4893-05	MH-762	SAM	11/18/24 16:08		rubina	OK
40	CCV4	CCV4	CCV	11/18/24 16:09		rubina	OK
41	CCB4	CCB4	CCB	11/18/24 16:10		rubina	OK

Prep Standard - Chemical Standard Summary

Order ID : P4860
Test : Cyanide,Hexavalent Chromium,Percent Solids,pH

Prepbatch ID : PB165016,PB165024,
Sequence ID/Qc Batch ID: LB133478,LB133487,LB133497,

Standard ID :
WP108640,WP108645,WP108658,WP108659,WP109068,WP109549,WP 110035,WP110103,WP110380,WP110381,W
P110390,WP110391,WP110498,WP110633,WP110722,WP110723,WP110724,WP110725,WP110726,WP110727,WP11
0728,WP110729,WP110730,WP110731,

Chemical ID :
E3657,E3788,M5673,M5929,M5947,M5954,M6096,W2202,W2511,W2651,W2652,W2668,W2708,W2882,W2979,W300
1,W3005,W3011,W3019,W3058,W3071,W3072,W3093,W3094,W3107,W3112,W3113,W3138,W3139,W3142,



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	WP108640	07/05/2024	01/05/2025	Rubina Mughal	WETCHEM_S CALE_4 (WC SC-4)	None	Iwona Zarych 07/08/2024
<u>FROM</u>	21.00000L of W3112 + 210.00000gram of E3657 = Final Quantity: 21.000 L							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3354	Hexchrome Cleaning Solution	WP108645	07/05/2024	12/27/2024	Rubina Mughal	None	None	Iwona Zarych 07/08/2024
<u>FROM</u> 182.00000ml of M5947 + 727.00000ml of W3112 + 91.00000ml of M5954 = Final Quantity: 1000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	WP108658	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 07/09/2024
<u>FROM</u> 0.14140gram of W2651 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	WP108659	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 07/09/2024
<u>FROM</u> 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
607	PYRIDINE-BARBITURIC ACID	WP109068	08/06/2024	12/08/2024	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 08/07/2024
<u>FROM</u> 145.00000ml of W3112 + 15.00000gram of W2882 + 15.00000ml of M5929 + 75.00000ml of W3019 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
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
<u>FROM</u> 1.00000ml of W3138 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3850	Cyanide MS-MSD spiking solution, 5PPM	WP110035	10/03/2024	11/30/2024	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 10/04/2024

FROM 1.00000ml of W3142 + 199.00000ml of WP108640 = Final Quantity: 200.000 ml

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

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

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
126	5N sulfuric acid	WP110380	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych
								10/24/2024

FROM 140.00000ml of M5673 + 860.00000ml of W3112 = Final Quantity: 1.000 L

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1836	HNO3 Hex-Chrome, 5M	WP110381	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych
								10/24/2024

FROM 320.00000ml of M6096 + 680.00000ml of W3112 = Final Quantity: 1000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	WP110390	10/24/2024	04/24/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 10/24/2024
<u>FROM</u> 500.00000ml of W3112 + 510.00000gram of W3001 = Final Quantity: 1000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1714	Sulfuric Acid, 50% (v/v)	WP110391	10/24/2024	04/24/2025	Niha Farheen Shaik	None	None	Iwona Zarych 10/24/2024
<u>FROM</u> 1000.00000ml of M5673 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
190	HEX CHROME PHOSPHATE BUFFER	WP110498	10/31/2024	04/29/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych 10/31/2024
<u>FROM</u> 0.84500L of W3112 + 68.04000gram of W2708 + 87.09000gram of W2511 = Final Quantity: 1.000 L								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
148	hexchrome digestion fluid	WP110633	11/11/2024	12/11/2024	Rubina Mughal	WETCHEM_S CALE_4 (WC SC-4)	None	Iwona Zarych 11/11/2024
<u>FROM</u> 120.00000gram of W3058 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
114	hexavalent chromium color reagent	WP110722	11/15/2024	11/22/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 11/18/2024
<u>FROM</u> 0.25000gram of W2979 + 50.00000ml of E3788 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	WP110723	11/15/2024	11/16/2024	Niha Farheen Shaik	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 11/18/2024
<u>FROM</u> 0.25000ml of W3142 + 47.50000ml of WP108640 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4	Calibration standard 500 ppb	WP110724	11/15/2024	11/16/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/18/2024

