

## **UNION COUNTY VOCATIONAL - TECHNICAL SCHOOLS**

1776 Raritan Road, Scotch Plains, New Jersey 07076-2997 (908)889-8288, Ext. 120 Fax: (908)889-4336 Email: gryan@ucvts.org

Mrs. Gwendolyn S. Ryan Superintendent of Schools

May 12, 2022

Union County Vocational-Technical Schools 1776 Raritan Road Scotch Plains, NJ 07076

Dear Union County Vocational-Technical Schools Community,

Our school system is committed to protecting student, teacher, and staff health. To protect our community and be in compliance with the Department of Education regulations, Union County Vocational-Technical Schools tested our schools' drinking water for lead. On April 23, 2022, lead in drinking water sampling was conducted.

In accordance with the Department of Education regulations, Union County Vocational-Technical Schools will implement immediate remedial measures for any drinking water outlet with a result greater than the action level of 15  $\mu$ g/l (parts per billion [ppb]). This includes turning off the outlet unless it is determined the location must remain on for non-drinking purposes. In these cases, a "DO NOT DRINK – SAFE FOR HANDWASHING ONLY" sign will be posted.

### **Testing Results**

Following instructions given in technical guidance developed by the New Jersey Department of Environmental Protection, we completed a plumbing profile for each of the buildings within Union County Vocational-Technical Schools. Through this effort, we identified and tested all drinking water and food preparation outlets. Of the 182 samples taken, all but one (1) tested below the lead action level established by the US Environmental Protection Agency for lead in drinking water (15  $\mu$ g/l [ppb]).

The table below identifies the one (1) drinking water outlets that tested above the 15  $\mu$ g/l for lead, the actual lead level, and what temporary remedial action Union County Vocational-Technical Schools has taken to reduce the levels of lead at these locations.

Sample Location	Initial Results in µg/l (ppb)	Flush Results in µg/l (ppb)	Remedial Action
West Hall Outside Room 325 Water Fountain ID # WEST-WF-13	20.45	1.093	Disconnected outlet. Other drinking fountains accessible nearby.

## Health Effects of Lead

High levels of lead in drinking water can cause health problems. Lead is most dangerous for pregnant women, infants, and children under 6 years of age. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. Exposure to high levels of lead during pregnancy contributes to low birth weight and developmental delays in infants. In young children, lead exposure can lower IQ levels, affect hearing, reduce attention span, and hurt school performance. At *very* high levels, lead can even cause brain damage. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults.

### How Lead Enters our Water

Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like groundwater, rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and in building plumbing. These materials include lead-based solder used to join copper pipe, brass, and chrome-plated brass faucets. In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials. However, even the lead in plumbing materials meeting these new requirements is subject to corrosion. When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into the drinking water. This means the first water drawn from the tap in the morning *may* contain fairly high levels of lead.

#### Lead in Drinking Water

Lead in drinking water, although rarely the sole cause of lead poisoning can significantly increase a person's total lead exposure, particularly the exposure of children under the age of 6. EPA estimates that drinking water can make up 20% or more of a person's total exposure to lead.

#### For More Information

A copy of the test results is available in our central office for inspection by the public, including students, teachers, other school personnel, and parents, and can be viewed between the hours of 8:30 a.m. and 4:00 p.m. and are also available on our website at <a href="www.ucvts.org">www.ucvts.org</a>. For more information about water quality in our schools, contact Janet Behrmann, Business Administrator at 908-889-8288 ext. 115 or <a href="jbehrmann@ucvts.org">jbehrmann@ucvts.org</a>.

For more information on reducing lead exposure around your home and the health effects of lead, visit EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

If you are concerned about lead exposure at this facility or in your home, you may want to ask your health care providers about testing children to determine levels of lead in their blood.

Sincerely,

Gwendolyn S. Ryan

Superintendent of Schools





# DRINKING WATER SAMPLING REPORT

# **Union County Vocational - Technical Schools**

1776 Raritan Road Scotch Plains, New Jersey 07076

May 23, 2022 Partner Project No. 21-331027.43



Prepared for

**Union County Vocational-Technical Schools** 1776 Raritan Road Scotch Plains, New Jersey 07076



May 23, 2022

Janet Behrmann Union County Vocational-Technical Schools 1776 Raritan Road Scotch Plains, New Jersey 07076

Subject: Drinking Water Sampling Report

**Union County Educational Services** 

Union County Vocational - Technical Schools

Partner Project 21-327918.1

#### Dear Ms. Behrmann:

Partner Engineering and Science, Inc. (Partner) is pleased to provide the results of the *Drinking Water Sampling* conducted at the abovementioned address (the "subject property"). This sampling event was performed in general conformance with the scope and limitations as detailed in our fee proposal. This inspection included a site reconnaissance as well as sampling and analysis. An assessment was made, conclusions stated, and recommendations outlined, as required.

We appreciate the opportunity to provide environmental services to the Union County Educational Services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (908) 497-8904 or via e-mail at dbracey@partneresi.com.

Sincerely,

Dan Bracey, CSP, CHMM Senior Project Manager

Doed For

Industrial Hygiene & Health and Safety Services

## **TABLE OF CONTENTS**

Execu	utive Summary	2
	INTRODUCTION	
	Property Description	
	Purpose and Scope	
	METHODOLOGY	
3.0	BACKGROUND	5
	ANALYTICAL RESULTS	
5.0	CONCLUSION	10
6.0	RECOMMENDATIONS	11
7.0	LIMITATIONS	12
8.0	SIGNATURES OF PROFESSIONALS	13

### **APPENDICES**

Appendix A Laboratory Analysis and Chain-of-Custody

**Appendix B** Sampling Plan

Quality Assurance Project Plan **Appendix C** 

## **Executive Summary**

Partner Engineering and Science, Inc. (Partner) collected drinking water samples for Union County Educational Services at Union County Vocational - Technical Schools on April 23, 2022. Samples were collected according to the "New Jersey Department of Education N.J.A.C. 6A:26" requirements for testing of lead in New Jersey Schools and the "USEPA 3Ts for Reducing Lead in Drinking Water in Schools" recommendations, as well as the Safe Drinking Water Act of 1974.

The first sample at each fixture was a "first draw" which was collected directly from the fixture without letting the water run or flush. The second sample was collected after letting the water run (flush) for thirty seconds. This sample evaluates the lead in water from the water purveyor and the pipes outside the building. The samples collected were analyzed by Alpha Analytical Labs located in Mahwah, New Jersey for analysis of lead content using USEPA Method 200.8 for lead in drinking water. The action level for lead has been set at 15 parts per billion (ppb). According to the USEPA, given present technology and resources, this level is the lowest level to which water systems can reasonably be required to control this contaminant should it be present in drinking water.

Sample analysis indicated that measured lead concentrations did exceed the USEPA Action Level of 15 ppb for lead at Union County Vocational - Technical Schools . Specifically, water from the following outlets had exceedances:

• WEST-WF-13, initial draw, 20.45 ppb

Based on the above referenced sample analytical results, Partner recommends the following actions:

- A flushing program can be implemented at the point of entry outlet, with either manual or automatic flushing.
- Remove drinking water outlets of concern from service.
- Conduct an investigation into the drinking water outlet of concern and replace any potential leadleaching fixtures or equipment, such as fixtures and associated piping, that may be contributing to dissolved lead in drinking water.



### 1.0 INTRODUCTION

## 1.1 Property Description

Address(s):	Union County Vocational - Technical Schools
	1776 Raritan Road, Scotch Plains, New Jersey 07076
Nature of Use:	School
Walk-Through Inspector:	Angelica Rosaperez
Walk-Through Date:	April 7, 2022
Sampling Conducted By:	Nick Schiera
	Anthony Mercogliano
Sampling Date:	April 23, 2022

#### 1.2 Purpose and Scope

The purpose of this drinking water sampling event was to sample and analyze drinking water for a determination of lead content for comparison with the USEPA Action Level as defined by the National Primary Drinking Water Regulations (NPDWR - 40 CFR Chapter I, Part 141), in addition to the "New Jersey Department of Education N.J.A.C. 6A:26" requirements for testing of lead in New Jersey Schools and the "USEPA 3Ts for Reducing Lead in Drinking Water in Schools". The NPDW set a Maximum Contaminant Level Goal (MCLG) for each listed contaminant, which identifies a level of that contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals. The MCLG for lead has been set at zero (0) ppb. Since lead contamination generally occurs from corrosion of onsite lead pipes, or lead-based solder on fittings and fixtures, it cannot be directly detected or removed by the municipal water system. Instead, the USEPA is requiring municipal water systems to control the corrosiveness of their water if the level of lead at the tap exceeds an Action Level.

The action level for lead has been set at 15 parts per billion (ppb). According to the NPDWR Lead and Copper Rule (LCR), given present technology and resources, this level is the lowest level to which water systems can reasonably be required to control this contaminant should it be present in drinking water.



### 2.0 METHODOLOGY

Select drinking water samples were collected according to the "New Jersey Department of Education N.J.A.C. 6A:26" requirements for testing of lead in New Jersey Schools and the "USEPA 3Ts for Reducing Lead in Drinking Water in Schools" recommendations, as well as the LCR Monitoring requirements for lead in tap water (40 CFR Part 141, Subpart I, § 141.86(b)). Sampling consisted of collecting a one-liter (L) first draw sample from a drinking water outlet that had been stagnant for at least eight (8) hours in a bottle with an appropriate preservative. Partner made a reasonable effort to determine whether the stagnation preconditions were able to be met prior to conducting sampling. A second-draw sample was collected minutes after the first draw, in order to determine whether lead was being provided via the service line. Second-draw samples were only analyzed if the first-draw sample exceeded the USEPA Action Level of 15 ppb. Sample bottles were provided by Alpha Analytical Labs located in Mahwah, New Jersey with an appropriate preservative lead in drinking water sampling. After collection, sample bottles were labeled with a unique identifier and transferred under chain of custody to by Alpha Analytical Labs located in Mahwah, New Jersey for analysis by USEPA Method 200.8. The laboratory results and chain of custody are contained in **Appendix A**.

## 3.0 BACKGROUND

A total of two hundred (200) drinking water samples were collected from Union County Vocational-Technical Schools on August 12, 2016. During this site visit, Partner collected water samples at one hundred (100) locations. A total of one-hundred and two (102) samples were analyzed. Following collection drinking water samples were sent to ESC Lab Sciences in Mount Juliet, Tennessee for analysis of lead content using USEPA Method 200.8 for lead in drinking water. The results of the analytical data revealed that two (2) samples exceeded the USEPA Action level of 15 ppb for lead. These samples were both located in West Hall in Room 313, and Room 330 (Culinary Sink Four).

## 4.0 ANALYTICAL RESULTS

During the course of this site visit, Partner collected water samples at ninety-one (91) locations. Partner did not attempt to disassemble mechanical equipment, open plumbing pipe chases, or assess materials within wall voids.

Sample names and their respective locations were updated from the 2016 sampling event based on relevant known plumbing information as provided by the Union County Educational Services and the site guide.

Partner attempted to collect samples from the following outlets; however, based upon the condition of the outlet and recommendations from the site guide, a sample could not be collected at the following locations:

• WEST-BF-02, WEST-WF-06, WEST-WF-39, WEST-WF-40

A total of 182 drinking water samples were collected from Union County Vocational - Technical Schools on April 23rd, 2022. A total of 92 samples were analyzed. The results are listed in Table 1 below.

Table 1								
	Analytical Results Summary							
Uni	Union County Vocational - Technical Schools							
	Sample Date April 23, 2022							
Sample Name	Location	Results (ppb)						
	Academy of Performing Arts							
APA-POE	Bathroom	0.5315						
APA-WF-01	Outside Bathroom	ND						
APA-WF-02	Outside 208	ND						
APA-S-03	Rm 208	ND						
	Administration Building							
ADM-POE	Bathroom	0.7084						
ADM-WF-01	Main Hallway	ND						
ADM-WF-02	Main Hallway	ND						
ADM-S-03	Kitchen	ND						
	Baxel Hall							
BAX-POE	Girls Bathroom	ND						
BAX-S-01	Faculty Lounge	0.6208						
BAX-WF-02	Outside 121	ND						
BAX-WF-03	Outside 121	ND						
BAX-WF-04	Across Office	ND						



## Table 1

## **Analytical Results Summary**

## **Union County Vocational - Technical Schools**

## Sample Date April 23, 2022

	Sample Date April 23, 2022	
Sample Name	Location	Results (ppb)
BAX-WF-05	Across Office	ND
BAX-WF-06	Outside 219	ND
BAX-WF-07	Outside 219	ND
	Bistocci Hall	
BIS-POE	Outside MO	0.4266
BIS-WF-01	Outside MO	ND
BIS-S-02	Rm 503	0.9486
BIS-S-03	Rom 503A	2.874
BIS-S-04	Rm 501D	2.598
BIS-WF-05	Outside Student BR	ND
BIS-WF-06	Outside Student BR	ND
BIS-S-07	Rm 619	1.837
BIS-WF-08	Outside Rm 400 Gym	ND
BIS-WF-09	Outside Rm 400 Gym	ND
BIS-WF-10	Rm 401	ND
BIS-WF-11	Rm 401	0.4192
BIS-WF-12	Rm 402	0.4187
BIS-WF-13	Rm 402	0.4612
	Mancusco Hall	
MAN-POE	Outside Rm 219	ND
MAN-WF-01	Outside Rm 219	0.3474
MAN-S-02	Rm 223-Faculity	ND
MAN-WF-03	Outside Rm 208A	ND
MAN-WF-04	Outside Rm 208A	0.8124
MAN-WF-05	Outside Rm 131	ND
MAN-WF-06	Outside Rm 131	ND
MAN-WF-07	Room 131-Gym	0.4168
MAN-WF-08	Room 131-Gym	1.361
MAN-S-09	Rm 127	1.008
MAN-WF-10	Outside Rm 112	ND



## Table 1

## **Analytical Results Summary**

## **Union County Vocational - Technical Schools**

## Sample Date April 23, 2022

Sample Date April 23, 2022									
Sample Name	Location	Results (ppb)							
MAN-WF-11	Outside Rm 112	ND							
	West Hall								
WEST-POE	Sink in Boiler Room Office	5.730							
WEST-WF-01	Outside 308A	1.051							
WEST-WF-03	Outside 307	0.8821							
WEST-WF-04	Outside 307	1.058							
WEST-WF-05	Rm 314	1.089							
WEST-WF-07	Outside Rm 319	9.806							
WEST-WF-08	Outside Rm 319	7.233							
WEST-WF-09	Rm 319	3.367							
WEST-WF-10	Rm 312	4.128							
WEST-POE-11	Boiler Rm Bathroom	1.681							
WEST-WF-12	Outside 325	3.698							
WEST-WF-13	Outside 325	20.45							
WEST-WF-13- F	Outside 325	1.093							
WEST-S-14	Rm 331	0.6738							
WEST-S-15	Rm 331	0.5344							
WEST-S-16	Rm 331	2.655							
WEST-S-17	Rm 330	1.855							
WEST-S-18	Rm 330	1.522							
WEST-S-19	Rm 330	1.767							
WEST-S-20	Rm 330	8.132							
WEST-WF-21	Cafeteria	ND							
WEST-WF-22	Cafeteria	ND							
WEST-S-23	Kitchen	1.606							
WEST-S-24	Kitchen	6.480							
WEST-S-25	Kitchen	ND							
WEST-S-26	Room 004	1.933							
WEST-S-27	Room 004	2.022							
WEST-WF-28	Outside 002	ND							
<u> </u>	•	-							



# Table 1 **Analytical Results Summary**

# **Union County Vocational - Technical Schools**

Samp	le Date 🛭	\pril 23,	2022
------	-----------	-----------	------

5p. 1.5									
Sample Name	Location	Results (ppb)							
WEST-WF-29	Outside 002	ND							
WEST-WF-30	Across Cafeteria	3.170							
WEST-WF-31	Across Cafeteria	1.967							
WEST-WF-32	Outside 341	1.928							
WEST-WF-33	Outside 341	0.4762							
WEST-WF-34	Rm 342	2.565							
WEST-S-35	Rm 343	1.941							
WEST-BF-36	Rm 344	.6936							
WEST-WF-37	Room 345	3.464							
WEST-WF-38	Room 366	1.554							
WEST-WF-41	Outside 346	8.507							
WEST-WF-42	Outside 346	5.797							
WEST-POE-43	Faculty Lounge	ND							
WEST-WF-44	Outside 707	ND							
WEST-WF-45	Outside 707	ND							
WEST-BF-46	Room 707	ND							
WEST-WF-47	Outside 710	ND							
WEST-WF-48	Outside 710	0.5894							
WEST-WF-49	Outside L18	ND							
WEST-WF-50	Outside L18	1.043							
WEST-WF-51	Outside 808	1.166							
WEST-WF-52	Outside 808	.7496							
		.1750							

#### **NOTES**

ND= Not detected. Lead levels not detected at the reporting limit (0.3430 ppb) 1 ppb = 1 ug/L

**BOLD** = Exceedances above USEPA Action Level 15 ppb



## 5.0 CONCLUSION

Sample analysis indicated that measured lead concentrations did exceed the USEPA Action Level of 15 ppb for lead at Union County Vocational - Technical Schools. Specifically, water from the following outlets had exceedances:

• WEST-WF-13, initial draw, 20.45 ppb

#### 6.0 RECOMMENDATIONS

Based on the above referenced sample analytical results, Partner recommends the following actions:

- A flushing program can be implemented at the point of entry outlet, with either manual or automatic flushing.
- Remove drinking water outlets of concern from service.
- Conduct an investigation into the drinking water outlet of concern and replace any potential leadleaching fixtures or equipment, such as fixtures and associated piping, that may be contributing to dissolved lead in drinking water.

Additional control technologies may be utilized to reduce lead content in drinking water, including, but not limited to onsite water treatment and filtration. All response actions should be conducted in according with industry, local, state and federal guidelines and/or requirements

In the event the remedial action involves replacing the fixture/associated piping or installing a new fixture, Union County Educational Services should conduct sampling for lead in drinking water to ensure lead levels are below the action level prior to opening up the fixture for use. Additionally, sampling of all drinking water outlets must be conducted every third school year beginning with the 2021-2022 school year.

Flushing involves opening suspect taps every morning before the facility opens and letting the water run to remove water that has been standing in the interior pipes and/or the outlets. All flushing should be recorded in a log submitted daily to the head of maintenance/facilities. The faucet should be opened, and the water should run for 30 seconds to one minute, or until cold.

A filtration device, or point-of-use (POU) device can be relatively inexpensive (\$65 to \$250) or expensive (ranging from \$250 to \$500), their effectiveness varies, and they may be vulnerable to vandalism. They also require a maintenance program for regular upkeep to ensure effectiveness. Cartridge filter units need to be replaced periodically to remain effective. NSF International, an independent, third-party certification organization, has a testing program to evaluate the performance of POU devices for lead removal (NSF Standard 53). Before purchasing any device, ask the manufacturer for proof of NSF approval and the Performance Data Sheet, or check by visiting the NSF Web site at: http://www.nsf.org/business/search\_listings/index/asp

Consult NSF Standard 61 (Sections 4, 8 and 9) before buying any replacement products. This standard will provide you with information on plumbing products that are designed to minimize lead leaching. Before you purchase any brass plumbing products, request information regarding compliance with this standard.