FROM 45.00000ml of WP108640 + 5.00000ml of WP110723 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3761	Calibration-CCV CN Standard 250 ppb	WP110725	11/15/2024	11/16/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/18/2024

FROM 2.00000ml of WP110723 + 47.50000ml of WP108640 = Final Quantity: 50.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
6	Calibration Standard 100 ppb	WP110726	11/15/2024	11/16/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/18/2024

FROM 1.00000ml of WP110723 + 49.00000ml of WP108640 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
7	Calibration Standard 50 ppb	WP110727	11/15/2024	11/16/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3	Iwona Zarych
							(WC)	11/18/2024

FROM 0.50000ml of WP110723 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
8	Calibration Standard 10 ppb	WP110728	11/15/2024	11/16/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/18/2024
FROM 1.00000ml of WP110724 + 49.00000ml of WP108640 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
9	Calibration Standard 5 ppb	WP110729	11/15/2024	11/16/2024	Niha Farheen Shaik	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 11/18/2024
FROM 0.50000ml of WP110724 + 49.50000ml of WP108640 = Final Quantity: 50.000 ml								

Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
167	0 ppb CN calibration std	WP110730	11/15/2024	11/16/2024	Niha Farheen Shaik	None	None	Iwona Zarych
								11/18/2024

FROM 50.00000ml of WP108640 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1582	Chloramine T solution, 0.014M	WP110731	11/15/2024	11/16/2024	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych
								11/18/2024

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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-9254-03 / Acetone, Ultra Resi (cs/4x4L)	23H1462005	04/23/2025	08/13/2024 / Rajesh	08/13/2024 / Rajesh	E3788

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)	22G2862015	12/08/2024	06/24/2024 / Al-Terek	06/07/2024 / Al-Terek	M5929

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)	22G2862015	12/27/2024	06/27/2024 / Al-Terek	06/23/2024 / Al-Terek	M5947

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	01/02/2025	07/01/2024 / Al-Terek	06/25/2024 / Al-Terek	M5954

CHEMICAL RECEIPT LOG BOOK

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	03/25/2029	10/22/2024 / Janvi	09/21/2024 / Janvi	M6096

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA14125-36 / LEAD (II) CHROMATE, ACS, 500G	U19B018	01/23/2027	01/23/2017 / apatel	01/23/2017 / apatel	W2202

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3252-1 / POTAS PHOSPHATE, DIBASIC PWD, ACS, 500G	0000207436	04/29/2025	05/22/2019 / AMANDEEP	03/21/2019 / apatel	W2511

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P188-500 / Potassium Dichromate, 500g(new-2nd lot)	194664	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2652

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYST, ACS, 500G	99/2019-20	05/05/2025	05/05/2020 / apatel	05/05/2020 / apatel	W2708

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazide	MKCR6636	12/09/2027	12/09/2022 / lwona	12/09/2022 / lwona	W2979

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	01237-10KG / Magnesium 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

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 / lwona	02/20/2020 / lwona	W3011

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	2023012653	10/19/2028	09/03/2024 / jignesh	10/19/2023 / lwona	W3058

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 / lwona	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 / lwona	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

CHEMICAL RECEIPT LOG BOOK

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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	RC2543-4 / CYANIDE STD 1000PPM 4OZ	1405J81	11/30/2024	09/25/2024 / lwona	09/25/2024 / lwona	W3142

Certificate of analysis

Product No. 14125
Product: Lead(II) chromate, ACS, 98%
Lot No.: U19B018

Test	Limits	Results
Assay	98.0 % min	99.3 %
Soluble matter	0.15 % max	< 0.02 %
Carbon compounds	0.01 % max	< 0.01 %

Traceable to NIST? Yes

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ThermoFisher
S C I E N T I F I C

Product No.: 13450
Product: Potassium dichromate, ACS, 99.0% min
Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

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This is to certify that units of the lot number above 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 purchaser, formulator or those performing further manufacturing 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 above information is the actual analytical results obtained.