## 7.0 LIMITATIONS

Partner subcontracted with Alpha Analytical who performed the lead analysis. No warranties expressed or implied, are made by Partner or its subcontractor Alpha Analytical or their employees as to the use of any information, apparatus, product or process disclosed in this report. Every reasonable effort has been made to assure correctness.

State-of-the-art practices have been employed to perform this inspection. No demolition or product research was performed in attempts to reveal material compositions. The services consist of professional opinions and recommendations made in accordance with generally accepted engineering principles/practices. These services are designed to provide an analytical tool to assist the client. Partner and its subcontractors and their employees/representatives bear no responsibility for the actual condition of the structure or safety of this site pertaining to lead and/or lead contamination regardless of the actions taken by the inspection team or the client.

## 8.0 SIGNATURES OF PROFESSIONALS

Partner performed lead-in-drinking water sampling at the Union County Vocational-Technical School properties, Union County, New Jersey in general conformance with the scope and limitations of the protocol stated earlier in this report. Exceptions to or deletions from this protocol are discussed earlier in this report.

Prepared By:

Partner Engineering and Science, Inc.

Angelica Rosaperez

Assistant Project Manager

Angelico Rosagan

Reviewed by:

Daniel Bracey, CSP, CHMM Senior Project Manager



**APPENDIX A: LABORATORY ANALYSIS AND CHAIN OF CUSTODY** 



#### ANALYTICAL REPORT

Lab Number: L2221432

Client: Partner Engineering & Science, Inc.

611 Industrial Way West Eatontown, NJ 07724

ATTN: Angelica Rosaperez Phone: (732) 380-1200

Project Name: VO TECH

Project Number: 21-331027.43

Report Date: 05/02/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** VO TECH **Project Number:** 21-331027.43

 Lab Number:
 L2221432

 Report Date:
 05/02/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221432-01	APA-POE	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:30	04/25/22
L2221432-02	APA-POE-F	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:31	04/25/22
L2221432-03	APA-WF-01	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:32	04/25/22
L2221432-04	APA-WF-01-F	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:33	04/25/22
L2221432-05	APA-WF-02	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:39	04/25/22
L2221432-06	APA-WF-02-F	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:40	04/25/22
L2221432-07	APA-S-03	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:41	04/25/22
L2221432-08	APA-S-03-F	DW	ACADEMY FOR PERFORMING ARTS	04/23/22 12:42	04/25/22



Project Name:VO TECHLab Number:L2221432Project Number:21-331027.43Report Date:05/02/22

### NJ DEP Data of Known Quality Protocols Conformance/Non-Conformance Summary Questionnaire

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	YES
1a	Were the method specified handling, preservation, and holding time requirements met?	YES
1b	EPH Method: Was the EPH Method conducted without significant modifications (see Section 11.3 of respective DKQ methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (4 ± 2° C)?	YES
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	YES
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1a or #1b is "No", the data package does not meet the requirements for "Data of Known Quality".



Project Name:VO TECHLab Number:L2221432Project Number:21-331027.43Report Date:05/02/22

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.							



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

**DKQP Related Narratives** 

Sample Receipt

The project name was specified by the client.

L2221432-07: The sample identified as "APA-S-03" on the chain of custody was identified as "APA-WF-03" on the container label. At the client's request, the sample is reported as "APA-S-03".

L2221432-08: The sample identified as "APA-S-03-F" on the chain of custody was identified as "APA-WF-03-F" on the container label. At the client's request, the sample is reported as "APA-S-03-F".

Report Submission

In reference to question 5a:

Reporting limits were not specified.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Jufani Morrissey-Tiffani Morrissey

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 05/02/22

## **METALS**



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

 Lab ID:
 L2221432-01
 Date Collected:
 04/23/22 12:30

 Client ID:
 APA-POE
 Date Received:
 04/25/22

Sample Location: ACADEMY FOR PERFORMING ARTS Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nefield Lah										
Total Metals - Ma	ilislielu Lab										
Lead, Total	0.5135	J	ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:31	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

 Lab ID:
 L2221432-03
 Date Collected:
 04/23/22 12:32

 Client ID:
 APA-WF-01
 Date Received:
 04/25/22

Sample Location: ACADEMY FOR PERFORMING ARTS Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:35	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

 Lab ID:
 L2221432-05
 Date Collected:
 04/23/22 12:39

 Client ID:
 APA-WF-02
 Date Received:
 04/25/22

Sample Location: ACADEMY FOR PERFORMING ARTS Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:39	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

 Lab ID:
 L2221432-07
 Date Collected:
 04/23/22 12:41

 Client ID:
 APA-S-03
 Date Received:
 04/25/22

Sample Location: ACADEMY FOR PERFORMING ARTS Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:43	EPA 3005A	3,200.8	SV



**Project Name:** Lab Number: **VO TECH** L2221432 **Project Number:** 21-331027.43

**Report Date:** 05/02/22

**Method Blank Analysis Batch Quality Control** 

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytica Method	l Analyst	
Total Metals - Mansfield Lab for sample(s): 01,03,05,07 Batch: WG1631710-1										
Lead, Total	ND	ug/l	1.000	0.3430	1	04/28/22 18:56	04/29/22 13:25	3,200.8	SV	

**Prep Information** 

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

Project Name: VO TECH

Lab Number: Lab

L2221432

**Project Number:** 21-331027.43

Report Date:

05/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample	e(s): 01,03,05,07	Batch: V	VG1631710-2					
Lead, Total	98		-		85-115	-		



**Lab Number:** L2221432

Report Date: 05/02/22

## Sample Receipt and Container Information

Were project specific reporting limits specified?

**Cooler Information** 

Project Name:

Cooler Custody Seal

**VO TECH** 

H Absent

**Project Number:** 21-331027.43

Container Information					Final	Temp			Frozen		
	Container ID	Container Type	Cooler	рН	pН	deg C Pres		Seal	Date/Time	Analysis(*)	
	L2221432-01A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)	
	L2221432-02A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)	
	L2221432-03A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)	
	L2221432-04A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)	
	L2221432-05A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)	
	L2221432-06A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)	
	L2221432-07A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)	
	L2221432-08A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)	



**Project Name:** Lab Number: VO TECH L2221432 **Project Number:** 21-331027.43 **Report Date:** 05/02/22

#### GLOSSARY

#### **Acronyms**

LOD

MS

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

**EDL** - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration. **EPA** 

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD Laboratory Control Sample Duplicate: Refer to LCS.

Environmental Protection Agency.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDI - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

> - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated

using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Footnotes**

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A -Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- $\label{eq:main_equation} \textbf{M} \qquad \text{-Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.}$
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Data Qualifiers**

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- V The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221432

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### REFERENCES

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

#### **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 19 Published Date: 4/2/2021 1:14:23 PM

Page 1 of 1

### Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

**Mansfield Facility** 

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

#### Mansfield Facility:

#### **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form

Pre-Qualtrax Document ID: 08-113

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	lay	5	Page		Da	te Rec'o	4/25/	122	ALPHA Job# 432
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information		SECULIAR DE	BEIN		Delivera	AND DESCRIPTION OF THE PERSON	E 10 15 15		Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:		- A - Par 1	the state of the spirit		□ N	Full / Re	educed		Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288		demy for	Ove for	mine A	+5	T E	QuIS (1 F	ile)	QuIS (4 File)	PO#
Client Information	A CONTRACTOR	Project # RI - 33	1027.4	2		. 4		her	T	- 0 (C	
	Logafere 2	(Use Project name as Pro		,			NAME OF TAXABLE PARTY.	ory Requ	irement		Site Information
Address:	Cogyport	Project Manager:	oject#/				STATE OF THE PERSON	The second second	ential/Non Re	sidential	Is this site impacted by
ridaross.		ALPHAQuote #:					- =		t to Groundwa		Petroleum? Yes
Phone:		THE RESIDENCE OF THE PERSON NAMED IN		The state of the s	-			A	Water Quality		Petroleum Product:
in seed of	2 2	Turn-Around Time Standard	M	2 2 1	SAN CONTRACTOR		_				Petroleum Product.
Fax:	May Lock SEG	Standard Rush (only if pre approved)		Due Date:					LP Leachate	Unteria	
	CC.	The second secon		# of Days:			-	her			
These samples have be							ANALY	SIS			Sample Filtration
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane  8011	Other project specific now by Please specify Metals of	an Flu	ish 17		da l	eal				☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)
ALPHA Lab ID	Sa	mple ID	Colle	ction	Sample	Sampler's	V				
(Lab Use Only)			Date	Time	Matrix	Initials					Sample Specific Comments
21432 -01	APA-POF	,	4/23/22	12:30	BW	AM					
-02	APA-POE-			12131	1)						
-63	APA- WF-0			19:37							
-04	APA-WF-0			12:33							
-65	APA-WF-C	27		12139							
-de	APA-WF-C	12-ド		13:40			$\Pi\Pi$				
-07	APA-5-03	,		12:41							
-08	APA-5-03			12:42.	1 000						
TO SERVICE OF THE PARTY OF THE				10	V		+				
MEET BEAUTIFUL DO			W		V	111	11/1				
	Container Code	Westboro: Certification N	o: MA935				1	$\overline{}$		$\overline{}$	West and the second sec
	P = Plastic A = Amber Glass	Mansfield: Certification N			Cor	ntainer Type					Please print clearly, legibly and completely. Samples ca
	V = Vial	mananada, Odrundaddi) (v	o, MAUTO				+ +	_	$\vdash$		not be logged in and
	G = Glass					Preservative	1 1	2000			turnaround time clock will no
T- (1000000)	B = Bacteria Cup C = Cube	processor and a consensu		2902000000		T-		1		/	start until any ambiguities ar
	O = Other	Relinquished B	Зу:	Date/	-		Received	By:	,,/,/	ete/Time	resolved. BY EXECUTING
$H = Na_2S_2O_3$	E = Encore	Amery brose	-	14/25/20	2 Jim	W	In	X	4/4/	2,9!	HAS READ AND AGREES
VE - ZII AGINGOTI	D = BOD Bottle	mage	4/	1/22,	1953	8 P	1097	20,000	ad XIA	5/2/1	TO SE BOUND BY ALPHA
0 = Other		Pullman	00004	BED	2	00	14/1	10	1-112	MI	TERMS & CONDITIONS.
Form No: 01-14 HC (rev. 30-	-Sept-2013)	1	2/6/1	2,18	/	1 (1)	lisoa	Woo	N DIDE	10-3300	(See reverse side.)
age 19 of 19		7.	4	-3/2		1 0			1-110-2	10000	



#### ANALYTICAL REPORT

Lab Number: L2221430

Client: Partner Engineering & Science, Inc.

611 Industrial Way West Eatontown, NJ 07724

ATTN: Angelica Rosaperez Phone: (732) 380-1200

Project Name: VO TECH

Project Number: 21-331027.43

Report Date: 05/02/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



L2221430

05/02/22

Lab Number:

Project Name: VO TECH
Project Number: 21-331027.43

27.43 Report Date:

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221430-01	ADM-POE (BATHROOM)	DW	ADMIN BUILDING	04/23/22 08:51	04/25/22
L2221430-02	ADM-POE-F	DW	ADMIN BUILDING	04/23/22 08:52	04/25/22
L2221430-03	ADM-WF-01	DW	ADMIN BUILDING	04/23/22 08:55	04/25/22
L2221430-04	ADM-WF-01-F	DW	ADMIN BUILDING	04/23/22 08:56	04/25/22
L2221430-05	ADM-WF-02	DW	ADMIN BUILDING	04/23/22 08:57	04/25/22
L2221430-06	ADM-WF-02-F	DW	ADMIN BUILDING	04/23/22 08:58	04/25/22
L2221430-07	ADM-S-03	DW	ADMIN BUILDING	04/23/22 08:59	04/25/22
L2221430-08	ADM-S-03-F	DW	ADMIN BUILDING	04/23/22 09:00	04/25/22



# NJ DEP Data of Known Quality Protocols Conformance/Non-Conformance Summary Questionnaire

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	YES
1a	Were the method specified handling, preservation, and holding time requirements met?	YES
1b	EPH Method: Was the EPH Method conducted without significant modifications (see Section 11.3 of respective DKQ methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (4 ± 2° C)?	YES
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	YES
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1a or #1b is "No", the data package does not meet the requirements for "Data of Known Quality".



#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.	



 Project Name:
 VO TECH
 Lab Number:
 L2221430

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

## **Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

**DKQP Related Narratives** 

Sample Receipt

The project name was specified by the client.

Report Submission

In reference to question 5a:

Reporting limits were not specified.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Jufani Morrissey-Tiffani Morrissey

Authorized Signature:

Title: Technical Director/Representative

ALPHA

Date: 05/02/22

# **METALS**



04/23/22 08:51

Date Collected:

 Project Name:
 VO TECH
 Lab Number:
 L2221430

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID: L2221430-01

Client ID: ADM-POE (BATHROOM) Date Received: 04/25/22 Sample Location: ADMIN BUILDING Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	0.7084	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 13:0	0 EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221430

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221430-03Date Collected:04/23/22 08:55Client ID:ADM-WF-01Date Received:04/25/22Sample Location:ADMIN BUILDINGField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 13:04	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221430

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221430-05Date Collected:04/23/22 08:57Client ID:ADM-WF-02Date Received:04/25/22Sample Location:ADMIN BUILDINGField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 13:08	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221430

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221430-07Date Collected:04/23/22 08:59Client ID:ADM-S-03Date Received:04/25/22Sample Location:ADMIN BUILDINGField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 13:11	EPA 3005A	3,200.8	SV



**Project Name:** Lab Number: **VO TECH** L2221430 **Project Number:** 21-331027.43

**Report Date:** 05/02/22

# **Method Blank Analysis Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytica Method	I Analyst
Total Metals - Mansfie	ld Lab for sample(s):	01,03,05,	07 Bate	ch: WG	1631708-1				
Lead, Total	ND	ug/l	1.000	0.3430	1	04/28/22 18:32	04/29/22 10:57	3,200.8	SV

**Prep Information** 

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

Project Name: VO TECH

21-331027.43

Lab Number: L2221430

**Report Date:** 05/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Total Metals - Mansfield Lab Associated sample	(s): 01,03,05,07	Batch: V	VG1631708-2						
Lead, Total	98		-		85-115	-			



**Project Number:** 

Lab Number: L2221430

**Report Date:** 05/02/22

# Sample Receipt and Container Information

Were project specific reporting limits specified?

**VO TECH** 

**Cooler Information** 

Project Name:

Cooler Custody Seal

A Absent

**Project Number:** 21-331027.43

Container Info	rmation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221430-01A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		PB-2008T-PPB(180)
L2221430-02A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221430-03A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		PB-2008T-PPB(180)
L2221430-04A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221430-05A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		PB-2008T-PPB(180)
L2221430-06A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221430-07A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		PB-2008T-PPB(180)
L2221430-08A	Plastic 250ml HNO3 preserved	Α	<2	<2	4.5	Υ	Absent		HOLD-METAL-TOTAL(180)



#### **GLOSSARY**

#### **Acronyms**

**EMPC** 

LOD

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable (DoD report formats only)

from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

 Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where continued to the LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

0111) 1)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any

adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



#### **Footnotes**

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A -Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- $\label{eq:main_equation} \textbf{M} \qquad \text{-Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.}$
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



#### **Data Qualifiers**

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221430

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### REFERENCES

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 19

Published Date: 4/2/2021 1:14:23 PM

Page 1 of 1

### Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

### **Mansfield Facility**

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

### Mansfield Facility:

#### **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Pre-Qualtrax Document ID: 08-113 Document Type: Form

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitne Albany, NY 12205: 14 Walker Tonawanda, NY 14150: 275 Co	Way	05	Page			Date Rec'd in Lab	4/25	lez	ALPHA Job# LZZZ1430
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information					Delive	rables			Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:						NJ Full / Re	duced		Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288		min Bo	oilding			1 1	EQuIS (1 F	ile) $\square$ E	EQuIS (4 File)	PO#
Client Information	A PERSONAL PROPERTY.	Project # 21 - 33	3(0)7.	42			-	Other	0	320 33	
The state of the s	2 Roselver		-	15			Annual Vancor	70.00	ramont	SHEET MEN	Site Information
Client: /4/201,0	za Kosalvez	(Use Project name as P	roject#)				ALC: U	atory Requi		atdoubted	Is this site impacted by
Address:		Project Manager:					4 =		ential/Non Re		Petroleum? Yes
		ALPHAQuote #:			_		_		t to Groundw		1.000
Phone:		Turn-Around Time	1					NJ Ground	Water Quality	y Standards	Petroleum Product:
Fax:	0 0	Standar	d D	Due Date:				NJ IGW SP	LP Leachate	Criteria	
Email: 4 691 Pece	ZU Harrer PST. Ce	Rush (only if pre approve	d) 🗂	# of Days:	1			Other			
These samples have be	그리고 하다 하다 사람들이 얼마나 하는 것이 없는데 하는데 다른데 다른데 다른데 다른데 다른데 다른데 다른데 되었다.	Secretary say those you					ANAL	YSIS			Sample Filtration
		Other project specific	requirements	/comments:							
REQUIRED:	is REQUIRED:	1 1)	1 Flus	1-	1110	1	1 1				☐ Done ☐ Lab to do
1 000000000000000000000000000000000000		DNIY Kon	P/45	4 11-	11111	ı					Preservation
Category 1	1,4-Dioxane	Please specify Metals					ead				Lab to do
Category 2	8011	15 Abou	0 15	DOL			2				
700		154500	e 11)	HD			10				(Please Specify below)
ALPHA Lab ID		70.000	Coll	ection	Sample	Sampler's	1			- 1 1	
(Lab Use Only)	Sa	mple ID	Date	Time	Matrix	Initials	1 1				Sample Specific Comments
	Alm Par	(D 1)			- A	AM	+	_			Campic opening comments
21430-01	Adm - POE	(Bathroom)	4/23	8:51	DW		H				
-02	AdM-POE-1		1	8:52		AM					
-03		01		18:55		AM					
-04	Adm-WF-	01-F		8:56		AM					
-05	Adm- WF- (			8:57		AM	П				
-06	Adm-WF-C			8:50		AM	$^{+}$				
707	Adm- 5-03		+	8,59			Н				
			+			AM	H	_			+ +
-08	Adm-5-03	5-1	+	9:00		AM	+		$\square$		
					V		W				
Preservative Code:	Container Code	Westboro: Certification I	No: MA935		-						Please print clearly, legibly
A = None B = HCI	P = Plastic A = Amber Glass	Mansfield: Certification I	No: MA015		Cor	ntainer Type					and completely. Samples car
	V = Vial	manancia, continuation i	140, 141/1010		-		$\vdash$	-		-	not be logged in and
D = H <sub>2</sub> SO <sub>4</sub>	G = Glass				1 3	Preservative					turnaround time clock will no
	B = Bacteria Cup										start until any ambiguities are
	C = Cube O = Other	Relinquished	By:	Date	Time 9	1	Receiv	ed By:	11	Date/Time	resolved. BY EXECUTING
	E = Encore	A. Mercoglago	./	4/25/	2750	17	/	1	4hr	12 8/10	THIS COC, THE CLIENT
K/E = Zn Ac/NaOH	D = BOD Bottle	ne V	0	4/210	2 14	1 2 /	10	me	Mali	h/122	HAS READ AND AGREES
O = Other		0.000	00.1	1616	2	10	1/am	XI Val	2007	<del>WDDW</del>	TERMS & CONDITIONS.
entropy of the second of the s		170001100	2 /	BOD	$\times$	00	4/	1.10	The same of the sa		
Form No: 01-14 HC (rev. 30 Page 19 of 19	J-Sept-2013)		luks.	23/00	- 1	1	alisa	a Woo	0 17/0	5/20-2300	



#### ANALYTICAL REPORT

Lab Number: L2221431

Client: Partner Engineering & Science, Inc.