Potassium Phosphate, Dibasic, Powder
BAKER ANALYZED® A.C.S. Reagent

(dipotassium hydrogen phosphate)



Material No.: 3252-01
Batch No.: 0000207436
Manufactured Date: 2018/05/01
Retest Date: 2025/04/29
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (K_2HPO_4) (by acidimetry)	$\geq 98.0 \%$	99.2
Insoluble Matter	$\leq 0.01 \%$	< 0.01
Loss on Drying at 105°C	$\leq 1.0 \%$	< 1.0
pH of 5% Solution at 25°C	8.5 – 9.6	9.1
Chloride (Cl)	$\leq 0.003 \%$	< 0.003
Fluoride (F)	$\leq 0.001 \%$	< 0.001
Nitrogen Compounds (as N)	$\leq 0.001 \%$	< 0.001
Sulfate (SO_4)	$\leq 0.005 \%$	< 0.005
Trace Impurities – Iron (Fe)	$\leq 0.001 \%$	< 0.001
Sodium (Na)	$\leq 0.05 \%$	< 0.05
Trace Impurities – Arsenic (As)	$\leq 1.000 \text{ ppm}$	< 1.000
Trace Impurities – ACS – Heavy Metals (as Pb)	$\leq 5 \text{ ppm}$	< 5
Trace Impurities – Lead (Pb)	$\leq 5.000 \text{ ppm}$	< 5.000
Color (APHA), For Information Only		5

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

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



Phillipsburg, NJ 9001:2015, FSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
Jamie Ethier
Vice President Global Quality

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


W3071
Rec 12/6/23

Certificate of Analysis 12

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

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023

Expiration Date: JUL 2025

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (08/09/2023)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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

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 ₂ O
CAS Number	7791-18-6
Molecular Formula	MgCl ₂ •6H ₂ O
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

W3019
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

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

Certificate of Analysis

Product Name:

Pyridine - anhydrous, 99.8%

Product Number:

270970

Batch Number:

SHBQ2113

Brand:

SIAL

CAS Number:

110-86-1

MDL Number:

MFCD00011732

Formula:

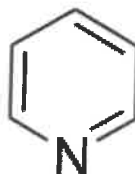
C₅H₅N

Formula Weight:

79.10 g/mol

Quality Release Date:

15 DEC 2022



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


Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

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



Certificate Of Analysis



W 3058

Re. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**

Powder, ACS

Item No: **SX0395 All Sizes**

Lot / Batch No: **2023012653**

Country of Origin: **India**

Item	Specifications	Analysis
Assay (calculated on dried substance)	99.5% min.	100.2%
Calcium (Ca)	0.03% max.	0.004%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Powder	Passes Test
Heavy metals (by ICP-OES)	5 ppm max.	<5 ppm
Insoluble Matter	0.01% max.	0.003%
Iron (Fe)	5 ppm max.	<5 ppm
Loss on heating at 285C	1.0% max.	0.1%
Magnesium (Mg)	0.005% max.	0.0008%
Phosphate (PO ₄)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO ₂)	0.005% max.	<0.005%
Sulfur compounds (as SO ₄)	0.003% max.	<0.003%

Joe Schoellkopf

Quality Control Manager

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

EMD Millipore Corporation

400 Summit Drive
Burlington, MA 01803
U.S.A.

Form number: 00005624CA, Rev. 2.0



RICCA CHEMICAL COMPANY®

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

W 3072
REC. 12/01/23
12

Certificate of Analysis

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

Lot Number: 2310P21

Product Number: 1615

Manufacture Date: OCT 24, 2023

Expiration Date: APR 2025

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

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

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

Test	Specification	Result
Appearance	Colorless liquid	Passed

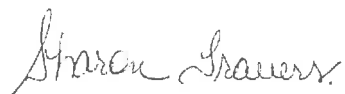
*Not a certified value.

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

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

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

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



Sharon Travers (10/24/2023)

Operations Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis

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	P188	Quality Test / Release Date	08/12/2019
Lot Number	194664		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-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.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red crystals
ASSAY	%	>= 99	99.2
CALCIUM	%	<= 0.003	<0.003
CHLORIDE	%	<= 0.001	<0.001
LOSS ON DRYING @ 105 C	%	<= 0.05	<0.05
SULFATE (SO4)	%	<= 0.005	<0.005
INSOLUBLE MATTER	%	<= 0.005	0.003
IRON (Fe)	%	<= 0.001	<0.001
SODIUM (Na)	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

Jerusa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis 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.



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:

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

Storage: Room Temperature

Pellets

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	$\leq 0.005 \%$	$< 0.005 \%$	PASS
Chloride	$\leq 0.005 \%$	0.002 %	PASS
Heavy Metals	$\leq 0.002 \%$	$< 0.002 \%$	PASS
Iron	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Magnesium	$\leq 0.002 \%$	$< 0.002 \%$	PASS
Mercury	$\leq 0.1 \text{ ppm}$	$< 0.1 \text{ ppm}$	PASS
Nickel	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Nitrogen Compounds	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Phosphate	$\leq 0.001 \%$	$< 0.001 \%$	PASS
Potassium	$\leq 0.02 \%$	$< 0.02 \%$	PASS
Purity	$\geq 97.0 \%$	99.2 %	PASS
Sodium Carbonate	$\leq 1.0 \%$	0.5 %	PASS
Sulfate	$\leq 0.003 \%$	$< 0.003 \%$	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

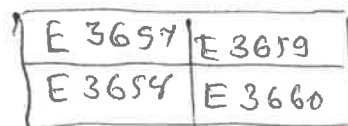
This document has been electronically produced and is valid without a signature.

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.



Acetone

BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

Avantor™



Material No.: 9254-03
Batch No.: 23H1462005
Manufactured Date: 2023-07-26
Expiration Date: 2026-07-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (μeq/g)	≤ 0.3	0.1
Titration Base (μeq/g)	≤ 0.6	< 0.1
Water (H ₂ O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1

For Laboratory, Research, or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

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

Recd by RP on 8/13/24

E 3788

Ken Koehnlein
Sr. Manager, Quality Assurance



R: 02/20/20
53

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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 ($\mu\text{g/L}$) (after 10-fold dilution)	Concentration ($\mu\text{g/L}$) (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 ($\mu\text{g/L}$) (after 100-fold dilution)	Analyte	Concentration ($\mu\text{g/L}$) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

W3011
W3012
W3013
W3014
W3015

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

 **avantor**™



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 ₂ SO 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 SO ₂)	≤ 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



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

A handwritten signature in cursive script that reads 'James Ethier'.
Jamie Ethier
Vice President Global Quality

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



MS947 MS948 MS949
MS950 MS951 MS952

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

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

 **avantors**™



Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis

 **avantorsm**

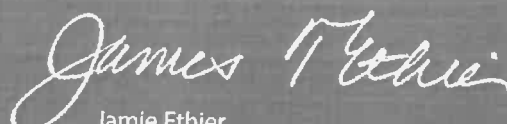


Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

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


Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

avantor™



MS954 MS955 MS956
MS957 MS958

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



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

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS



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

Test	Specification	Result
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For Microelectronic Use

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

A handwritten signature in cursive script, appearing to read 'J. Croak'.

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

avantor™



M6096
M6097
M6098
M6099
M6100

Mutdig
9/21/24

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



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

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS



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

Test	Specification	Result
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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.



CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

Importers Exporters Manufacturers & Marketing of Fine Chemicals & Pharmaceuticals

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Fax : (F) +91-265-2638036
E-mail : info@cpcindia.com
Web : www.cpcindia.com

W2708 Received on 05/05/20 by AP

CERTIFICATE OF ANALYSIS

PRODUCT	: POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS	
CERTIFICATE NO	: 99/2019- 20	DATE 26-08-2019
Date of receipt of sample	: 22.08.2019	Quantity : 1000 KGS
Batch No. /Lot No	: 99/2019- 20	
Mfg. Date	: Aug-2019	
1. Characteristic	: A White powder	
2. Identification	: Positive	
	RESULT OBTAINED	LIMITS
3. Clarity and colour of solution	: 10% solution is clear and colourless	
4. Assay (on dry basis)	: 99.27%	Min.99.00%
5. PH (5% solution)	: 4.4	4.1-4.5
6. Loss on Drying	: 0.1%	Max 0.2%
7. Heavy Metals	: 0.0003%	Max.0.001%
8. Iron	: 0.001%	Max 0.002%
9. Sulphate	: 0.001%	Max. 0.003%
10. Chloride	: 0.0005%	Max.0.001%
11. Insoluble Matter	: 0.003%	Max. 0.01%
12. Sodium	: 0.004%	Max. 0.005%
The sample does comply with specification as per Above.		
Analysed by	<u>J.A. PATHAK</u>	Quality Control Department

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

(sodium dihydrogen phosphate, monohydrate)



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

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$)	98.0 – 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 – 4.5	4.3
Insoluble Matter	≤ 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