611 Industrial Way West Eatontown, NJ 07724

ATTN: Angelica Rosaperez Phone: (732) 380-1200

Project Name: VO TECH

Project Number: 21-331027.43

Report Date: 05/02/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** VO TECH **Project Number:** 21-331027.43

**Lab Number:** L2221431 **Report Date:** 05/02/22

Alpha Sample ID	Client ID	Maduis	Sample Location	Collection Date/Time	Receive Date
<u>-</u>	Client ID	Matrix			
L2221431-01	BAX-POE	DW	BAXOL HALL	04/23/22 12:12	04/25/22
L2221431-02	BAX-POE-F	DW	BAXOL HALL	04/23/22 12:13	04/25/22
L2221431-03	BAX-S-01	DW	BAXOL HALL	04/23/22 12:14	04/25/22
L2221431-04	BAX-S-01-F	DW	BAXOL HALL	04/23/22 12:15	04/25/22
L2221431-05	BAX-WF-02	DW	BAXOL HALL	04/23/22 12:16	04/25/22
L2221431-06	BAX-WF-02-F	DW	BAXOL HALL	04/23/22 12:17	04/25/22
L2221431-07	BAX-WF-03	DW	BAXOL HALL	04/23/22 12:17	04/25/22
L2221431-08	BAX-WF-03-F	DW	BAXOL HALL	04/23/22 12:18	04/25/22
L2221431-09	BAX-WF-04	DW	BAXOL HALL	04/23/22 12:20	04/25/22
L2221431-10	BAX-WF-04-F	DW	BAXOL HALL	04/23/22 12:21	04/25/22
L2221431-11	BAX-WF-05	DW	BAXOL HALL	04/23/22 12:22	04/25/22
L2221431-12	BAX-WF-05-F	DW	BAXOL HALL	04/23/22 12:23	04/25/22
L2221431-13	BAX-WF-06	DW	BAXOL HALL	04/23/22 12:25	04/25/22
L2221431-14	BAX-WF-06-F	DW	BAXOL HALL	04/23/22 12:26	04/25/22
L2221431-15	BAX-WF-07	DW	BAXOL HALL	04/23/22 12:26	04/25/22
L2221431-16	BAX-WF-07-F	DW	BAXOL HALL	04/23/22 12:27	04/25/22



# NJ DEP Data of Known Quality Protocols Conformance/Non-Conformance Summary Questionnaire

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	YES
1a	Were the method specified handling, preservation, and holding time requirements met?	YES
1b	EPH Method: Was the EPH Method conducted without significant modifications (see Section 11.3 of respective DKQ methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (4 ± 2° C)?	YES
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	YES
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1a or #1b is "No", the data package does not meet the requirements for "Data of Known Quality".



#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.	



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

## **Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

**DKQP Related Narratives** 

Sample Receipt

The project name was specified by the client.

Report Submission

In reference to question 5a:

Reporting limits were not specified.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Jufani Morrissey-Tiffani Morrissey

Authorized Signature:

Title: Technical Director/Representative

ANALYTICAL

Date: 05/02/22

# **METALS**



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-01Date Collected:04/23/22 12:12Client ID:BAX-POEDate Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 13:33	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-03Date Collected:04/23/22 12:14Client ID:BAX-S-01Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	0.6208	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 13:3	7 EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-05Date Collected:04/23/22 12:16Client ID:BAX-WF-02Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	lansfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 13:49	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-07Date Collected:04/23/22 12:17Client ID:BAX-WF-03Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	lansfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:01	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-09Date Collected:04/23/22 12:20Client ID:BAX-WF-04Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:15	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-11Date Collected:04/23/22 12:22Client ID:BAX-WF-05Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:19	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-13Date Collected:04/23/22 12:25Client ID:BAX-WF-06Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:23	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221431-15Date Collected:04/23/22 12:26Client ID:BAX-WF-07Date Received:04/25/22Sample Location:BAXOL HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:27	PA 3005A	3,200.8	sv



Project Name: VO TECH
Project Number: 21-331027.43

Lab Number:

L2221431

Report Date:

05/02/22

# Method Blank Analysis Batch Quality Control

Dilution Date Analytical **Date Result Qualifier Factor Prepared Analyzed** Method Analyst **Parameter Units** RL **MDL** Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1631708-1 Lead, Total ND 1.000 0.3430 3,200.8 SV ug/l 1 04/28/22 18:32 04/29/22 10:57

**Prep Information** 

Digestion Method: EPA 3005A

**Dilution** Analytical Date **Date Factor Prepared** Method Analyst **Result Qualifier** Units RLMDL **Analyzed Parameter** Total Metals - Mansfield Lab for sample(s): 05,07,09,11,13,15 Batch: WG1631710-1 Lead, Total ND ug/l 1.000 0.3430 04/28/22 18:56 04/29/22 13:25 3,200.8 S۷

**Prep Information** 

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

Project Name: VO TECH

Batch Quality Contr

**Project Number:** 21-331027.43

Lab Number: L2221431

Report Date:

05/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sampl	e(s): 01,03 Bato	ch: WG16	31708-2					
Lead, Total	98		-		85-115	-		
Total Metals - Mansfield Lab Associated sampl	e(s): 05,07,09,11,	,13,15 E	Batch: WG1631710	-2				
Lead, Total	98		-		85-115	-		



# Matrix Spike Analysis Batch Quality Control

**Project Name:** VO TECH **Project Number:** 21-331027.43

Lab Number:

L2221431

Report Date:

05/02/22

Parameter	Nati Sam		MS Found	MS %Recovery	MSD Qual Found	MSD %Recovery Qu	Recovery al Limits	Y RPD G	RPD <u>lual</u> Limits
Total Metals - Ma	ansfield Lab Associate	ed sample(s): 0	5,07,09,11,13,1	15 QC Batch	ID: WG1631710-3	QC Sample: L	2221431-05	Client ID:	BAX-WF-02
Lead, Total	1	ND 530	505.0	95	-	-	70-130	-	20
Total Metals - Ma	ansfield Lab Associate	ed sample(s): 0	5,07,09,11,13,	15 QC Batch	ID: WG1631710-5	QC Sample: L	2221431-07	Client ID:	BAX-WF-03
Lead, Total	1	ND 530	519.4	98	-	-	70-130	-	20



L2221431

Lab Duplicate Analysis

Batch Quality Control

Batch Quality Control Lab Number:

**Report Date:** 05/02/22

Parameter		Native Sampl	e Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab	Associated sample(s):	05,07,09,11,13,15	QC Batch ID: WG1631710-4	QC Sample:	L2221431-05	Client ID:	BAX-WF-02
Lead, Total		ND	ND	ug/l	NC		20
Total Metals - Mansfield Lab	Associated sample(s):	05,07,09,11,13,15	QC Batch ID: WG1631710-6	QC Sample:	L2221431-07	Client ID:	BAX-WF-03
Lead, Total		ND	ND	ug/l	NC		20



**Project Name:** 

**VO TECH** 

**Project Number:** 21-331027.43

Project Name: VO TECH Lab Number: L2221431 **Project Number:** 21-331027.43

NO

**Report Date:** 05/02/22

# Sample Receipt and Container Information

Were project specific reporting limits specified?

**Cooler Information** 

Custody Seal Cooler

С Absent

Container Info	rmation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221431-01A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-02A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-03A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-04A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-05A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-06A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-07A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-08A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-09A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-10A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-11A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-12A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-13A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-14A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221431-15A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221431-16A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **GLOSSARY**

#### **Acronyms**

**EDL** 

LOQ

MS

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

 Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis

of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

 Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Footnotes**

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A -Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Data Qualifiers**

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- V The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221431

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### REFERENCES

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

## **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 19

Published Date: 4/2/2021 1:14:23 PM Page 1 of 1

## Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

## **Mansfield Facility**

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

### Mansfield Facility:

#### **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Pre-Qualtrax Document ID: 08-113 Document Type: Form

Дирна	NEW JERSEY CHAIN OF	Service Centers Mahwah, NJ 07430: 35 Whitne Albany, NY 12205: 14 Walker			Pag	e of		Date Re	c'd_	25/	77	ALPHA Job #				
ATTENDED	CUSTODY	Tonawanda, NY 14150: 275 Co	oper Ave, Suite 1	05			THE	in La	11	01	-	L 2221431				
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	E SERVER		WATER TO SERVICE THE PARTY OF T	100	Delive	erables				Billing Information				
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:					2007.00.00	HAMMAN V	Reduced			Same as Client Info				
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: 130	xol Hal	1		17	-	EQuIS (			ulS (4 File)	PO#				
Client Information	THE REST		1627.47					Other	,		210 (41 110)					
Client: Awalica 1	osdorez.	(Use Project name as P					Contraction of the last of the		quiremen		No. of Lot	Site Information				
Address:	50)400 02	Project Manager:	roject#) 🗀				-			on Resid	antial	Is this site impacted by				
		ALPHAQuote #:			_		-					Petroleum? Yes				
Phone:		Turn-Around Time		V 218 118						oundwate						
Fax:										Quality St		rds Petroleum Product:				
	- 10 A (A)								SPLP Lea	achate Cri	teria					
These samples have be	a rather cal, ca.		"	# of Days:			-	Other								
For FPH selection is	For VOC selection	Other project specific					ANAL	YSIS				Sample Filtration				
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals		comments:			and					Done Lab to do Preservation Lab to do  (Please Specify below)				
ALPHA Lab ID (Lab Use Only)	Sar	mple ID		ection	Sample	Sampler's	7									
TX	Day - Ort		Date	Time	Matrix	Initials	-					Sample Specific Comments				
	Bax - POE		7/23/21	12:12 pm	DW	AM	Ш									
-02	Bax - POE			12:13			-									
-03	Bax - 5-0		-	12:14		$\vdash$										
-09	Bax - 5-0			12:15												
-05	Bax - WF-			12:16			Ш									
-06	Bax-UF-			17:17												
707	Bax - WF -			1211					0.0							
-08	Bax-WF-	03-0		17:16												
-09	Bax - WF-			17:10												
-10	Bax - WF-	04-F	V	12121	7	V	10		1							
A = None	r - riasuc	Westboro: Certification N Mansfield: Certification N			Con	tainer Type						Please print clearly, legibly				
C = HNO <sub>3</sub> C = H <sub>2</sub> SO <sub>4</sub>	V = Vial 3 = Glass Preserva								$\top$			and completely. Samples car not be logged in and turnaround time clock will not				
= MeOH	C = Cube	Relinquished	Bv:	Date/1	Time		Possi	ort Por	7	Det	/Time	start until any ambiguities are resolved. BY EXECUTING				
	O = Other E = Encore	A. Meraglaws	10	4125/22	9:00	The	Receive	y c	that.		/ON	THIS COC, THE CLIENT				
	D = BOD Bottle	WI TO THE STATE OF	Ca U	5/33		111	3	1000	10/0	11/2	160	HAS READ AND AGREES				
) = Other	_	Pontage	ella la	delas	K.	DJ /	11269	100	0000	4/2	750/	TERMS & CONDITIONS.				
orm No: 01-14 HC (rev. 30-	-Sept-2013)	1 aux may	4	X BY		ma	esoa	Wo	00	Wher	2-21-2	(See reverse side.)				
Page 25 of 26	ALCOHOL PROPERTY.	100	1	37		1, 0		0.0	-	71001	2-3700	ATO CARGODISTICAL CARD DE CONTRAGAMENTO				

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitne Albany, NY 12205: 14 Walker V Tonawanda, NY 14150: 275 Co	Nay	95	Pag	20.	200	Date Re	b 4/	25/2	32	ALPHA JOB# L 2221431
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	TE 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Nujau.	CHA	Del	liverables		35000	N. Santa	Billing Information
TEL: 508-896-9220 FAX: 508-898-9193	TEL: 508-822-9300	Project Name:					T	NJ Full	Reduce	d		Same as Client Info
PAX: 506-896-9193	FAX: 508-822-3288	Project Location: 13	axel He	all a	01	1.1.00	7 5	EQuIS (	1 File)	ПЕ	QuIS (4 File)	PO#
Client Information		Project #		60	4	11/200	ΉĒ	Other	(Section 19)			
Client:		(Use Project name as P.	roject#)	Regulatory Requirement			nt	NO PERSON	Site Information			
Address:		Project Manager:	6.00				NG CO	sidential/		idential	Is this site impacted by	
		ALPHAQuote #:		(c	100	_	17	THE RESERVE OF THE PARTY OF THE	SRS Impact to Groundwater Petroleum? Yes			
Phone:		Turn-Around Time	1218	A TOTAL	THE REAL PROPERTY.	LHV CO					Standards	Petroleum Product:
Fax:		Standard	· M	Due Date		-	-	THE SALE OF THE PARTY OF THE PA	SPLP Le			r du dicum r roduct.
Email:		Rush (only if pre approved					1 5	Other				
These samples have b	een previously analyza	a constant								Comple File #		
For EPH, selection is	For VOC. selection	Other project specific	roquiromente	laammanta.	_		AN	IALTOIO	_			Sample Filtration
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals					Prof	200				☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)
ALPHA Lab ID (Lab Use Only)	Sa	mple ID	0.000.00	ection	Sample	Sampler'	5	7				
- TIP :	n (1)5	~***C	Date	Time	Matrix	Initials	_	,				Sample Specific Comments
	Bax-UF		4/23/22	17:75	PW	AM						
-12	BUX-WF	-05-1		17:73								
-12	Bax-WF	-06		12125								
-17	Bux - WF	-06-1		12:36								
-15	Bux-WF	-0+		12:26			$\perp 1$					
-16	Bax-WF.	-07-8		12:27			$\perp \perp$					
IICE EN PRESIDENTE												
<b>正好是确似是</b> 数												
						1						
			M		4	1//	()	1				
B = HCI C = HNO <sub>3</sub>	Container Code P = Plastic A = Amber Glass V = Vial G = Glass	Westboro: Certification N Mansfield: Certification N				tainer Type	+					Please print clearly, legibly and completely. Samples car not be logged in and turnaround time clock will not
= NaOH	B = Bacteria Cup					. Jour value		J. J.				start until any ambiguities are
3 = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	C = Cube O = Other E = Encore D = BOD Bottle	Relinquished By: Date/			7 9'.00	The	Rece	Beceived (8y)  Date/Time resolved B  THIS COC. HAS READ  THIS EBOOM  THIS COC. HAS READ  THIS EBOOM  THIS COC.				resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES HOBE BOUND BY ALPHA'S LERMS & CONDITIONS.
orm No: 01-14 HC (rev. 30	-Sept-2013)	1 00000	1.4	1796		M	W FILL STATE OF SOLID				(See reverse side.)	
age 26 of 26	Suprestaj	/	4/11/	1			JULIO	ea (V	000	4125	97-3300	1007-07-07-07-7-07-7



#### ANALYTICAL REPORT

Lab Number: L2221428

Client: Partner Engineering & Science, Inc.

611 Industrial Way West Eatontown, NJ 07724

ATTN: Angelica Rosaperez Phone: (732) 380-1200

Project Name: VO TECH

Project Number: 21-331027.43

Report Date: 05/02/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** VO TECH **Project Number:** 21-331027.43

 Lab Number:
 L2221428

 Report Date:
 05/02/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221428-01	BIS-POE	DW	BISTOCCI HALL	04/23/22 11:00	04/25/22
L2221428-02	BIS-POE-F	DW	BISTOCCI HALL	04/23/22 11:01	04/25/22
L2221428-03	BIS-WF-01	DW	BISTOCCI HALL	04/23/22 11:02	04/25/22
L2221428-04	BIS-WF-01-F	DW	BISTOCCI HALL	04/23/22 11:02	04/25/22
L2221428-05	BIS-S-02	DW	BISTOCCI HALL	04/23/22 11:05	04/25/22
L2221428-06	BIS-S-02-F	DW	BISTOCCI HALL	04/23/22 11:06	04/25/22
L2221428-07	BIS-S-03	DW	BISTOCCI HALL	04/23/22 11:07	04/25/22
L2221428-08	BIS-S-03-F	DW	BISTOCCI HALL	04/23/22 11:07	04/25/22
L2221428-09	BIS-S-04	DW	BISTOCCI HALL	04/23/22 11:10	04/25/22
L2221428-10	BIS-S-04-F	DW	BISTOCCI HALL	04/23/22 11:11	04/25/22
L2221428-11	BIS-WF-05	DW	BISTOCCI HALL	04/23/22 11:14	04/25/22
L2221428-12	BIS-WF-05-F	DW	BISTOCCI HALL	04/23/22 11:15	04/25/22
L2221428-13	BIS-WF-06	DW	BISTOCCI HALL	04/23/22 11:16	04/25/22
L2221428-14	BIS-WF-06-F	DW	BISTOCCI HALL	04/23/22 11:16	04/25/22
L2221428-15	BIS-S-07	DW	BISTOCCI HALL	04/23/22 11:17	04/25/22
L2221428-16	BIS-S-07-F	DW	BISTOCCI HALL	04/23/22 11:18	04/25/22
L2221428-17	BIS-WF-08	DW	BISTOCCI HALL	04/23/22 11:20	04/25/22
L2221428-18	BIS-WF-08-F	DW	BISTOCCI HALL	04/23/22 11:21	04/25/22
L2221428-19	BIS-WF-09	DW	BISTOCCI HALL	04/23/22 11:21	04/25/22
L2221428-20	BIS-WF-09-F	DW	BISTOCCI HALL	04/23/22 11:22	04/25/22
L2221428-21	BIS-WF-10	DW	BISTOCCI HALL	04/23/22 11:22	04/25/22
L2221428-22	BIS-WF-10F	DW	BISTOCCI HALL	04/23/22 11:22	04/25/22
L2221428-23	BIS-WF-11	DW	BISTOCCI HALL	04/23/22 11:23	04/25/22
P222428354	BIS-WF-11-F	DW	BISTOCCI HALL	04/23/22 11:24	04/25/22



Alpha			Sample	Serial_No <b>Collection</b>	0:05022216:27
Sample ID	Client ID	Matrix	Sample Location	Date/Time	Receive Date
L2221428-25	BIS-WF-12	DW	BISTOCCI HALL	04/23/22 11:25	04/25/22
L2221428-26	BIS-WF-12-F	DW	BISTOCCI HALL	04/23/22 11:25	04/25/22
L2221428-27	BIS-WF-13	DW	BISTOCCI HALL	04/23/22 11:26	04/25/22
L2221428-28	BIS-WF-13-F	DW	BISTOCCI HALL	04/23/22 11:27	04/25/22



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

## NJ DEP Data of Known Quality Protocols Conformance/Non-Conformance Summary Questionnaire

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	YES
1a	Were the method specified handling, preservation, and holding time requirements met?	YES
1b	EPH Method: Was the EPH Method conducted without significant modifications (see Section 11.3 of respective DKQ methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (4 ± 2° C)?	YES
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	YES
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1a or #1b is "No", the data package does not meet the requirements for "Data of Known Quality".



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.										



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

## **Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

**DKQP Related Narratives** 

Sample Receipt

The project name was specified by the client.

Report Submission

In reference to question 5a:

Reporting limits were not specified.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Jufani Morrissey-Tiffani Morrissey

Authorized Signature:

Title: Technical Director/Representative

Date: 05/02/22

# **METALS**



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-01Date Collected:04/23/22 11:00Client ID:BIS-POEDate Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ınsfield Lab										
Lead, Total	0.4266	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 11:53	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-03Date Collected:04/23/22 11:02Client ID:BIS-WF-01Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:05	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-05Date Collected:04/23/22 11:05Client ID:BIS-S-02Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	0.9486	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 11:28	B EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-07Date Collected:04/23/22 11:07Client ID:BIS-S-03Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	2.874		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 11:32	P EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-09Date Collected:04/23/22 11:10Client ID:BIS-S-04Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	2.598		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:09	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-11Date Collected:04/23/22 11:14Client ID:BIS-WF-05Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:13	B EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-13Date Collected:04/23/22 11:16Client ID:BIS-WF-06Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:1	7 EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-15Date Collected:04/23/22 11:17Client ID:BIS-S-07Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	1.837		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:21	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-17Date Collected:04/23/22 11:20Client ID:BIS-WF-08Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:36	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-19Date Collected:04/23/22 11:21Client ID:BIS-WF-09Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:40	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-21Date Collected:04/23/22 11:22Client ID:BIS-WF-10Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:44	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-23Date Collected:04/23/22 11:23Client ID:BIS-WF-11Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	nsfield Lab										
Lead, Total	0.4192	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:48	3 EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-25Date Collected:04/23/22 11:25Client ID:BIS-WF-12Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	0.4187	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:52	2 EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221428-27Date Collected:04/23/22 11:26Client ID:BIS-WF-13Date Received:04/25/22Sample Location:BISTOCCI HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mai	nsfield Lab										
Lead, Total	0.4612	J	ug/l	1.000	0.3430	1	04/28/22 18:3	2 04/29/22 12:56	EPA 3005A	3,200.8	SV



**Project Name:** Lab Number: VO TECH L2221428 **Project Number:** 21-331027.43 05/02/22

**Report Date:** 

# **Method Blank Analysis Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytica Method	l Analyst
Total Metals - I	Mansfield Lab for sample(s):	01,03,05	5,07,09,1	1,13,15,1	7,19,21,23	3,25,27 Batch:	WG163170	8-1	
Lead, Total	ND	ug/l	1.000	0.3430	1	04/28/22 18:32	04/29/22 10:5	7 3,200.8	SV

**Prep Information** 

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** VO TECH

Lab Number: L2221428

**Project Number:** 21-331027.43 Report Date: 05/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample	e(s): 01,03,05,07,	09,11,13,1	15,17,19,21,23,25,27	7 Batch	n: WG1631708-2			
Lead, Total	98		-		85-115	-		



# Matrix Spike Analysis Batch Quality Control

Project Name: VO TECH

Lab Number:

L2221428 05/02/22

**Project Number:** 21-331027.43

Report Date:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery (	i Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Client ID: BIS-POE	Associated sam	ple(s): 01,	03,05,07,09,	11,13,15,17,19	),21,23,2	25,27 C	QC Batch ID: WG1	631708	3-3 QC	Sample	: L2221	428-01
Lead, Total	0.4266J	530	529.4	100		-	-		70-130	-		20
Total Metals - Mansfield Lab Client ID: BIS-WF-01	Associated sam	ple(s): 01,	03,05,07,09,	11,13,15,17,19	),21,23,2	25,27 C	QC Batch ID: WG1	631708	3-5 QC	Sample	: L2221	428-03
Lead, Total	ND	530	514.9	97		-	-		70-130	-		20



L2221428

# Lab Duplicate Analysis Batch Quality Control

Project Name: VO TECH
Project Number: 21-331027.43

trol Lab Number:

**Report Date:** 05/02/22

<u>Parameter</u>		Native Sample	Duplicate Sar	mple Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Client ID: BIS-POE	Associated sample(s):	01,03,05,07,09,11,13,15,17	7,19,21,23,25,27	QC Batch ID: W	G1631708-4	QC Sample:	L2221428-01
Lead, Total		0.4266J	0.4326J	ug/l	NC		20
Total Metals - Mansfield Lab Client ID: BIS-WF-01	Associated sample(s):	01,03,05,07,09,11,13,15,17	7,19,21,23,25,27	QC Batch ID: W	G1631708-6	QC Sample:	L2221428-03
Lead, Total		ND	ND	ug/l	NC		20



Project Name: VO TECH **Lab Number:** L2221428 **Project Number:** 21-331027.43

NO

Report Date: 05/02/22

# Sample Receipt and Container Information

Were project specific reporting limits specified?

**Cooler Information** 

**Custody Seal** Cooler

Ε Absent

Container Information		Initial	Final	Temp			Frozen			
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)	
L2221428-01A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-02A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-03A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-04A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-05A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-06A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-07A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-08A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-09A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-10A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-11A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-12A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-13A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-14A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-15A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-16A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-17A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-18A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-19A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-20A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-21A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	
L2221428-22A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		HOLD-METAL-TOTAL(180)	
L2221428-23A	Plastic 250ml HNO3 preserved	E	<2	<2	3.8	Υ	Absent		PB-2008T-PPB(180)	



Lab Number: L2221428

**Report Date:** 05/02/22

HOLD-METAL-TOTAL(180)

HOLD-METAL-TOTAL(180)

PB-2008T-PPB(180)

**Container Information** Final Temp Initial Frozen pН deg C Pres Seal Cooler pH Date/Time Container ID Container Type Analysis(\*) L2221428-24A Plastic 250ml HNO3 preserved Ε <2 <2 3.8 Υ Absent HOLD-METAL-TOTAL(180) Е L2221428-25A Plastic 250ml HNO3 preserved <2 <2 Υ PB-2008T-PPB(180) 3.8 Absent

<2

<2

<2

3.8

3.8

3.8

Υ

Υ

Υ

Absent

Absent

Absent

<2

<2

<2

Е

Е

Е

Project Name:

L2221428-26A

L2221428-27A

L2221428-28A

**VO TECH** 

Plastic 250ml HNO3 preserved

Plastic 250ml HNO3 preserved

Plastic 250ml HNO3 preserved

**Project Number:** 21-331027.43

**Project Name:** Lab Number: VO TECH L2221428 **Project Number:** 21-331027.43 **Report Date:** 05/02/22

#### GLOSSARY

#### Acronyms

LCSD

LOD

LOQ

MS

RPD

SRM

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments

from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

**EDL** - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis

of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration. **EPA** 

Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

 Laboratory Control Sample Duplicate: Refer to LCS. LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDI - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

> - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Footnotes**

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A -Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- ${f E}$  Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- $\label{eq:main_equation} \textbf{M} \qquad \text{-Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.}$
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Data Qualifiers**

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- V The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221428

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **REFERENCES**

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

# **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Serial\_No:05022216:27

ID No.:17873 Revision 19

Published Date: 4/2/2021 1:14:23 PM

Page 1 of 1

# Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

# **Mansfield Facility**

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

## Mansfield Facility:

## **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form

Pre-Qualtrax Document ID: 08-113

Westborough, MA 01581	NEW JERSEY CHAIN OF CUSTODY Mansfield, MA 02048	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	e   f	i		1251	22	ALPHA Job#					
8 Walkup Dr.	320 Forbes Blvd	Project Information			200		Delivera	746/6/			Billing Information		
TEL: 508-898-9220 FAX: 508-898-9193	TEL: 508-822-9300 FAX: 508-822-3288	Project Name:		-			-	Full / Redu			Same as Client Info		
1.000,4300,000		Project Location: 13:3	tocc, Ha 1027,4 oject#)	111			EC	ulS (1 File)	☐ EQ	ulS (4 File)	PO#		
Client Information		Project # 21 - 33	1027,4	3A			Ot	ner					
Client: /twgelian k	on felet	(Use Project name as Project name)	oject#)	0			Regulato	ry Requiren	nent	PANTER	Site Information		
Address:		Project Manager:					SF	S Resident	al/Non Resid	dential	Is this site impacted by Petroleum? Yes		
		ALPHAQuote #:					SR	S Impact to	Groundwate	er	resoleum res [		
Phone:		Turn-Around Time					☐ NJ	Ground Wa	ter Quality S	Standards	Petroleum Product:		
Fax:		Standard	Q		☐ NJ	IGW SPLP	Leachate Cr	riteria					
Email: /A ROSCRIZ	D Partnerto I de	Rush (only if pre approved)			Ott	ner							
These samples have be				The state of the s			ANALYS	iis			Sample Filtration		
REQUIRED:  Category 1  Category 2	is REQUIRED:  1,4-Dioxane 8011	Other project specific re Or V Ly Ky Please specify Metals of A bowl	Plus TAL.	sh sf	INHa	115	po				Done t Lab to do Preservation Lab to do B (Please Specify below)		
ALPHA Lab ID (Lab Use Only)	Sa	mple ID	Colle	180000	Sample	Sampler's	1-7				t I		
	F' - 0 - F		Date	Time	Matrix	Initials					Sample Specific Comments		
21428 -01	BIZ-POE		4/23/22	11:00 am	MRW	AM	14						
-02	BIJ-POE-			ilioi			H						
-03	BIS-WF-0			11:02									
-04	BIS-WE-0			11:02									
-05	B15-5-0			11105									
-06	BIS- 5-0			11:06									
-07	BI 5-5-0			11:67									
-08	BI2-2-0	13-5		11:01									
-09	BIS-5-0	Ц		11110		11	1.						
-10	BIS-5 -	64-F	W	11:11	7	W	W						
A = None B = HCI C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub>	Container Code P = Plastic A = Amber Glass V = Vial G = Glass	Westboro: Certification No Mansfield: Certification No				ntainer Type					Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not		
E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle	Relinquished By: Date/Time  A.M. Collinso 4/1/29/30  Part 1/21/35/32 1/30  Part 1/21/35/32					Reserved	By: A		te/Time 7 /- 11	start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES FORE BOUND BY ALPHA'S PERMS & CONDITIONS.		
Form No: 01-14 HC (rev. 30-	-Sept-2013)	2.8	16,4	23/20	1		disoa	Wood	41751	22350	(See reverse side.)		
Page 33 of 35		1				-		3-300	111301				

ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker V Tonawanda, NY 14150: 275 Co	<u>2</u>	- Dat	e Rec'd	25/2	2	ALPHA Job# L 222/428					
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information		ST DO G	SUSMI		Deliverat	oles	Miles I	THE US	Billing Information		
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:					□ NJ	Full / Reduc	ed		Same as Client Info		
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: 13:3	tocchi	hall			□ EQ	ulS (1 File)	☐ EQu	IS (4 File)	PO#		
Client Information		Project #	1000	000	0 " /	10	Ott	ner	#=#				
Client:		(Use Project name as Pr	roject #)	616	PAG	19	Regulato	ry Requiren	ent		Site Information		
Address:		Project Manager:		B -	1.0		STREET, SQUARE, SQUARE,		al/Non Reside	ential	Is this site impacted by		
		ALPHAQuote #:		U/	75		□ SR	S Impact to	Groundwater		Petroleum? Yes		
Phone:		Turn-Around Time	70	1 mg - last			□ NJ	Ground Wa	ter Quality St	andards	Petroleum Product:		
Fax:		Standard		Due Date:			-		Leachate Cri				
Email:		Rush (only if pre approved	The state of the s	# of Days:			Ott						
These samples have b	een previously analyza			ii oi bojo.			ANALYS				Sample Filtration		
		Other project specific r	equirements	comments:			1		TT	T			
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals of					lad				Done Lab to do Preservation Lab to do  (Please Specify below)		
ALPHA Lab ID	Sa	mple ID	Colle	ection	Sample	Sampler's	7						
(Lab Use Only)		21 November 2012	Date	Time Matrix Initials							Sample Specific Comments		
21428 -11	BIS-WF-C		4/23/22	11:14am	DW	AM							
-12	BIS - WF-			11:15		11							
-13	BIS-ME-			11:16									
-14	BIJ-WP-	06-P		1416									
-15	BIS-5-1	07		11:17									
-16	BI2-2-	07-F		11:18									
-17	BIJ-WF-C	58		11:50									
~18	BIS-WF-0	8-5		11:21									
-19	BIS- WF-0	q		11:71									
-20	BIS-WF-0			11:37	V	V	3/						
Preservative Code: A = None B = HCI	Container Code P = Plastic A = Amber Glass	Westboro: Certification N Mansfield: Certification N	THE CONTRACT OF THE CONTRACT O	13.	Cor	ntainer Type	V				Please print clearly, legibly and completely. Samples car		
D = H <sub>2</sub> SO <sub>4</sub> E = NaOH	V = Vial G = Glass B = Bacteria Cup				F	Preservative					not be logged in and turnaround time clock will not start until any ambiguities are		
F = MeOH G = NaHSO <sub>4</sub>	C = Cube O = Other	Relinquished	Ву:	Date/1	Time,		Received	∮y:)	//Dat	e/Time	resolved. BY EXECUTING		
$H = Na_2S_2O_3$	E = Encore	A.Mercogligare		4/25/2	2 4:00	W.	4/	4	14/23	91.1	THIS COC, THE CLIENT HAS READ AND AGREES		
K/E = Zn Ac/NaOH	D = BOD Bottle	ne he whole Nie					arel J.	ronnel	TRA!	POBE BOUND BY ALPHA'S			
O = Other		Paul Marrage 1118 427 mg							FERMS & CONDITIONS.				
Form No: 01-14 HC (rev. 30	)-Sept-2013)						lessa	Wood	412510	27200	(See reverse side.)		
Page 34 of 35		) 4/1 ( Free )							110010	0.00			

ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker V Tonawanda, NY 14150: 275 Co	3	-	Date Ro	ec'd 6 4	25/	22	ALPHA JOB# L222 14 28					
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information		22 (0.00)	RES	2.40.000	Delive	erables	(GINERA			Billing Information		
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:						NJ Full	/ Reduce	d		Same as Client Info		
FAX: 508-898-9193	FAX: 508-822-3288		rtocchi	Hall			1 1	EQuIS	(1 File)	□ E	QuIS (4 File)	PO#		
Client Information		Project #	1 100011		u 1	0	-	Other	8 8		2.550 00			
Client:		(Use Project name as Pr	roject #)	161	116	6	Requ	latory R	equireme	nt		Site Information		
Address:		Project Manager:	ojourn/	DECK	A	9	-		St. Comments	/Non Res	idential	Is this site impacted by		
		ALPHAQuote #:	/	0	1/1					roundwa		Petroleum? Yes		
Phone:		Turn-Around Time	TEST TO			THE REAL PROPERTY.			*		Standards	Petroleum Product:		
Fax:		THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND ADDRESS O	Standard Due Date:							eachate C				
Email:			Standard Due Date: ush (only if pre approved) # of Days:							cacinate c	inona			
These samples have be	an provincely analyze			# OI Days.	-		1	Other				Sample Filtration		
			her project specific requirements/comments:							1 1	1 1			
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals o					en					☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)		
ALPHA Lab ID	Sa	mple ID	Colle	10,310,071	Sample	Sampler's	7							
(Lab Use Only)	025 5		Date	Time	Matrix	Initials	<u> </u>					Sample Specific Comments		
21428 -21	BIJ-WF		4/23/22	11:2200	1).2	AM								
-22	BIJ- UF			11:77										
- 13	BIJ-WF			11,53										
-24	BIJ-WF			11: 74										
-25	B15-WF-			11; 25					10					
-26	BIJ-WF	-17-4		11:72										
-27	BIJ- WE	~  3		11:76										
-28	BIJ-WF	- 13-F		11:27										
WILL SEE SEE S			V		y	J	V							
A = None B = HCl C = HNO <sub>3</sub>	Container Code P = Plastic A = Amber Glass V = Vial	Westboro: Certification N Mansfield: Certification N			Cor	tainer Type						Please print clearly, legibly and completely. Samples car not be logged in and		
E = NaOH	G = Glass B = Bacteria Cup C = Cube					Preservative		X			,	turnaround time clock will not start until any ambiguities are		
G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	O = Other E = Encore D = BOD Bottle	Relinquished By:  Date/Time  4/15/13 9:00  PARTICIONAL AND STATE OF THE STATE OF TH						registr.	nare	14/2	ate/Time BSB3	resolved. BY EXECUTING THIS COC, THE CLIENT HAS/READ AND AGREES TERMS & CONDITIONS.		
Form No: 01-14 HC (rev. 30	-Sept-2013)	2	0/25-11	1922		m	éliso	0 1.	الحجما	11281	2 300	(See reverse side.)		
age 35 of 35				7			y Course	a U	000	1001	To su	/ money come or many to the		



### ANALYTICAL REPORT

Lab Number: L2221434

Client: Partner Engineering & Science, Inc.