W 2979

Rec: 12/09/22

exp. 12/09/27

Product Name:

1,5-Diphenylcarbazide - ACS reagent

Product Number:

259225

Batch Number:

MKCR6636

Brand:

SIAL

CAS Number:

140-22-7

MDL Number:

MFCD00003013

Formula:

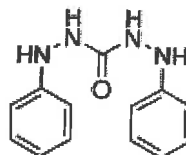
C₁₃H₁₄N₄O

Formula Weight:

242.28 g/mol

Quality Release Date:

02 JUN 2022



Certificate of Analysis

Test	Specification	Result
Appearance (Color)	Conforms to Requirements	Pink
Off-White to Pink, Light Purple or Tan		
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash)	≤ 0.05 %	0.01 %
15 minutes, 800 Degrees Celsius		
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms



Larry Coers, Director
Quality Control
Milwaukee, WI US

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



**RICCA CHEMICAL COMPANY®**

W 3005

REC- 1/31/23

12

1490 Lammers Pike

Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

Buffer, Reference Standard, pH 2.00 ± 0.01 at 25°C**Lot Number: 4212E45****Product Number: 1493****Manufacture Date: DEC 20, 2022****Expiration Date: DEC 2024**

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

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



RICCA CHEMICAL COMPANY®

1490 Lammers Pike

Batesville, IN 47006

<http://www.riccachemical.com>

1-888-GO-RICCA

customerservice@riccachemical.com

Certificate of Analysis

W3093
004121
04/03/2024
16

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

Lot Number: 4401F99

Product Number: 1551

Manufacture Date: JAN 08, 2024

Expiration Date: DEC 2025

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

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

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

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

Test	Specification	Result
Appearance	Yellow liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (01/08/2024)

Production Manager

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Contents of Certificates and Labels."

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Certificate of Analysis

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

Lot Number: 4310G83

Product Number: 1601

Manufacture Date: OCT 09, 2023

Expiration Date: MAR 2025

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

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

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

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

Test	Specification	Result
Appearance	Blue liquid	Passed

*Not a certified value.

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

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

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

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

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



Paul Brandon (10/09/2023)

Production Manager

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

This product was tested in an ISO 17025 Accredited Laboratory

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



Certificate of Analysis

Buffer, Reference Standard, pH 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

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



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



Sodium Hydroxide (Pellets)

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

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

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

Storage: Room Temperature

Pellets

Spec Set: 0583ACS

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.



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

2024080113:32:16bsturges-0-0

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

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

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

Certificate of Analysis

Cyanide Standard, 1000 ppm CN⁻

Lot Number: 1405J81

Product Number: 2543

Manufacture Date: MAY 20, 2024

Expiration Date: NOV 2024

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

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

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

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

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

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
2543-16	500 mL amber poly	6 months
2543-4	120 mL amber poly	6 months

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



Heidi J Green (05/20/2024)
Operations Manager

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PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/18/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 11/15/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:22
Out Date: 11/16/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133466