611 Industrial Way West Eatontown, NJ 07724

ATTN: Angelica Rosaperez Phone: (732) 380-1200

Project Name: VO TECH

Project Number: 21-331027.43

Report Date: 05/02/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** VO TECH **Project Number:** 21-331027.43

 Lab Number:
 L2221434

 Report Date:
 05/02/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221434-01	MAN-POE	DW	MANCUSCO HALL	04/23/22 11:45	04/25/22
L2221434-02	MAN-POE-F	DW	MANCUSCO HALL	04/23/22 11:46	04/25/22
L2221434-03	MAN-WF-01	DW	MANCUSCO HALL	04/23/22 11:46	04/25/22
L2221434-04	MAN-WF-01-F	DW	MANCUSCO HALL	04/23/22 11:47	04/25/22
L2221434-05	MAN-S-02	DW	MANCUSCO HALL	04/23/22 11:49	04/25/22
L2221434-06	MAN-S-02-F	DW	MANCUSCO HALL	04/23/22 11:50	04/25/22
L2221434-07	MAN-WF-03	DW	MANCUSCO HALL	04/23/22 11:51	04/25/22
L2221434-08	MAN-WF-03-F	DW	MANCUSCO HALL	04/23/22 11:51	04/25/22
L2221434-09	MAN-WF-04	DW	MANCUSCO HALL	04/23/22 11:52	04/25/22
L2221434-10	MAN-WF-04-F	DW	MANCUSCO HALL	04/23/22 11:52	04/25/22
L2221434-11	MAN-WF-05	DW	MANCUSCO HALL	04/23/22 11:56	04/25/22
L2221434-12	MAN-WF-05-F	DW	MANCUSCO HALL	04/23/22 11:57	04/25/22
L2221434-13	MAN-WF-06	DW	MANCUSCO HALL	04/23/22 11:57	04/25/22
L2221434-14	MAN-WF-06-F	DW	MANCUSCO HALL	04/23/22 11:58	04/25/22
L2221434-15	MAN-WF-07	DW	MANCUSCO HALL	04/23/22 12:00	04/25/22
L2221434-16	MAN-WF-07-F	DW	MANCUSCO HALL	04/23/22 12:00	04/25/22
L2221434-17	MAN-WF-08	DW	MANCUSCO HALL	04/23/22 12:01	04/25/22
L2221434-18	MAN-WF-08-F	DW	MANCUSCO HALL	04/23/22 12:01	04/25/22
L2221434-19	MAN-S-09	DW	MANCUSCO HALL	04/23/22 12:03	04/25/22
L2221434-20	MAN-S-09-F	DW	MANCUSCO HALL	04/23/22 12:04	04/25/22
L2221434-21	MAN-WF-10	DW	MANCUSCO HALL	04/23/22 12:06	04/25/22
L2221434-22	MAN-WF-10-F	DW	MANCUSCO HALL	04/23/22 12:07	04/25/22
L2221434-23	MAN-WF-11	DW	MANCUSCO HALL	04/23/22 12:07	04/25/22
P2221494324	MAN-WF-11-F	DW	MANCUSCO HALL	04/23/22 12:08	04/25/22



Project Name:VO TECHLab Number:L2221434Project Number:21-331027.43Report Date:05/02/22

# NJ DEP Data of Known Quality Protocols Conformance/Non-Conformance Summary Questionnaire

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	YES
1a	Were the method specified handling, preservation, and holding time requirements met?	YES
1b	EPH Method: Was the EPH Method conducted without significant modifications (see Section 11.3 of respective DKQ methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (4 ± 2° C)?	YES
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	YES
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1a or #1b is "No", the data package does not meet the requirements for "Data of Known Quality".



Project Name:VO TECHLab Number:L2221434Project Number:21-331027.43Report Date:05/02/22

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.													



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

# **Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

**DKQP Related Narratives** 

Sample Receipt

The project name was specified by the client.

Report Submission

In reference to question 5a:

Reporting limits were not specified.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Jufani Morrissey-Tiffani Morrissey

Authorized Signature:

Title: Technical Director/Representative

ΔLPHA

Date: 05/02/22

# **METALS**



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-01Date Collected:04/23/22 11:45Client ID:MAN-POEDate Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:47	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-03Date Collected:04/23/22 11:46Client ID:MAN-WF-01Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mans	sfield Lab										
Lead, Total	0.3474	J	ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 14:51	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-05Date Collected:04/23/22 11:49Client ID:MAN-S-02Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:07	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-07Date Collected:04/23/22 11:51Client ID:MAN-WF-03Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:15	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-09Date Collected:04/23/22 11:52Client ID:MAN-WF-04Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	0.8124	J	ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:19	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-11Date Collected:04/23/22 11:56Client ID:MAN-WF-05Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:23	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-13Date Collected:04/23/22 11:57Client ID:MAN-WF-06Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:27	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-15Date Collected:04/23/22 12:00Client ID:MAN-WF-07Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	0.4168	J	ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:31	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-17Date Collected:04/23/22 12:01Client ID:MAN-WF-08Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	1.361		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:34	EPA 3005A	3,200.8	sv



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-19Date Collected:04/23/22 12:03Client ID:MAN-S-09Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	1.008		ug/l	1.000	0.3430	1	04/28/22 18:5	6 04/29/22 15:38	EPA 3005A	3,200.8	SV



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-21Date Collected:04/23/22 12:06Client ID:MAN-WF-10Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/30/22 12:2	4 05/01/22 12:50	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

**SAMPLE RESULTS** 

Lab ID:L2221434-23Date Collected:04/23/22 12:07Client ID:MAN-WF-11Date Received:04/25/22Sample Location:MANCUSCO HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	04/30/22 12:2	4 05/01/22 13:00	EPA 3005A	3,200.8	WP



**Project Name: VO TECH** Lab Number: L2221434 **Project Number:** 21-331027.43

**Report Date:** 05/02/22

# **Method Blank Analysis Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
Total Metals - Mansf	ield Lab for sample(s):	01,03,05,	07,09,11	,13,15,1	7,19 Batc	h: WG163171	10-1		
Lead, Total	ND	ug/l	1.000	0.3430	1	04/28/22 18:56	04/29/22 13:25	3,200.8	SV

**Prep Information** 

Digestion Method: EPA 3005A

**Dilution** Date **Date** Analytical **Result Qualifier Factor Prepared** Analyzed Method Analyst **Parameter** Units RLMDL Total Metals - Mansfield Lab for sample(s): 21,23 Batch: WG1632632-1 ND Lead, Total 0.3430 05/01/22 12:30 3,200.8 WP ug/l 1.000 04/30/22 12:24

**Prep Information** 

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

**Project Name: VO TECH** 

Lab Number: L2221434

**Project Number:** 21-331027.43

Report Date: 05/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sampl	e(s): 01,03,05,07	,09,11,13,1	5,17,19 Batch:	WG1631710-	-2			
Lead, Total	98		-		85-115	-		
Total Metals - Mansfield Lab Associated sampl	e(s): 21,23 Bate	ch: WG163	2632-2					
Lead, Total	101		-		85-115	-		



# Matrix Spike Analysis Batch Quality Control

Project Name: VO TECH

Lab Number:

L2221434

**Project Number:** 21-331027.43

Report Date:

05/02/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Recov Qual Lim	- ,	RPD Qual Limits
Total Metals - Mansfield Lab	Associated san	nple(s): 21,23	QC Bat	tch ID: WG1632	2632-3	QC Sam	nple: L2221434-	21 Client ID	: MAN-WF	-10
Lead, Total	ND	530	513.1	97		-	-	70-13		20



Lab Duplicate Analysis

Batch Quality Control

Lab Number:

L2221434

**Project Number:** 21-331027.43

**VO TECH** 

**Project Name:** 

Report Date:

05/02/22

Parameter	Native Sample	Duplicate Samp	le Units	RPD	Qual R	PD Limits
Total Metals - Mansfield Lab Associated sample(s): 21,2	3 QC Batch ID:	WG1632632-4 QC San	mple: L2221434-21	Client ID:	MAN-WF-10	
Lead, Total	ND	ND	ug/l	NC		20



Project Name: VO TECH
Project Number: 21-331027.43

**Lab Number:** L2221434 **Report Date:** 05/02/22

# Sample Receipt and Container Information

Were project specific reporting limits specified?

NO

**Cooler Information** 

Cooler Custody Seal

C Absent

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221434-01A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-02A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-03A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-04A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-05A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-06A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-07A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-08A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-09A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-10A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-11A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-12A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-13A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-14A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-15A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-16A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-17A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-18A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-19A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-20A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-21A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)
L2221434-22A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221434-23A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		PB-2008T-PPB(180)



Lab Number: L2221434

Report Date: 05/02/22

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221434-24A	Plastic 250ml HNO3 preserved	С	<2	<2	5.1	Υ	Absent		HOLD-METAL-TOTAL(180)



Project Name: VO TECH

**Project Number:** 21-331027.43

**Project Name:** Lab Number: VO TECH L2221434 **Project Number:** 21-331027.43 **Report Date:** 05/02/22

#### GLOSSARY

#### Acronyms

LOQ

MS

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

**EDL** 

- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration. **EPA** 

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD Laboratory Control Sample Duplicate: Refer to LCS.

Environmental Protection Agency.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDI - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Footnotes**

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A -Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- $\label{eq:main_equation} \textbf{M} \qquad \text{-Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.}$
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

#### **Data Qualifiers**

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Serial\_No:05022216:24

 Project Name:
 VO TECH
 Lab Number:
 L2221434

 Project Number:
 21-331027.43
 Report Date:
 05/02/22

## **REFERENCES**

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

# **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Serial\_No:05022216:24

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 19

Published Date: 4/2/2021 1:14:23 PM

Page 1 of 1

# Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

## Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

# **Mansfield Facility**

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

## The following analytes are included in our Massachusetts DEP Scope of Accreditation

## Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

## Mansfield Facility:

## **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Pre-Qualtrax Document ID: 08-113 Document Type: Form

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Co	Vay	95	Pag	e	Da	te Rec'd in Lab	1/25	5/2	2	ALPHA Job# L 222 1434
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information		SIDE OF			Delivera	bles	NAME OF TAXABLE	1		Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:					STREET, SQUARE,	J Full / Redu	iced	ALC: UNITED BY	Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288		ncusco	hall				QuIS (1 File		FOulS	(4 File)	POW
Client Information	TO SAME	Project # 21-33	027,4	2				ther	,	1	111107	
Client: Angelica	Kosaperez	(Use Project name as Pr	niect#)	)			Regulatory Requirement					Site Information
Address:	No April	Project Manager:	ojourny				The state of the s	RS Residen	The state of the s	Ponidon	tial	Is this site impacted by
		ALPHAQuote #:						RS Impact to			uai	Petroleum? Yes
Phone:		AND RESIDENCE OF THE PARTY OF T	Turn-Around Time						ater Qua		darde	Potroloum Product
Fax:									Leacha			Petroleum Product:
	e. ra) Dichares	Rush (only if pre approved)	- N						Leacha	te Uniter	la	
These samples have be		Alamana and a second a second and a second a						her				
For EPH, selection is	For VOC, selection	Other project specific r	nguiromente/				ANALY	313	_			Sample Filtration
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	ONLY MAN Please specify Metals o	Flush or TAL.		al is	above	end					☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)
ALPHA Lab ID (Lab Use Only)	Sar	mple ID	ction	Sample	Sampler's	1,0						
111511	W 411 10 - 1		Date Time		Matrix	Initials						Sample Specific Comments
The second secon	MAN-POF		4/23/22	11:4500	DW	AM						
-02	MAN-PO			11:46				4				
-03	MON- WE			11:46								
-04	Mun -WF.			11:47								
-05	man-s-			11:49								
-06	Man-5-0			11.50								
_07	man-WF-			11151								
-08	man - WF-			11:51								
-09	man -WF-0			11,25								
-10	Man-WF-C	04-F	A	11:32	Y	V	V					
= None = HCI	P = Plastic	Westboro: Certification No Mansfield: Certification No			Con	tainer Type						Please print clearly, legibly and completely. Samples ca
= H <sub>2</sub> SO <sub>4</sub>	G = Glass			- 1	F	reservative						not be logged in and turnaround time clock will no
	B = Bacteria Cup C = Cube	TEN SAMON NAMES OF THE PERSON NAMES OF THE PER							1			start until any ambiguities an
= NaHSO <sub>4</sub> = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	O = Other E = Encore	A. Maglano	By:	9 125/0	12 9:01	- na	Received	(ay:)	2/12	Date/T	ime /	resolved. BY EXECUTING THIS COC, THE CLIENT HAS BEAD AND AGREES
/E = Zn Ac/NaOH = Other	D = BOD Bottle	Eust M	sulla 8	12/23	14:3		re 1	respel	0.4	36	2/4	TO BE BOUND BY ALPHA'S FERMS & CONDITIONS.
orm No; 01-14 HC (rev. 30-	-Sept-2013)	100	12/1	BERB	1		essa	Wood	41	80	2500	(See reverse side.)
ige 30 of 32		7								2 112	4 2	

Διрна	NEW JERSEY CHAIN OF CUSTODY	Albany, NY 12205: 14 Walker V	Service Centers  Mahwah, NJ 07430: 35 Whitney Rd, Suite 5  Albany, NY 12205: 14 Walker Way  Tonawanda, NY 14150: 275 Cooper Ave, Suite 105							5/2	2	ALPHA-doug#1434
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	( DA) 8	THE REST	38 ISS	101 800	Deliverables					Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:					ΤП	NJ Full / F	Reduced		Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288		n 60500	Hall			15	EQuIS (1		IS (4 File)	PO#	
Client Information	William Com	Project#	170000	11411	Seri		15	Other		10 10 100		
Client:		(Use Project name as Pr	roject #)	601	0		Regu	latory Req	uirement	13 may 1900	Site Information	
Address:		Project Manager:	79016 0010				-	SRS Resi		ential	Is this site impacted by	
		ALPHAQuote #:		YH	175	ant	-	SRS Impa				Petroleum? Yes
hone:		Turn-Around Time		ELLINES W		STAN		NJ Groun				Petroleum Product:
ax:			Standard Due Date:					NJ IGW S				Petroleum Product.
mail:			standard Due Date:						PLP Lead	iale Cili	teria	
hese samples have be	on proviously analyse					Other				0 1 574 41		
or EPH, selection is	For VOC. selection	Other project specific r					ANA	YSIS		_		Sample Filtration
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011		lease specify Metals or TAL.									☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)
ALPHA Lab ID (Lab Use Only)	Sa	mple ID	Colle	, according	Sample Matrix	Sampler's Initials	Lea					
21434 -11	Man-WF-1	nT .	Date Time				<b>-</b>			_		Sample Specific Comments
-1 (39 11	mAN-UF-		4/23/22	11:560m	DW	AM	$\vdash$			_		
-13				11:57	_		1			_	0 8	
	MAN - UF	-00		11:57		-	$\perp$		-	_		
-14	MAN-WF	-06-5		11128								
-15	MAN-UF			1200pm		$\vdash$						
-16	MAN - WF			12:00								
-17		- 08		17.01								
-15	MAN-WF			12:01								
-19	MAN-5-			12:03								
-201		09-F		12104	W	Ψ	Y					
= None = HCI	Container Code P = Plastic A = Amber Glass V = Vial	Westboro: Certification N Mansfield: Certification N	Cor	ntainer Type						Please print clearly, legibly and completely. Samples completely.		
= H₂SO₄ = NaOH	G = Glass B = Bacteria Cup C = Cube							L,			not be logged in and turnaround time clock will r start until any ambiguities a	
NaHSO <sub>4</sub> Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	O = Other E = Encore D = BOD Bottle	Relinquished B	2 12	9/25/2	12 9/16	30	The state of	erBy) GM22 (JGC	4/20	pr	9.4 9.4	resolved. BY EXECUTING THIS COC, THE CLIENT HAS BEAD AND AGREES OBE BOUND BY ALPHA TERMS & CONDITIONS.
rm No: 01-14 HC (rev. 30	-Sent-2013)	faul ays	elly 41	35/02		M	IDAA	Woo	7	16/	A ROY	(See reverse side.)
ge 31 of 32	Ochren13)	7 1/02	1 134			1 0		011011111111111111111111111111111111111		100	D-7500	**************************************

ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker Wa Tonawanda, NY 14150: 275 Coo	3	Date Rec'd 4/25/22						ALPHA 292 1 4 3 4					
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	TERMINA	3.09	STORE BY	2 52 1/2	Deliv	erables	2001	TESS		Miati	Billing Information		
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:						NJ Ful	/ Reduce	d			Same as Client Info		
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: Mil	ncuso	Hall				EQuIS	(1 File)		EQuIS	(4 File)	PO#		
Client Information		Project #		-	541111			Other							
Client:		(Use Project name as Pro	oject#)	50	100		Regu	latory F	Requireme	nt	101	SAME !	Site Information		
Address:		Project Manager:		1	A91	2	SRS Residential/Non Residential					tial	Is this site impacted by		
		ALPHAQuote #:		7	OW C		10	SRS In	npact to G	roundw	ater		Petroleum? Yes		
Phone:		Turn-Around Time	Furn-Around Time						und Wate	r Qualit	y Stan	dards	Petroleum Product:		
Fax:			Standard Due Date:						V SPLP L		5/3				
Email:		Rush (only if pre approved)		# of Days:			ΙĒ	Other							
These samples have be	en previously analyze	d by Alpha											Sample Filtration		
REQUIRED:  Category 1 Category 2	For VOC, selection is REQUIRED:  1,4-Dioxane 8011	by Alpha  Other project specific requirements/comments:  Please specify Metals or TAL.											Done t Lab to do Preservation Lab to do B (Please Specify below)		
ALPHA Lab ID (Lab Use Only)	Sar	mple ID	Collection Sample Sampler						1 1						
	A		Date Time Matrix Initi		Initials	1			$\vdash$	_		Sample Specific Comments e			
21434 -21	Man-WF-11	)	4/23/22	12:06	DW	AM	11	$\sqcup$	_	$\vdash$	$\rightarrow$				
-22	man- WF-10			12:67			1	$\sqcup$							
-23	Man-WF-1	1		12:07			1			$\perp$					
-29	man-WF-	11-1-		17:08						$\perp$					
										$\perp$					
			1		1.	1.									
			V		V	V	M								
A = None B = HCl C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K/E = Zn Ac/NaOH	Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle	Westboro: Certification No Mansfield: Certification No Relinquished E	o: MA015	Date/ 4/35/2	F	Preservative		ved By:	2 4	25/1	bater 12	122/	HAS READ AND AGREES		
O = Other Form No: 01-14 HC (rev. 30	-Sept-2013)	Paul 1900 19 195/22				m	Palisea Wood 41751828300						(See reverse side.)		



## ANALYTICAL REPORT

Lab Number: L2221429

Client: Partner Engineering & Science, Inc.

611 Industrial Way West Eatontown, NJ 07724

ATTN: Angelica Rosaperez Phone: (732) 380-1200

Project Name: VO TECH

Project Number: 21-331027.43

Report Date: 05/10/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



**Project Name:** VO TECH **Project Number:** 21-331027.43

 Lab Number:
 L2221429

 Report Date:
 05/10/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221429-01	WEST-POE	DW	WEST HALL	04/23/22 09:10	04/25/22
L2221429-02	WEST-POE-F	DW	WEST HALL	04/23/22 09:11	04/25/22
L2221429-03	WEST-WF-01	DW	WEST HALL	04/23/22 09:13	04/25/22
L2221429-04	WEST-WF-01-F	DW	WEST HALL	04/23/22 09:14	04/25/22
L2221429-05	WEST-WF-03	DW	WEST HALL	04/23/22 09:15	04/25/22
L2221429-06	WEST-WF-03-F	DW	WEST HALL	04/23/22 09:16	04/25/22
L2221429-07	WEST-WF-04	DW	WEST HALL	04/23/22 09:17	04/25/22
L2221429-08	WEST-WF-04-F	DW	WEST HALL	04/23/22 09:18	04/25/22
L2221429-09	WEST-WF-05	DW	WEST HALL	04/23/22 09:19	04/25/22
L2221429-10	WEST-WF-05-F	DW	WEST HALL	04/23/22 09:20	04/25/22
L2221429-11	WEST-WF-07	DW	WEST HALL	04/23/22 09:23	04/25/22
L2221429-12	WEST-WF-07-F	DW	WEST HALL	04/23/22 09:24	04/25/22
L2221429-13	WEST-WF-08	DW	WEST HALL	04/23/22 09:25	04/25/22
L2221429-14	WEST-WF-08-F	DW	WEST HALL	04/23/22 09:26	04/25/22
L2221429-15	WEST-WF-09	DW	WEST HALL	04/23/22 09:28	04/25/22
L2221429-16	WEST-WF-09-F	DW	WEST HALL	04/23/22 09:29	04/25/22
L2221429-17	WEST-WF-10	DW	WEST HALL	04/23/22 09:31	04/25/22
L2221429-18	WEST-WF-10-F	DW	WEST HALL	04/23/22 09:32	04/25/22
L2221429-19	WEST-POE-11	DW	WEST HALL	04/23/22 09:35	04/25/22
L2221429-20	WEST-POE-11-F	DW	WEST HALL	04/23/22 09:36	04/25/22
L2221429-21	WEST-WF-12	DW	WEST HALL	04/23/22 09:37	04/25/22
L2221429-22	WEST-WF-12-F	DW	WEST HALL	04/23/22 09:38	04/25/22
L2221429-23	WEST-WF-13	DW	WEST HALL	04/23/22 09:39	04/25/22
P2227426824	WEST-WF-13-F	DW	WEST HALL	04/23/22 09:40	04/25/22



Alpha			Sample	Serial_No Collection	o:05102217:54
Sample ID	Client ID	Matrix	Location	Date/Time	Receive Date
L2221429-25	WEST-S-14	DW	WEST HALL	04/23/22 09:40	04/25/22
L2221429-26	WEST-S-14-F	DW	WEST HALL	04/23/22 09:41	04/25/22
L2221429-27	WEST-S-15	DW	WEST HALL	04/23/22 09:42	04/25/22
L2221429-28	WEST-S-15-F	DW	WEST HALL	04/23/22 09:42	04/25/22
L2221429-29	WEST-S-16	DW	WEST HALL	04/23/22 09:43	04/25/22
L2221429-30	WEST-S-16-F	DW	WEST HALL	04/23/22 09:43	04/25/22
L2221429-31	WEST-S-17	DW	WEST HALL	04/23/22 09:45	04/25/22
L2221429-32	WEST-S-17-F	DW	WEST HALL	04/23/22 09:45	04/25/22
L2221429-33	WEST-S-18	DW	WEST HALL	04/23/22 09:46	04/25/22
L2221429-34	WEST-S-18-F	DW	WEST HALL	04/23/22 09:46	04/25/22
L2221429-35	WEST-S-19	DW	WEST HALL	04/23/22 09:47	04/25/22
L2221429-36	WEST-S-19-F	DW	WEST HALL	04/23/22 09:47	04/25/22
L2221429-37	WEST-S-20	DW	WEST HALL	04/23/22 09:48	04/25/22
L2221429-38	WEST-S-20-F	DW	WEST HALL	04/23/22 09:48	04/25/22
L2221429-39	WEST-WF-21	DW	WEST HALL	04/23/22 09:50	04/25/22
L2221429-40	WEST-WF-21-F	DW	WEST HALL	04/23/22 09:50	04/25/22
L2221429-41	WEST-WF-22	DW	WEST HALL	04/23/22 09:51	04/25/22
L2221429-42	WEST-WF-22-F	DW	WEST HALL	04/23/22 09:51	04/25/22
L2221429-43	WEST-S-23	DW	WEST HALL	04/23/22 09:53	04/25/22
L2221429-44	WEST-S-23-F	DW	WEST HALL	04/23/22 09:53	04/25/22
L2221429-45	WEST-S-24	DW	WEST HALL	04/23/22 09:54	04/25/22
L2221429-46	WEST-S-24-F	DW	WEST HALL	04/23/22 09:54	04/25/22
L2221429-47	WEST-S-25	DW	WEST HALL	04/23/22 09:57	04/25/22
L2221429-48	WEST-S-25-F	DW	WEST HALL	04/23/22 09:57	04/25/22
L2221429-49	WEST-S-26	DW	WEST HALL	04/23/22 10:00	04/25/22
L2221429-50	WEST-S-26-F	DW	WEST HALL	04/23/22 10:00	04/25/22
L2221429-51	WEST-S-27	DW	WEST HALL	04/23/22 10:02	04/25/22
Page 3 of 84 L2221429-52	WEST-S-27-F	DW	WEST HALL	04/23/22 10:02	04/25/22

Alpha			Sample	Serial_No:05102217:54 <b>Collection</b>	
Sample ID	Client ID	Matrix	Location	Date/Time	Receive Date
L2221429-53	WEST-WF-28	DW	WEST HALL	04/23/22 10:04	04/25/22
L2221429-54	WEST-WF-28-F	DW	WEST HALL	04/23/22 10:04	04/25/22
L2221429-55	WEST-WF-29	DW	WEST HALL	04/23/22 10:05	04/25/22
L2221429-56	WEST-WF-29-F	DW	WEST HALL	04/23/22 10:05	04/25/22
L2221429-57	WEST-WF-30	DW	WEST HALL	04/23/22 10:09	04/25/22
L2221429-58	WEST-WF-30-F	DW	WEST HALL	04/23/22 10:09	04/25/22
L2221429-59	WEST-WF-31	DW	WEST HALL	04/23/22 10:10	04/25/22
L2221429-60	WEST-WF-31-F	DW	WEST HALL	04/23/22 10:10	04/25/22
L2221429-61	WEST-WF-32	DW	WEST HALL	04/23/22 10:12	04/25/22
L2221429-62	WEST-WF-32-F	DW	WEST HALL	04/23/22 10:12	04/25/22
L2221429-63	WEST-WF-33	DW	WEST HALL	04/23/22 10:13	04/25/22
L2221429-64	WEST-WF-33-F	DW	WEST HALL	04/23/22 10:13	04/25/22
L2221429-65	WEST-WF-34	DW	WEST HALL	04/23/22 10:15	04/25/22
L2221429-66	WEST-WF-34-F	DW	WEST HALL	04/23/22 10:16	04/25/22
L2221429-67	WEST-S-35	DW	WEST HALL	04/23/22 10:17	04/25/22
L2221429-68	WEST-S-35-F	DW	WEST HALL	04/23/22 10:18	04/25/22
L2221429-69	WEST-BF-36	DW	WEST HALL	04/23/22 10:19	04/25/22
L2221429-70	WEST-BF-36-F	DW	WEST HALL	04/23/22 10:20	04/25/22
L2221429-71	WEST-WF-37	DW	WEST HALL	04/23/22 10:21	04/25/22
L2221429-72	WEST-WF-37-F	DW	WEST HALL	04/23/22 10:21	04/25/22
L2221429-73	WEST-WF-38	DW	WEST HALL	04/23/22 10:22	04/25/22
L2221429-74	WEST-WF-38-F	DW	WEST HALL	04/23/22 10:23	04/25/22
L2221429-75	WEST-WF-41	DW	WEST HALL	04/23/22 10:26	04/25/22
L2221429-76	WEST-WF-41-F	DW	WEST HALL	04/23/22 10:26	04/25/22
L2221429-77	WEST-WF-42	DW	WEST HALL	04/23/22 10:28	04/25/22
L2221429-78	WEST-WF-42-F	DW	WEST HALL	04/23/22 10:29	04/25/22
L2221429-79	WEST-POE-43	DW	WEST HALL	04/23/22 10:34	04/25/22
Page 4 of 84 L2221429-80	WEST-POE-43-F	DW	WEST HALL	04/23/22 10:35	04/25/22

Alpha			Sample	Serial_No <b>Collection</b>	0:05102217:54
Sample ID	Client ID	Matrix	Location	Date/Time	Receive Date
L2221429-81	WEST-WF-44	DW	WEST HALL	04/23/22 10:36	04/25/22
L2221429-82	WEST-WF-44-F	DW	WEST HALL	04/23/22 10:36	04/25/22
L2221429-83	WEST-WF-45	DW	WEST HALL	04/23/22 10:37	04/25/22
L2221429-84	WEST-WF-45-F	DW	WEST HALL	04/23/22 10:37	04/25/22
L2221429-85	WEST-BF-46	DW	WEST HALL	04/23/22 10:39	04/25/22
L2221429-86	WEST-BF-46-F	DW	WEST HALL	04/23/22 10:40	04/25/22
L2221429-87	WEST-WF-47	DW	WEST HALL	04/23/22 10:41	04/25/22
L2221429-88	WEST-WF-47-F	DW	WEST HALL	04/23/22 10:41	04/25/22
L2221429-89	WEST-WF-48	DW	WEST HALL	04/23/22 10:42	04/25/22
L2221429-90	WEST-WF-48-F	DW	WEST HALL	04/23/22 10:42	04/25/22
L2221429-91	WEST-WF-49	DW	WEST HALL	04/23/22 10:43	04/25/22
L2221429-92	WEST-WF-49-F	DW	WEST HALL	04/23/22 10:44	04/25/22
L2221429-93	WEST-WF-50	DW	WEST HALL	04/23/22 10:44	04/25/22
L2221429-94	WEST-WF-50-F	DW	WEST HALL	04/23/22 10:45	04/25/22
L2221429-95	WEST-WF-51	DW	WEST HALL	04/23/22 10:47	04/25/22
L2221429-96	WEST-WF-51-F	DW	WEST HALL	04/23/22 10:48	04/25/22
L2221429-97	WEST-WF-52	DW	WEST HALL	04/23/22 10:50	04/25/22
L2221429-98	WEST-WF-52-F	DW	WEST HALL	04/23/22 10:50	04/25/22



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

# NJ DEP Data of Known Quality Protocols Conformance/Non-Conformance Summary Questionnaire

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP Data of Known Quality performance standards?	YES
1a	Were the method specified handling, preservation, and holding time requirements met?	YES
1b	EPH Method: Was the EPH Method conducted without significant modifications (see Section 11.3 of respective DKQ methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (4 ± 2° C)?	YES
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	YES
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1a or #1b is "No", the data package does not meet the requirements for "Data of Known Quality".



Project Name:VO TECHLab Number:L2221429Project Number:21-331027.43Report Date:05/10/22

## **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.										



Project Name: VO TECH
Project Number: 21-331027.43

Lab Number:

L2221429

Report Date:

05/10/22

# **Case Narrative (continued)**

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The project name was specified by the client.

**DKQP Related Narratives** 

Report Submission

In reference to question 5a:

Reporting limits were not specified.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Cattlin Wallet Caitlin Walukevich

Authorized Signature:

Title: Technical Director/Representative

Date: 05/10/22



# **METALS**



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-01Date Collected:04/23/22 09:10Client ID:WEST-POEDate Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	5.730		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 15:31	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-03Date Collected:04/23/22 09:13Client ID:WEST-WF-01Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	1.051		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 14:57	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-05Date Collected:04/23/22 09:15Client ID:WEST-WF-03Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	0.8821	J	ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 15:36	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-07Date Collected:04/23/22 09:17Client ID:WEST-WF-04Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	ansfield I ah										
										0.000.0	
Lead, Total	1.058		ug/l	1.000	0.3430	1	05/02/22 17:3	34 05/03/22 15:41	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-09Date Collected:04/23/22 09:19Client ID:WEST-WF-05Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	1.089		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 15:46	6 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-11Date Collected:04/23/22 09:23Client ID:WEST-WF-07Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	9.806		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 15:51	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-13Date Collected:04/23/22 09:25Client ID:WEST-WF-08Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	7.233		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 15:57	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-15Date Collected:04/23/22 09:28Client ID:WEST-WF-09Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	3.367		ug/l	1.000	0.3430	1	05/02/22 17:3	34 05/03/22 16:02	2 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-17Date Collected:04/23/22 09:31Client ID:WEST-WF-10Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	4.128		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:1	7 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-19Date Collected:04/23/22 09:35Client ID:WEST-POE-11Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mai	nsfield Lab										
Lead, Total	1.681		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:22	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-21Date Collected:04/23/22 09:37Client ID:WEST-WF-12Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	3.698		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:27	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-23Date Collected:04/23/22 09:39Client ID:WEST-WF-13Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	20.45		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:33	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-24Date Collected:04/23/22 09:40Client ID:WEST-WF-13-FDate Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	1.093		ug/l	1.000	0.3430	1	05/09/22 19:2	5 05/10/22 11:00	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-25Date Collected:04/23/22 09:40Client ID:WEST-S-14Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	0.6738	J	ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:38	3 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-27Date Collected:04/23/22 09:42Client ID:WEST-S-15Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	0.5344	J	ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:43	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-29Date Collected:04/23/22 09:43Client ID:WEST-S-16Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	ansfield Lab										
Lead, Total	2.655		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:48	3 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-31Date Collected:04/23/22 09:45Client ID:WEST-S-17Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	ansfield Lab										
Lead, Total	1.855		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:53	3 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-33Date Collected:04/23/22 09:46Client ID:WEST-S-18Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	1.522		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 16:58	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-35Date Collected:04/23/22 09:47Client ID:WEST-S-19Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	1.767		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 17:03	B EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-37Date Collected:04/23/22 09:48Client ID:WEST-S-20Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mans	sfield Lab										
Lead, Total	8.132		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 17:19	PA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-39Date Collected:04/23/22 09:50Client ID:WEST-WF-21Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/02/22 17:3	4 05/03/22 17:24	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-41Date Collected:04/23/22 09:51Client ID:WEST-WF-22Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	lansfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 20:1	8 05/04/22 12:0	5 EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-43Date Collected:04/23/22 09:53Client ID:WEST-S-23Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	1.606		ug/l	1.000	0.3430	1	05/03/22 20:1	8 05/04/22 12:11	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-45Date Collected:04/23/22 09:54Client ID:WEST-S-24Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ancfield Lab										
Total Metals - Mid	ansheid Lab										
Lead, Total	6.480		ug/l	1.000	0.3430	1	05/03/22 20:1	8 05/04/22 12:16	6 EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-47Date Collected:04/23/22 09:57Client ID:WEST-S-25Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 20:1	8 05/04/22 12:21	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-49Date Collected:04/23/22 10:00Client ID:WEST-S-26Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Matala Ma	مامالمامة										
Total Metals - Ma	ansileid Lab										
Lead, Total	1.933		ug/l	1.000	0.3430	1	05/03/22 20:1	8 05/04/22 12:26	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-51Date Collected:04/23/22 10:02Client ID:WEST-S-27Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Lead, Total	2.022		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:32	2 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-53Date Collected:04/23/22 10:04Client ID:WEST-WF-28Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:36	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-55Date Collected:04/23/22 10:05Client ID:WEST-WF-29Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:40	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-57Date Collected:04/23/22 10:09Client ID:WEST-WF-30Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	3.170		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:44	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-59Date Collected:04/23/22 10:10Client ID:WEST-WF-31Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	1.967		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:48	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-61Date Collected:04/23/22 10:12Client ID:WEST-WF-32Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	1.928		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:52	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-63Date Collected:04/23/22 10:13Client ID:WEST-WF-33Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	0.4762	J	ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 19:56	6 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-65Date Collected:04/23/22 10:15Client ID:WEST-WF-34Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mans	sfield Lab										
Lead, Total	2.565		ug/l	1.000	0.3430	1	05/04/22 19:02	2 05/05/22 20:08	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-67Date Collected:04/23/22 10:17Client ID:WEST-S-35Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	1.941		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 20:12	2 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-69Date Collected:04/23/22 10:19Client ID:WEST-BF-36Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Lead, Total	0.6936	J	ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 20:10	6 EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-71Date Collected:04/23/22 10:21Client ID:WEST-WF-37Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lab										
Lead, Total	3.464		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 20:20	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-73Date Collected:04/23/22 10:22Client ID:WEST-WF-38Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	1.554		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 20:24	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-75Date Collected:04/23/22 10:26Client ID:WEST-WF-41Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mans	sfield Lab										
Lead, Total	8.507		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 20:28	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-77Date Collected:04/23/22 10:28Client ID:WEST-WF-42Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mans	sfield Lab										
Lead, Total	5.797		ug/l	1.000	0.3430	1	05/04/22 19:02	2 05/05/22 20:32	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-79Date Collected:04/23/22 10:34Client ID:WEST-POE-43Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	ansfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/04/22 19:0	2 05/05/22 20:36	EPA 3005A	3,200.8	WP



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-81Date Collected:04/23/22 10:36Client ID:WEST-WF-44Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	nsfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 17:30	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-83Date Collected:04/23/22 10:37Client ID:WEST-WF-45Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	ansfield Lah										
Total Metals INC	arisiicia Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 17:35	5 EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-85Date Collected:04/23/22 10:39Client ID:WEST-BF-46Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	anefiold Lab										
Total Metals - M	arisileiu Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 17:40	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-87Date Collected:04/23/22 10:41Client ID:WEST-WF-47Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - M	lansfield Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 18:0	3 EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-89Date Collected:04/23/22 10:42Client ID:WEST-WF-48Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	insfield Lab										
Lead, Total	0.5894	J	ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 18:08	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-91Date Collected:04/23/22 10:43Client ID:WEST-WF-49Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Matala M	onofield Lab										
Total Metals - Ma	ansileid Lab										
Lead, Total	ND		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 18:1:	3 EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-93Date Collected:04/23/22 10:44Client ID:WEST-WF-50Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	nsfield Lab										
Lead, Total	1.043		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 18:18	B EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-95Date Collected:04/23/22 10:47Client ID:WEST-WF-51Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	1.166		ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 18:24	EPA 3005A	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

**SAMPLE RESULTS** 

Lab ID:L2221429-97Date Collected:04/23/22 10:50Client ID:WEST-WF-52Date Received:04/25/22Sample Location:WEST HALLField Prep:Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Lead, Total	0.7496	J	ug/l	1.000	0.3430	1	05/03/22 17:4	6 05/04/22 18:29	EPA 3005A	3,200.8	CD



Project Name: VO TECH
Project Number: 21-331027.43

**Lab Number:** L2221429 **Report Date:** 05/10/22

nk Analysis

Method	d Blank	Ana	lysis	,
Batch	Quality	Con	trol	

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield WG1632160-1	Lab for sample(s):	01,03,05,0	07,09,11	,13,15,1	17,19,21,23	,25,27,29,31,3	3,35,37,39	Batch:	
Lead, Total	ND	ug/l	1.000	0.3430	1	05/02/22 17:34	05/03/22 15:1	6 3,200.8	WP

**Prep Information** 

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield	Lab for sample(s): 5	1,53,55,5	7,59,61,	63,65,6	7,69,71,73,	75,77,79 Bat	ch: WG1633	3435-1	
Lead, Total	ND	ug/l	1.000	0.3430	1	05/04/22 19:02	05/05/22 18:22	3,200.8	WP

**Prep Information** 

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals	- Mansfield Lab for sample(s):	81,83,85	5,87,89,91	,93,95,9	7 Batch:	WG1633437-1			
Lead, Total	ND	ug/l	1.000	0.3430	1	05/03/22 17:46	05/04/22 15:51	3,200.8	CD

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytica Method	
Total Metals - Man	nsfield Lab for sample(s):	41,43,45,	47,49 E	Batch: V	VG1634018	B-1			
Lead, Total	ND	ug/l	1.000	0.3430	1	05/03/22 20:18	05/04/22 11:40	3,200.8	CD