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
P4851-01	OK-02-11142024	1	1.15	8.40	9.55	9.06	94.2	
P4851-02	OK-02-11142024-E2	2	1.16	8.50	9.66	9.32	96.0	
P4860-01	DUP-01	15	1.15	8.38	9.53	9.26	96.8	
P4860-02	PH2-BPT-001	16	1.18	8.50	9.68	9.41	96.8	
P4860-03	PH2-BPT-002	17	1.16	8.47	9.63	9.34	96.6	
P4860-04	PH2-BPT-003	18	1.15	8.49	9.64	9.45	97.8	
P4860-05	PH2-BPT-004	19	1.16	8.78	9.94	9.77	98.1	
P4860-06	PH2-BPT-009	20	1.19	8.59	9.78	9.63	98.3	
P4860-07	PH2-BPT-008	21	1.16	8.48	9.64	9.37	96.8	
P4860-08	PH2-BPT-007	22	1.16	8.48	9.64	9.47	98.0	
P4860-09	PH2-BPT-006	23	1.15	8.81	9.96	9.74	97.5	
P4860-10	PH2-BPT-005	24	1.13	8.85	9.98	9.77	97.6	
P4862-01	Y2404-0033-END-1-1	45	1.00	1.00	2.00	2.00	100.0	oilc
P4862-02	Y2404-0033-END-1-2	46	1.00	1.00	2.00	2.00	100.0	oilc
P4862-03	Y2404-END-1-1	47	1.00	1.00	2.00	2.00	100.0	oilc
P4862-04	Y2404-END-1-2	48	1.00	1.00	2.00	2.00	100.0	oilc
P4862-05	KMH4671-END-1-1	49	1.00	1.00	2.00	2.00	100.0	oilc
P4862-06	KMH4671-END-1-2	50	1.00	1.00	2.00	2.00	100.0	oilc
P4862-07	W029060-END-1-1	51	1.00	1.00	2.00	2.00	100.0	oilc
P4862-08	W029060-END-1-2	52	1.00	1.00	2.00	2.00	100.0	oilc
P4865-01	02-9042-1-1	41	1.00	1.00	2.00	2.00	100.0	oilc
P4865-02	02-9042-1-2	42	1.00	1.00	2.00	2.00	100.0	oilc
P4865-03	BC271303-1-1	43	1.00	1.00	2.00	2.00	100.0	oilc
P4865-04	BC271303-1-2	44	1.00	1.00	2.00	2.00	100.0	oilc
P4869-01	EO-02-11152024	53	1.16	8.50	9.66	8.89	90.9	
P4869-02	EO-02-11152024-E2	54	1.18	8.52	9.7	9.1	93.0	
P4870-01	TP-1	3	1.14	8.69	9.83	8.9	89.3	
P4870-02	TP-1-EPH	4	1.15	8.45	9.6	8.61	88.3	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/18/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 11/15/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:22
Out Date: 11/16/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133466

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
P4870-03	TP-1-VOC	5	1.12	8.75	9.87	8.84	88.2	
P4870-04	MH-735	6	1.18	8.59	9.77	8.84	89.2	
P4870-05	MH-735-EPH	7	1.18	8.42	9.6	8.68	89.1	
P4870-06	MH-735-VOC	8	1.18	8.47	9.65	8.71	88.9	
P4870-07	MH-736	9	1.19	8.63	9.82	8.85	88.8	
P4870-08	MH-736-EPH	10	1.12	8.66	9.78	8.92	90.1	
P4870-09	MH-736-VOC	11	1.16	8.80	9.96	9.1	90.2	
P4870-10	TP-15	12	1.18	8.73	9.91	8.77	86.9	
P4870-11	TP-15-EPH	13	1.19	8.71	9.9	8.73	86.6	
P4870-12	TP-15-VOC	14	1.18	8.42	9.6	8.54	87.4	
P4886-05	SVOC-GPC-BLANK	25	1.00	1.00	2.00	2.00	100.0	
P4886-06	PEST-GPC-BLANK	26	1.00	1.00	2.00	2.00	100.0	
P4886-07	PEST-GPC-BLANK-SPIKE	27	1.00	1.00	2.00	2.00	100.0	
P4886-08	PCB-GPC-BLANK	28	1.00	1.00	2.00	2.00	100.0	
P4886-09	PCB-GPC-BLANK-SPIKE	29	1.00	1.00	2.00	2.00	100.0	
P4886-10	SVOC-GPC2-BLANK	30	1.00	1.00	2.00	2.00	100.0	
P4886-11	PEST-GPC2-BLANK	31	1.00	1.00	2.00	2.00	100.0	
P4886-12	PEST-GPC2-BLANK-SPIKE	32	1.00	1.00	2.00	2.00	100.0	
P4886-13	PCB-GPC2-BLANK	33	1.00	1.00	2.00	2.00	100.0	
P4886-14	PCB-GPC2-BLANK-SPIKE	34	1.00	1.00	2.00	2.00	100.0	
P4887-01	MH-739	35	1.15	8.83	9.98	9.2	91.2	
P4887-03	MH-739-EPH	36	1.17	8.60	9.77	8.94	90.3	
P4887-04	MH-739-VOC	37	1.12	8.68	9.8	8.62	86.4	
P4887-05	MH-760	38	1.15	8.40	9.55	8.56	88.2	
P4887-07	MH-760-EPH	39	1.15	8.83	9.98	9.14	90.5	
P4887-08	MH-760-VOC	40	1.14	8.81	9.95	9.4	93.8	
P4889-01	VNJ-228	55	1.17	8.55	9.72	8.96	91.1	
P4889-02	VNJ-228-VOC	56	1.15	8.72	9.87	8.87	88.5	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 11/18/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:25
In Date: 11/15/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:22
Out Date: 11/16/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB133466