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

Method Blank Analysis Batch Quality Control

**Prep Information** 

Digestion Method: EPA 3005A

**Dilution Date Date** Analytical Method Analyst **Factor Prepared** Analyzed **Result Qualifier Parameter** Units RL MDL Total Metals - Mansfield Lab for sample(s): 24 Batch: WG1636242-1 Lead, Total ND ug/l 05/09/22 19:25 05/10/22 09:52 3,200.8 1.000 0.3430 CD

Prep Information

Digestion Method: EPA 3005A



# Lab Control Sample Analysis Batch Quality Control

Project Name: VO TECH

**Project Number:** 21-331027.43

Lab Number:

L2221429

Report Date:

05/10/22

Parameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated	d sample(s): 01,03,05,07,09,11,	13,15,17,19,21,23,25,27	7,29,31,33,35,37,39 Batch	n: WG1632160	)-2	
Lead, Total	98	-	85-115	-		
Total Metals - Mansfield Lab Associated	d sample(s): 51,53,55,57,59,61,6	63,65,67,69,71,73,75,77	7,79 Batch: WG1633435-	2		
Lead, Total	96	-	85-115	-		
Total Metals - Mansfield Lab Associated	d sample(s): 81,83,85,87,89,91,9	93,95,97 Batch: WG16	633437-2			
Lead, Total	97	-	85-115	-		
Total Metals - Mansfield Lab Associated	d sample(s): 41,43,45,47,49 B	atch: WG1634018-2				
Lead, Total	100	-	85-115	-		
Total Metals - Mansfield Lab Associated	d sample(s): 24 Batch: WG163	36242-2				
Lead, Total	99	-	85-115	-		



### Matrix Spike Analysis Batch Quality Control

**Project Name:** VO TECH **Project Number:** 21-331027.43

Lab Number:

L2221429

**Report Date:** 05/10/22

Parameter	Nat San	ive Manuel ople Add		_	MS Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD Qua	RPD Limits
Total Metals - N L2221429-01	Mansfield Lab Associat Client ID: WEST-POI		): 01,03,05,0	7,09,11	,13,15,17,19	,21,23,2	25,27,29,31	,33,35,37,39	QC Ba	atch ID: WG	1632160-3	QC Sample:
Lead, Total	5	5.730	530 5	11.8	95		-	-		70-130	-	20
Total Metals - N L2221429-03	Mansfield Lab Associat Client ID: WEST-WF		): 01,03,05,0	7,09,11	,13,15,17,19	,21,23,2	25,27,29,31	,33,35,37,39	QC Ba	atch ID: WG	1632160-5	QC Sample:
Lead, Total	1	.051	530 4	85.8	91		-	-		70-130	-	20
Total Metals - N	Mansfield Lab Associat	ed sample(s	): 41,43,45,4	7,49	QC Batch ID:	: WG16	34018-3	QC Sample: L	222142	29-41 Clier	nt ID: WEST	-WF-22
Lead, Total		ND 5	530 4	88.9	92		-	-		70-130	-	20

# Lab Duplicate Analysis Batch Quality Control

Project Name: VO TECH
Project Number: 21-331027.43

Lab Number:

L2221429

Report Date:

05/10/22

Parameter		Native San	nple	Duplicate Sample	e Units	RPD	Qual RF	D Limits
Total Metals - Mansfield Lab / L2221429-01 Client ID: WES	• • •	1,03,05,07,09,1	1,13,15,17,19	,21,23,25,27,29,3	1,33,35,37,39	QC Batch ID	: WG1632160-	4 QC Sample:
Lead, Total		5.730		5.951	ug/l	4		20
Total Metals - Mansfield Lab / L2221429-03 Client ID: WES	• ` ` '	1,03,05,07,09,1	1,13,15,17,19	,21,23,25,27,29,3	1,33,35,37,39	QC Batch ID	: WG1632160-	6 QC Sample:
Lead, Total		1.051		1.021	ug/l	3		20
Total Metals - Mansfield Lab	Associated sample(s): 41	1,43,45,47,49	QC Batch ID:	WG1634018-4	QC Sample: I	_2221429-41	Client ID: WES	T-WF-22
Lead, Total		ND		ND	ug/l	NC		20



Project Name: **VO TECH** Lab Number: L2221429 **Project Number:** 21-331027.43

**Report Date:** 05/10/22

#### Sample Receipt and Container Information

Were project specific reporting limits specified?

NO

#### **Cooler Information**

**Custody Seal** Cooler D Absent

G Absent Н Absent

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221429-01A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-02A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-03A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-04A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-05A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-06A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-07A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-08A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-09A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-10A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-11A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-12A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-13A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-14A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-15A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-16A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-17A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-18A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-19A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-20A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-21A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)



**Lab Number:** L2221429

Report Date: 05/10/22

Project Name: VO TECHProject Number: 21-331027.43

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221429-22A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-23A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-24A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-25A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-26A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-27A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-28A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-29A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-30A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-31A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-32A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-33A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-34A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-35A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-36A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-37A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-38A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-39A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		PB-2008T-PPB(180)
L2221429-40A	Plastic 250ml HNO3 preserved	G	<2	<2	4.2	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-41A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-42A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-43A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-44A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-45A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-46A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-47A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-48A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-49A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)



Lab Number: L2221429

Report Date: 05/10/22

Project Name: VO TECHProject Number: 21-331027.43

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221429-50A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-51A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-52A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-53A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-54A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-55A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-56A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-57A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-58A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-59A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-60A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-61A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-62A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-63A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-64A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-65A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-66A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-67A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-68A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-69A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-70A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-71A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-72A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-73A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-74A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-75A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)
L2221429-76A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-77A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		PB-2008T-PPB(180)



Serial\_No:05102217:54

**Lab Number:** L2221429

Report Date: 05/10/22

Project Name:VO TECHProject Number:21-331027.43

Container Info	ormation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2221429-78A	Plastic 250ml HNO3 preserved	Н	<2	<2	5.4	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-79A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-80A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-81A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-82A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-83A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-84A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-85A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-86A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-87A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-88A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-89A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-90A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-91A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-92A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-93A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-94A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-95A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-96A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)
L2221429-97A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		PB-2008T-PPB(180)
L2221429-98A	Plastic 250ml HNO3 preserved	D	<2	<2	4.7	Υ	Absent		HOLD-METAL-TOTAL(180)



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

#### **GLOSSARY**

#### **Acronyms**

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations

 Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any

adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated

using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less

than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

#### **Footnotes**

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### **Terms**

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A -Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- ${f E}$  Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- $\label{eq:main_equation} \textbf{M} \qquad \text{-Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.}$
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

#### **Data Qualifiers**

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- V The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Serial\_No:05102217:54

 Project Name:
 VO TECH
 Lab Number:
 L2221429

 Project Number:
 21-331027.43
 Report Date:
 05/10/22

#### REFERENCES

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

#### LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Serial\_No:05102217:54

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 19

Published Date: 4/2/2021 1:14:23 PM

#### Page 1 of 1

#### Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

#### **Mansfield Facility**

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

#### Mansfield Facility:

#### **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form

Pre-Qualtrax Document ID: 08-113

	эEY	Service Centers	D4 0-2-5		Page	. 1	WITE S	1002 13			No.	
	CHAIN OF	Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W	lay	227	0	f	1	in Lab	410	117	2	ALPHA Job#
- Andrea	CUSTODY	Tonawanda, NY 14150: 275 Coo	oper Ave, Suite 1	05				III Lab	115	510	-	L 222/429
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information		TO BE		SA BEAT	Delive	rables		A SU	NAME OF THE OWNER, WHEN	Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:	-					NJ Full / Re	educed			Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: We3	+ Hall					EQuIS (1 F	ile)	EQui	S (4 File)	PO#
Client Information			31027.	43				Other				
Client: Angelia	Rosapelz	(Use Project name as Pro	- house				Regul	atory Requ	irement	THE TOTAL		Site Information
Address:		Project Manager:						SRS Resid	ential/No	n Resider	ntial	Is this site impacted by
		ALPHAQuote #:					1 🗖	SRS Impac	t to Grou	ndwater		Petroleum? Yes
Phone:		Turn-Around Time		TX SOCI				NJ Ground			ndards	Petroleum Product:
Fax: V		Standard	X	Due Date:				NJ IGW SF				
Email: AROSARVECED	ParherESE, com		31	# of Days:				Other				
These samples have be							ANAL	YSIS				Sample Filtration
		Other project specific r	equirements	/comments:	72.3							Done
REQUIRED:	is REQUIRED:			10 1	lead in	S						Lab to do
Category 1	1,4-Dioxane	Please specify Metals of	or TAL.	101	Ti di	,						Preservation
Category 2	8011	above	15 %	PA			5		1 1			Lab to do
		A ((d) d) (d) (d)					Land					(Please Specify below)
ALPHA Lab ID			Coll	ection	Comple	Complet	1					(r rease specify below)
(Lab Use Only)	Sa	mple ID	Date	Time	Sample Matrix	Sampler's Initials	1					Sample Specific Comments
21429 -01	West-POE		4/23/2)	9.10am	DW	AM	1	-	$\vdash$	_		- ampre openine comments
-02		-F	11023/-2	aillan	1	74	H	-				
-03	West-WF.			9,130n								
-04	West-WE			9,14am			H			-		
Constitution of the second	West BF	-07		our tum			H		-	_	_	<del>                                     </del>
Manager Vinder Co. (1)		02-F	-				H	_	<del>   </del>			
-05	West-WF-			9:15an			H	_				
-06	WEST-WF-				<del></del>	+	H	_		-		
-07	West -WF-		$\vdash$	9:16an			HH	-	-	-		
-0X			1.	9.17an	6	1	4	_	-	-		
Preservative Code:	Container Code		1 10	4:18am	U	-4	0	_		-		
A = None	P = Plastic	Westboro: Certification N	.010.00/0-04000-0-0		Cor	ntainer Type						Please print clearly, legibly
	A = Amber Glass V = Vial	Mansfield: Certification N	io: MA015				$\vdash$		-	_		and completely. Samples of not be logged in and
D = H <sub>2</sub> SO <sub>4</sub>	G = Glass				F	Preservative						turnaround time clock will n
	B = Bacteria Cup C = Cube					Т	Ш		Щ,			start until any ambiguities a
G = NaHSO <sub>4</sub>	O = Other	Relinquished I	By:	Date/	-		Receiv	éd B√:	_,/	Date	/Time	resolved. BY EXECUTING  / THIS COC, THE CLIENT
H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	E = Encore D = BOD Bottle	A Merglias	9	19/25/2	27:03	h	1		4724	122	17.0	HAS BEAD AND AGREES
K/E = Zn Ac/NaOH O = Other	D - BOD Bottle	200	- 4	* / / / /	14.2	1	and	Mages	le L	185	122/	STO BE BOUND BY ALPHA
- Only		1 ance make	4/	19/33	111	Do	90%	12	a to	M	771-1	FERMS & CONDITIONS.
Form No: 01-14 HC (rev. 30	)-Sept-2013)	16	1/2/1	Para		1	alisa	a Wo	00 1	173/0	7300	(See reverse side.)
Page 74 of 84		1										

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	ay	95	Page			Date Rec in Lab	94/2	25/2	2	ALPHA Job# L222 1429
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information					Delive	erables		New Miles		Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:						NJ Full / F	Reduced			Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: [ ]	+ hall				1 🗆	EQuIS (1	File)	☐ EQ	ulS (4 File)	PO#
Client Information	NEW YEAR WELL AND	Project#		77.0000			1 1	Other		(T)		
Client:		(Use Project name as Pro	niect #\	0	0		AND DESCRIPTION OF	latory Req	uiremen	t	200	Site Information
Address:		Project Manager:	Jeden	7.4	80		The same of	SRS Resi			ential	Is this site impacted by
Address.				190	46 6	MIC		SRS Impa				Petroleum? Yes
		ALPHAQuote #:	The state of the state of		100	700		A STATE OF THE PARTY OF THE PAR				
Phone:		Turn-Around Time				12		NJ Groun				Petroleum Product:
Fax:		Standard		Due Date:				NJ IGW S	PLP Lea	achate Cri	teria	
Email:		Rush (only if pre approved)		# of Days:				Other				
These samples have be							ANA	LYSIS				Sample Filtration
For EPH, selection is REQUIRED:  Category 1 Category 2	For VOC, selection is REQUIRED:  1,4-Dioxane 8011	Other project specific re		comments:			ead					□ Done □ Lab to do Preservation □ Lab to do  (Please Specify below)
ALPHA Lab ID (Lab Use Only)	Sa	mple ID	140.000	ection	Sample Matrix	Sampler's Initials	10					
21479 -09	1151 115	•	Date ///	Time			-	-	-	_		Sample Specific Comments
Sant Law I	West-WF-1		4/23/22	9:19am	DV	AM	1		-		+	
-10	West-WF-C			9:20								
	West-WF-	0.6		9,22								
	West -UF-	06-1	-	4:23					10000			
-11	West - WE	07		9:23			$\Pi$					
-12	West - WF-	07-F		9:24	$\neg$							
-13	West - WF-			9:15		1	11		_			
-14	West-WF- (			9:26	_	1	+	$\vdash$	+	-	++-	1
-15	West - WF-		-				+	_	-	-	+	
			c b	9:28	1/	-	Η,		-	_	+	
-16		09-F	4	8.29	W		V					
	Container Code P = Plastic	Westboro: Certification N	o: MA935		Cor	ntainer Type						Please print clearly, legibly
	A = Amber Glass	Mansfield: Certification N	o: MA015									and completely. Samples ca
	V = Vial G = Glass											not be logged in and
	B = Bacteria Cup					reservative				1 1		turnaround time clock will no start until any ambiguities a
. 110001	C = Cube	Relinquished E	he:	Date/	Timo		Bass	64 80		1/20	te/Time	, resolved. BY EXECUTING
3 = NaHSO <sub>4</sub>	O = Other	1 1	Jy.	/ L la - /20		Ast	Receiv	ed By)	WA	) / Da	(er time	THIS COC, THE CLIENT
1 - 14020203	E = Encore D = BOD Bottle	A. Majlong	7	11:512	9:00	mit	1	_	1/-	1/02	-, 10	HAS READ AND AGREES
NE - ZII AUNBOH	D - DOD DODG	me In	< 4	1/22	14.2	1 1	and	marca	-00	4/20	122/1	TO BE BOUND BY ALPHA'
O = Other		Poul Man	200. 4	13/22	. (		20/	hom		47	NOW!	TERMS & CONDITIONS.
Form No: 01-14 HC (rev. 30	-Sept-2013)	7 177	2- 11	(ACATA			alisa		00	1125/2	2300	(See reverse side.)
age 75 of 84		/ 4/		7			-			100100	0,00	

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	lay	105	Page	-	Da	te Rec'd n Lab	1/25/	22	ALPHA JOB# 1429	
Westborough, MA 01581	Mansfield, MA 02048	Project Information	12 2 2 2			DIVERSE	Delivera	bles	THE REAL PROPERTY.		Billing Information .	d
8 Walkup Dr. TEL: 508-898-9220	320 Forbes Blvd TEL: 508-822-9300	Project Name:			The second	The Parties	THE REAL PROPERTY.	Full / Reduc	ned		Same as Client Info	٩
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: Was	L h.11	6.0		At 122	-	QuIS (1 File)		ulS (4 File)	PO#	
Client Information		Company of the control of the contro	+ 110,11	60	$\leq 0$	Ar.C				113 (4 File)	PO#	
Client Information		Project #	2	-92	- H	1076	-	her	100000	THE RESERVE TO SERVE THE PERSON NAMED IN COLUMN		
Client:		(Use Project name as Project name)	oject#)	, - (	- 11		-	ry Requirem			Site Information	
Address:		Project Manager:		0	15		☐ SF	RS Residentia	al/Non Resid	ential	Is this site impacted by Petroleum? Yes	
		ALPHAQuote #:					SF	RS Impact to	Groundwate	r	Patroleum: 165	
Phone:		Turn-Around Time					☐ NJ	Ground Wa	ter Quality St	tandards	Petroleum Product:	
Fax:		Standard	M	Due Date:			☐ NJ	IGW SPLP	Leachate Cri	teria		Ņ
Email:		Rush (only if pre approved)		# of Days:				her				
These samples have b	een previously analyze	ed by Alpha					ANALYS				Sample Filtration	
		Other project specific re	equirement	s/comments:			1	1 1		T	0	,
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals o					Lend				Done Lab to do Preservation Lab to do	
ALPHA Lab ID			Col	lection			7			1 1	(Please Specify below)	
(Lab Use Only)	Sa	mple ID			Sample Matrix	Sampler's						
ATT -	21.1.15	1.0	Date	Time	_	Initials					Sample Specific Comments	
21429 -17	WOST-WF.	- 10	4/23	9731	DW	AM						
-18	West-WF	-10-1F	_1_	9:32		1						
-19	West-POE	-11		9:35								
-20	West-POE	-11 -F		9:36								7
-21	West-WF			9:37								Т
-21 -22	West -WE			9:38			+					-
-23				9;39			++		++-		+	-
-24	West -WF -			9,46	<del>    -   -     -                        </del>		+	_		++-		-
-25							H +		+		<del> </del>	_
176			K/A	9:40	1	1	11					_
Preservative Code:	Container Code	Sept. Sales and Sept. Se	W	19:41	10	Ψ.	1/					
A = None B = HCI C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub>	P = Plastic A = Amber Glass V = Vial G = Glass	Westboro: Certification No Mansfield: Certification No				tainer Type					Please print clearly, legibly and completely. Samples car not be logged in and turnaround time clock will not	200
E = NaOH	B = Bacteria Cup								1/		start until any ambiguities are	- 1
F = MeOH G = NaHSO <sub>4</sub>	C = Cube O = Other	Relinquished B	Зу:	Date/			Received	By:)	-//Dat	e/Time ,	, resolved. BY EXECUTING	
H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	E = Encore	A. Moros law 1	0	H (35-19	2 9:00	-W	1	2	4/1/22	-9.00	THIS COC, THE CLIENT	
K/E = Zn Ac/NaOH O = Other	D = BOD Bottle	Have May	ella il	10/14	14.25	Pai	IM.	20000	1/25	37/6	TERMS & CONDITIONS.	200
Form No: 01-14 HC (rev. 30	)-Sept-2013)	187	4/25/	1-1-18	,	1	alisaa	Wood	412512	7 2300	(See reverse side.)	