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
P4889-03	#72-11978	57	1.18	8.63	9.81	9.14	92.2	
P4889-04	#72-11978-VOC	58	1.13	8.76	9.89	9.41	94.5	
P4889-05	#72-11930	59	1.14	8.84	9.98	9.4	93.4	
P4889-06	#72-11930-VOC	60	1.14	8.84	9.98	9.52	94.8	

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

WORKLIST(Hardcopy Internal Chain)

133466

WorkList Name : %1-111524

WorkList ID : 185446

Department : Wet-Chemistry

Date : 11-15-2024 07:57:13

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4851-01	OK-02-11142024	Solid	Percent Solids	Cool 4 deg C	PSEG05	L41	11/14/2024	Chemtech -SO
P4851-02	OK-02-11142024-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	L41	11/14/2024	Chemtech -SO
P4860-01	DUP-01	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-02	PH2-BPT-001	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-03	PH2-BPT-002	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-04	PH2-BPT-003	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-05	PH2-BPT-004	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-06	PH2-BPT-009	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-07	PH2-BPT-008	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-08	PH2-BPT-007	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-09	PH2-BPT-006	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4860-10	PH2-BPT-005	Solid	Percent Solids	Cool 4 deg C	CORN02	L41	11/14/2024	Chemtech -SO
P4862-01	Y2404-0033-END-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-02	Y2404-0033-END-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-03	Y2404-END-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-04	Y2404-END-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-05	KMH4671-END-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-06	KMH4671-END-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-07	W029060-END-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4862-08	W029060-END-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4865-01	02-9042-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO

Date/Time 11-15-24 15:35

Raw Sample Received by: 80 wlf

Raw Sample Relinquished by: F.C. Jones

Date/Time 11-15-24

Raw Sample Received by: J.C. Jones

Raw Sample Relinquished by: 80 wlf

WORKLIST(Hardcopy Internal Chain)

1333466

WorkList Name : %1-111524

WorkList ID : 185446

Department : Wet-Chemistry

Date : 11-15-2024 07:57:13

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4865-02	02-9042-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4865-03	BC271303-1-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4865-04	BC271303-1-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4869-01	EO-02-11152024	Solid	Percent Solids	Cool 4 deg C	PSEG05	M11	11/15/2024	Chemtech -SO
P4869-02	EO-02-11152024-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	M11	11/15/2024	Chemtech -SO
P4870-01	TP-1	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-02	TP-1-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-03	TP-1-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-04	MH-735	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-05	MH-735-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-06	MH-735-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-07	MH-736	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-08	MH-736-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-09	MH-736-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-10	TP-15	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-11	TP-15-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4870-12	TP-15-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/14/2024	Chemtech -SO
P4886-05	SVOC-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-06	PEST-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-07	PEST-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-08	PCB-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO

Date/Time 11-15-24 15:35
 Raw Sample Received by: SO WPC
 Raw Sample Relinquished by: SO WPC
 Date/Time 11-15-24 17:20
 Raw Sample Received by: Z. C. (my)
 Raw Sample Relinquished by: SO WPC

WORKLIST(Hardcopy Internal Chain)

133466

WorkList Name : %1-111524

WorkList ID : 185446

Department : Wet-Chemistry

Date : 11-15-2024 07:57:13

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4886-09	PCB-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-10	SVOC-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-11	PEST-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-12	PEST-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-13	PCB-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4886-14	PCB-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	M11	11/15/2024	Chemtech -SO
P4887-01	MH-739	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4887-03	MH-739-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4887-04	MH-739-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4887-05	MH-760	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4887-07	MH-760-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4887-08	MH-760-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4889-01	VNJ-228	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4889-02	VNJ-228-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4889-03	#72-11978	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4889-04	#72-11978-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4889-05	#72-11930	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO
P4889-06	#72-11930-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	M11	11/15/2024	Chemtech -SO

Date/Time 11-15-24 15:35

Raw Sample Received by: SO wey

Raw Sample Relinquished by: SO wey

Date/Time 11-15-24

Raw Sample Received by: SO wey

Raw Sample Relinquished by: SO wey



SHIPPING DOCUMENTS

CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. **P4860**
QUOTE NO.
COC Number **2042292**

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Corrusion Env. Group
ADDRESS: 100 Crystal Run Rd Suite 101
CITY Middletown STATE: NY ZIP: 10941
ATTENTION:
PHONE: 845-695-0200 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: OCLE Ph 2 Post-Excavation Sample
PROJECT NO.: 209-424325 LOCATION: Manchester NJ
PROJECT MANAGER: John Guiliano
e-mail: John.Guiliano@chemtech.com
PHONE: 845-695-0200 FAX:

CLIENT BILLING INFORMATION

BILL TO: Corrusion Env. Group
ADDRESS: 100 Crystal Run Rd Suite 101
CITY Middletown STATE: NY ZIP: 10941
ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): _____ DAYS*
EDD: _____ DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other _____
☒ EDD FORMAT _____

TEL: 845-695-0200
8260B 8270E
8081B 8082A
4010D/7471B
9012B
NJEPH
7196A
9045D
8260D
Chemtech - SOP

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	QUP - 01	Soil	X		11-14-24	12:00	10	X	X	X	X	X	X	X	X	X	
2.	PH2 - BOT-001					8:20		X	X	X	X	X	X	X	X	X	
3.	PH2 - BOT-002					8:45		X	X	X	X	X	X	X	X	X	
4.	PH2 - BOT-003					9:05		X	X	X	X	X	X	X	X	X	
5.	PH2 - BOT-004					9:25		X	X	X	X	X	X	X	X	X	
6.	PH2 - BOT-009					9:45		X	X	X	X	X	X	X	X	X	
7.	PH2 - BOT-008					10:00		X	X	X	X	X	X	X	X	X	
8.	PH2 - BOT-007					10:15		X	X	X	X	X	X	X	X	X	
9.	PH2 - BOT-006					10:30		X	X	X	X	X	X	X	X	X	
10.	PH2 - BOT-005					10:45		X	X	X	X	X	X	X	X	X	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: 1. <u>John Gu</u>	DATE/TIME: <u>11-14-24 11:15</u>	RECEIVED BY: <u>[Signature]</u> <u>11-14-24</u>	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>3.0°C</u>
RELINQUISHED BY SAMPLER: 2.	DATE/TIME:	RECEIVED BY:	Comments:
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: <u>11-14-24</u>	RECEIVED BY: <u>[Signature]</u>	

Page 1 of 1

CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☒ Picked Up ☐ Field Sampling

Shipment Complete
☐ YES ☐ NO



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P4860 CORN02

Order Date : 11/14/2024 1:36:41 PM

Project Mgr :

Client Name : Tetra Tech

Project Name : Ocean County Landfill 2024

Report Type : NJ Reduced

Client Contact : John Giuliano

Receive DateTime : 11/14/2024 6:30:00 PM

EDD Type : Excel NJ

Invoice Name : Tetra Tech

Purchase Order :

Hard Copy Date :

Invoice Contact : John Giuliano

Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P4860-01	DUP-01	Solid	11/14/2024	12:00					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-02	PH2-BPT-001	Solid	11/14/2024	08:20					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-03	PH2-BPT-002	Solid	11/14/2024	08:45					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-04	PH2-BPT-003	Solid	11/14/2024	09:05					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-05	PH2-BPT-004	Solid	11/14/2024	09:25					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-06	PH2-BPT-009	Solid	11/14/2024	09:45					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-07	PH2-BPT-008	Solid	11/14/2024	10:00					
	BOT				VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-08	PH2-BPT-007	Solid	11/14/2024	10:15					

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P4860	CORN02	Order Date : 11/14/2024 1:36:41 PM	Project Mgr :
Client Name : Tetra Tech		Project Name : Ocean County Landfill 2024	Report Type : NJ Reduced
Client Contact : John Giuliano		Receive DateTime : 11/14/2024 6:30:00 PM	EDD Type : Excel NJ
Invoice Name : Tetra Tech		Purchase Order :	Hard Copy Date :
Invoice Contact : John Giuliano			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P4860-09	BOT PH2-BPT-006	Solid	11/14/2024	10:30	VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
P4860-10	BOT PH2-BPT-005	Solid	11/14/2024	10:45	VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	
					VOC-TCLVOA-10	TCL+30/TAL	8260D	10 Bus. Days	

Relinquished By : 

Date / Time : 11/15/24 11:30

Received By : 

Date / Time : 11.15.24 11:30

Storage Area : VOA Refridgerator Room