Page 76 of 84

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	fay	05	Pag	e 4	Date in	Rec'd Lab 4/2	5/22	3	ALPHA Job# L222 1429	
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	5 C 7 ST 8	9131615	No.		Deliverable	S	#USONE	NA COL	Billing Information -	
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:	-			F ST ST	NJF	ull / Reduced	The Control of the Co		Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288		est the	11			-	S (1 File)	☐ EQuis	S (4 File)	PO#	
Client Information	200 S S S S S S	Project #	rad ber				Othe			. (,,,,,,,,		
Client:		(Use Project name as Pro	oject#)				No. of Concession, Name of Street, or other Designation, Name of Street, Name	Requirement		1000	Site Information	
Address:		Project Manager:	ojectii) L				The state of the s	Residential/N		ntial	Is this site impacted by	
		ALPHAQuote #:						Impact to Gro		TO CO	Petroleum? Yes	
Phone:		Turn-Around Time		Convente	RUSSIN N	of the latest of		round Water		ndards	Petroleum Product:	
Fax:		Standard	505 0 THE SAME	Dua Data				SW SPLP Lea			resolutii riodaci.	
Email:		Rush (only if pre approved)		Due Date			Othe		Criate Crite	ria .		
	non neoviewsky swater		/ Limit	# of Days		_					CI- Fill	III5
These samples have b	For VOC selection	Other project specific re					ANALYSIS				Sample Filtration	- 0
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals o		comments.			ead				☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)	t a l B o t
ALPHA Lab ID	Sa	mple ID	Coll	ection	Sample	Sampler's	13					t
(Lab Use Only)		mpie ib	Date	Time	Matrix	Initials					Sample Specific Comments	e
21429 -27	West-2-1	5	4/23/22	9:42	PW	AM						T
-28	West-5-1	5-1-		9142								
-29	M17+-2-1	6		9:43								$\top$
-30	West-5-1	6-F		9:43								T
-31	West-5-1			9:45			1/					t
-32	West- 5-17	F		9:45								t
-33	West- 5-18			9:46			+					t
-34	West- 5-18			4:46		$\vdash$	+-					t
-35	West- 5-19			9:47		1 1	+-					+
-36	Wast-5-19-	-F	7	9:47	1	11/	1	-	-			╁
Preservative Code:	Container Code	Westboro: Certification N	o: MA025	11117	V	1 1/	-	-	_	_		1
A = None	P = Plastic	Mansfield: Certification N			Cor	ntainer Type					Please print clearly, legib	
B = HCI C = HNO <sub>3</sub>	A = Amber Glass V = Vial	mansheid, Certification N	0. IVIAU15		_				_		and completely. Samples not be logged in and	car
D = H <sub>2</sub> SO <sub>4</sub>	G = Glass					reservative					turnaround time clock will	no
- 100-100 A 70	B = Bacteria Cup C = Cube	Substitution and a substitution of				_			/		start until any ambiguities	
G = NaHSO <sub>4</sub>	O = Other	Relinquished E	Ву:	Date/			Received By			Time	resolved. BY EXECUTING	
1 - 14020203	E = Encore D = BOD Bottle	A Mercy house	0	7/25/0	12 9:0C	wi	100	7	repr	-19.U	THIS COC, THE CLIENT	
C/E = Zn Ac/NaOH D = Other	D - BOD BOUR	- weeps	- 4	4/22	14:1	1 8	10900	00-00	11251	22/1/	BE BOUND BY ALPH	A'S
z – Seller		Vaul Mars	009.4	95/23	70.	007	Kiles	200	P	11 4	LIERMS & CONDITIONS.	Ě
orm No: 01-14 HC (rev. 30	0-Sept-2013)	7	4/11/	S LANGE	i			NOOD 1	125/12	2300	(See reverse side.)	
age 77 of 84		/	1	1								

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker Wa Tonawanda, NY 14150: 275 Coo	ay	05	Page			Date Rec'd in Lab	4/24	5/22	ALPHA JOD# 1429
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information		100	The same		Delive	erables	PER DECE		Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:						NJ Full / Re	duced		Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: Wash	- hall				1 🗆	EQuIS (1 Fi	le)	EQuIS (4 File)	PO#
Client Information		Project #	7501				1 🗖	Other	10. 1747	100 20	
Client:		(Use Project name as Pro	piect#)				Regu	latory Requi	rement		Site Information
Address:		Project Manager:						SRS Reside	ential/Non F	Residential	Is this site impacted by
		ALPHAQuote #:					1 🗆	SRS Impact	to Ground	fwater	Petroleum? Yes
Phone:		Turn-Around Time		OF ALAM		The Burney		NJ Ground	Water Qua	lity Standards	Petroleum Product:
Fax:		Standard		Due Date:			10	NJ IGW SP	LP Leacha	te Criteria	
Email:		Rush (only if pre approved)		# of Days:			$\Box$	Other			
These samples have be	en previously analyze	ed by Alpha					ANAI	LYSIS			Sample Filtration
For EPH, selection is REQUIRED:  Category 1 Category 2	For VOC, selection is REQUIRED:  1,4-Dioxane 8011	Other project specific re		comments:			ead				Done Lab to do Preservation Lab to do  (Please Specify below)
ALPHA Lab ID	Sa	mple ID	Coll	lection	Sample	Sampler's	1.7			1 1 1	1
(Lab Use Only)			Date	Time	Matrix	Initials					Sample Specific Comments
21429 -37	West-5-		4/23/21	9:480m	DW	AM	1				
-38	West - 5 -:	20- F		9:49							
-39	WeSt-WF-	7		9:50							
-40	West-UF-	21-F		9:50							
41	West-WF-	77		9:51							
42	West-WF-	11-1-		4:51			П				
-43	West-5W# -	23		9:53							
-44	West-5-2	3-F		9153							
-45	Wast- 2-22	1		9154			П				
-46	West - 5-24	-F	V	9:54			P				
A = None B = HCI C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub>	Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup	Westboro: Certification No Mansfield: Certification No				tainer Type reservative	0"				Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are
F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	C = Cube D = Other E = Encore D = BOD Bottle	Relinquished B	2 9	Date/ 4/27/ /35/23/	Time 7:00	July W	Receiv	ed by:	lspe A	Date/Time	resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.

Διρна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	lay	05	Page	- 0	Da	te Rec'd	1/25	122	2	ALPHA Job# L2221429	9
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	No.	RIVIDEVAL			Delivera			<b>CONTRACT</b>	RIME	Billing Information .	No.
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:		-			The state of the s	Full / Red	luced			Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288		+ hall		-		-	QuIS (1 Fil		EQuIS (	4 File)	PO#	
Client Information	DIE SALES	Project #	· Mari	6 .	0	100	-	her	,			1.5.5	
Client:		(Use Project name as Pro	niect#)	600	1	COL	Name and Address of the Owner, where	ory Requir	ement		7000	Site Information	
Address:		Project Manager:	ojout#j L	7	10	96	THE REAL PROPERTY.	100	ntial/Non F	Posidontia	l de la constant	Is this site impacted by	
7,34,355		ALPHAQuote #:		- 0	1/1	_	- =		to Ground			Petroleum? Yes	
Phone:		Turn-Around Time				SIAN OTHER DEL	_		Vater Qual		arde	Petroleum Product	
Fax:		Standard		Due Deter			_		P Leachal			Pedoledin Product.	
Email:		Rush (only if pre approved)		Due Date:				her	r Leacilai	e Ciliteria			
	oon excidencely and a	- page		# of Days:			-					0 1 579 41	0.078
These samples have be	For VOC selection	Other project specific re					ANALY	515				Sample Filtration	
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals o		comments.			ead					Done Lab to do Preservation Lab to do  (Please Specify below)	t a l B o t
ALPHA Lab ID (Lab Use Only)	Sa	mple ID		ection	Sample Matrix	Sampler's Initials	7						- 1
21429 -47	11.51.5	27	Date	Time			-	-	_		_	Sample Specific Comments	е
0	West-5-		4/23/22	2 2 2 2 14.7	DW	4M	++	+					_
-48	WUST-5-3			9:57							_	0	-
-49	Wast-5-			10:00				$\rightarrow$					
-54	West-5-			10:00									
-5	Mest-2-			10:07									
-52	Mest-2-:			10:07									
-53	West -WF.	-28		10:04									
-59		-28-F		10:04									
-53	West- WF	29		10:05									
-56	Wast-WF-	29-P	4	10:05	V	A	1						
B = HCI	Container Code P = Plastic A = Amber Glass V = Vial	Westboro: Certification No Mansfield: Certification No			Con	tainer Type						Please print clearly, legi and completely, Sample not be logged in and	
D = H <sub>2</sub> SO <sub>4</sub> E = NaOH	G = Glass B = Bacteria Cup C = Cube					reservative			/			turnaround time clock w start until any ambiguitie	
G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	O = Other E = Encore	Relinquished E	By:	Date/1	9:00	w	Received	B(:)	r/sp	Date/Tir	ne 1W	resolved. BY EXECUTII THIS COC, THE CLIEN HAS BEAD AND AGRE	IT
K/E = Zn Ac/NaOH O = Other	D = BOD Bottle	Coul Mar	reelent	165 DO	2/4	m	Parch	mag	100	18	W	TO BE BOUND BY ALP	PHA'S
Form No: 01-14 HC (rev. 30	Sept-2013)	74	1/4 }	MADO		110	lisoa	Wood	412	15/05/2	7300	(See reverse side.)	
Page 79 of 84		7							110	2100	,,,,,,	1	

ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	Vay	5	Page	-	Date	Rec'd Lab 4/2	25/22		ALPHA Job# 1429	7
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048	Project Information			AND SAN		Deliverabl	es	EXPONENT S	TENSOR .	Billing Information	
TEL: 508-898-9220	320 Forbes Blvd TEL: 508-822-9300	Project Name:	3				□ NJ F	ull / Reduced			Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: We	st hull					IS (1 File)	EQuIS (	4 File)	PO#	
Client Information	EN OF THE REAL PROPERTY.	Project #	31 11411	0 11	. 01	11	Oth	- Ch		,,		
The Party of the State of the S			m	CIL	11/1/	GL	NAME AND ADDRESS OF THE OWNER, WHEN	AND DESCRIPTION OF THE PERSON NAMED IN	S. Carlotte		Cite Information	
Client:		(Use Project name as Pr	oject#)	TUV	140	7—	-	Requiremen		STATE OF	Site Information Is this site impacted by	
Address:		Project Manager:		1	6V				Non Residentia	1	Petroleum? Yes	
		ALPHAQuote #:		00	4			Impact to Gr			The Market Court of the Court o	
Phone:		Turn-Around Time					☐ N1 (	Ground Water	Quality Standa	ards	Petroleum Product:	
Fax:		Standard		Due Date	:		☐ NJ I	GW SPLP Le	achate Criteria			
Email:		Rush (only if pre approved	) 🗌	# of Days			Oth	er				
These samples have b	een previously analyze	ed by Alpha					ANALYSI	s			Sample Filtration	T
For EPH, selection is REQUIRED:  Category 1 Category 2	For VOC, selection is REQUIRED:  1,4-Dioxane 8011	Other project specific r		comments:	0.00		Pac				□ Done □ Lab to do Preservation □ Lab to do  (Please Specify below)	tal Bot
ALPHA Lab ID			Colle	ection	Sample	Sampler's	1				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	t
(Lab Use Only)	Sa	mple ID	Date	Time	Matrix	Initials					Sample Specific Comments	e
21429 - 57	West-UF-3	30	4/23/22	16109	DW	AM	14					700
-58	West-WF-	30-F	1	10:09	11	1	++-			_		+
-53	West-WF-	31		10:10								
-100	West -WF.	31-5										-
-61	West-WF-		$\vdash$	10:10	-			-		-		+
				10:12	-	-				_		-
- 42	West-WF-		$\vdash$	10112						_		+
-(42)	WEST-WF-			10:13								
-109	WOST-ME-3			10:13								
-65	West-WF-	34	11	10:15								
-66	West-WF	34-F	3	10:16	10	W	W					
Preservative Code:	Container Code	Westboro: Certification N	lo: MA935								Please print clearly, legit	hlv
A = None B = HCl	P = Plastic A = Amber Glass	Mansfield: Certification N	lo: MA015		Cor	ntainer Type					and completely. Samples	Sec. 10.
C = HNO <sub>3</sub>	V = Vial						$\vdash$				not be logged in and	
D = H <sub>2</sub> SO <sub>4</sub> E = NaOH	G = Glass B = Bacteria Cup				F	reservative			- J		turnaround time clock wil	
F = MeOH	C = Cube	Relinquished I	D		OT:	T /	- 1.6	5 /	/	_	start until any ambiguities resolved. BY EXECUTIN	
G = NaHSO <sub>4</sub>	O = Other	Λ . Λ		Date/			Received	100	Date/Ti		THIS COC, THE CLIENT	
$H = Na_2S_2O_3$	E = Encore D = BOD Bottle	A. Mercoglyus	>	9/25/0	12 4/10	00	10000	4/4/	12/	211	HAS READ AND AGREE	
K/E = Zn Ac/NaOH O = Other	_ = = = = = = = = = = = = = = = = = = =	he fee	4	12/23	14.4	10	WE THE	1000000	1092	2/10	TO BE BOUND BY ALPI	'HA'S
		Faul Man	0000.4	BSA	2	00	100/10	12	1	tot S. J	TERMS & CONDITIONS	š.
Form No: 01-14 HC (rev. 3	0-Sept-2013)		74/6,6	PLAN	×)	1 (1)	disea (	nood	41255000	300	(See reverse side.)	
Page 80 of 84		/		-		-			,			

ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	lay	5	Page		D	ate Rec' in Lab	4/2	5/2	7	ALPHA Job# L2221429	
Westborough, MA 01581	Mansfield, MA 02048	Project Information	0502		No. of Concession, Name of Street, or other Persons, Name of Street, or ot	WEST OF	Deliver	ables		BELLEVI	NAME OF TAXABLE PARTY.	Billing Information	
8 Walkup Dr. TEL: 508-898-9220	320 Forbes Blvd TEL: 508-822-9300	Project Name:	CONTRACTOR OF STREET		-		ALC: UNKNOWN	IJ Full / R	educed			Same as Client Info	
FAX: 508-898-9193	FAX: 508-822-3288	7 - 1	- 1 II		00			QuIS (1	The second second	T FOUR	6 (4 File)	PO#	
Alexander de la companya de la compa	PARTY REPORT	A STATE OF THE STA	+ hall		4	7		T. C	riie)	EQuit	5 (4 Pile)	10#	
Client Information		Project #		-/	111	9	The same of the sa	Other			ENTRY AN	Section of the sectio	
Client:		(Use Project name as Project name)	oject#)	\	HE		1	tory Requ			A) GEG	Site Information	
Address:		Project Manager:		1	or.	10		RS Resid	dential/No	n Resider	ntial	Is this site impacted by Petroleum? Yes	
		ALPHAQuote #:				ر حرا		SRS Impa	ct to Grou	ndwater		Peddiedili: 1es [	
Phone:		Turn-Around Time			Maria and			J Ground	d Water Q	uality Sta	ndards	Petroleum Product:	
Fax:		Standard		Due Date:				J IGW S	PLP Leac	hate Crite	ria		
Email:		Rush (only if pre approved)	-	# of Days:				Other					
	son provincely analyz			ii oi bajo.			ANAL'			_		Sample Filtration	T
These samples have b		Other project specific r					ANAL	1010	T T			Gampie rittation	0
REQUIRED:	is REQUIRED:	Other project specific r	equirements/	comments:								☐ Done	t
MT-MANAGES							1		1 1			Lab to do	a
Category 1	1,4-Dioxane	Please specify Metals of	r TAL.				1		1 1			Preservation	
Category 2	8011						0		1 1			Lab to do	В
							2	- 1				(Please Specify below)	0
			C-11-	-67			0		1 1			(Flease Specify below)	1
ALPHA Lab ID	Sa	imple ID	Colle		Sample	Sampler's	1		1 1				
(Lab Use Only)			Date	Time	Matrix	Initials						Sample Specific Comments	е
21409 -6t	West-5-3	5	4/23/21	10:17an	DW	AM	11						
-68	West - 5-	35 -F		10:18									
-69	WEST-BF	-36		10:19									
-70	West-BF			10:20				8.2					
-11	West-WF-		-				++	_	+	_			-
-45		The state of the s		10:51		-	H	_	+	-			_
16	Wast-WF-		$\vdash$	10:21			H	_	$\vdash$				_
-13	West-WF-			10,33									
-79	West-WF-	36-F		10:23									
-75	Wast-WF-	41		10:26									
-76	West - WF-		W	10:26	111	( )	W						
Preservative Code:	Container Code	Westboro: Certification N	o: MA035	101,40		1	1	_	+			Annual Company of the	
A = None	P = Plastic				Con	tainer Type	1 1		1 1			Please print clearly, legibly	L
B = HCI C = HNO <sub>3</sub>	A = Amber Glass V = Vial	Mansfield: Certification N	o: MA015			199	$\vdash$	_	-	_	$\vdash$	and completely. Samples ca not be logged in and	an
D = H <sub>2</sub> SO <sub>4</sub>	G = Glass					reservative	1 1		1 1			turnaround time clock will no	ot
E = NaOH	B = Bacteria Cup					1000170070				/		start until any ambiguities a	
F = MeOH	C = Cube	Relinquished B	Bv:	Date/	Γime		Receive	By	111	Date	Time /	resolved, BY EXECUTING	
G = NaHSO <sub>4</sub>	O = Other E = Encore	A. Mercy laps		4/2-111	73.4	- 1. /	A	J'il	MA	2,0	1. W	THIS COC, THE CLIENT	
H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	D = BOD Bottle	A TO CO		Many dest	4.00	- Com	100	20 /	1/	1/2-	6	HAS READ AND AGREES	
K/E = Zn Ac/NaOH O = Other		1000		LUBR	14.2	1 6	2027	1600	127	1951	3211	TO BE BOUND BY ALPHA	'S
		Valle Priage	2 19	25/23		-2	NI	250		- /		T I LINIO & CONDITIONS.	
Form No: 01-14 HC (rev. 3	0-Sept-2013)	711	12,-6/9	CARCA	V.	M	lisea	Woo	00 4	125102	2300	(See reverse side.)	
Page 81 of 84		1											

ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12295: 14 Walker W Tonawanda, NY 14150: 275 Coo	ay	5	Page		- 1	Date Rec	:41	251	22	ALPHA Job# 1429
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information	VM 15 12		THE STREET		Delive	rables	HE	-	A LABORA	Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:					П	NJ Full / I	Reduced		THE R. P. LEWIS CO., LANSING	Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288		r hall				17	EQuIS (1	File)	Пео	ulS (4 File)	PO#
Client Information	S. S	Project #	nati				-	Other				
Client:		(Use Project name as Pro	niget #\				-	atory Rec	wiremer	nt	WEST 188	Site Information
Address:		Project Manager:	oject#/ L				THE OWNER OF THE OWNER, WHEN			Non Resid	lential	Is this site impacted by
Address.		ALPHAQuote #:					- =			oundwate		Petroleum? Yes
Phone:		STATE OF THE PARTY		THE RESIDENCE		all to the last				Quality S		Petroleum Product:
		Turn-Around Time								achate Cr		Petroleum Product.
Fax: Email:		Standard Rush (only if pre approved)	process .	Due Date					SPLP Le	achate Cr	iteria	
				# of Days:				Other	-	_		
These samples have be							ANAI	YSIS	_			Sample Filtration
REQUIRED:  Category 1  Category 2	is REQUIRED:  1,4-Dioxane 8011	Other project specific re		comments:			40					☐ Done ☐ Lab to do Preservation ☐ Lab to do  (Please Specify below)
ALPHA Lab ID	Sa	mple ID	Colle	A STATE OF THE STA	Sample	Sampler's	3					
(Lab Use Only)			Date	Time	Matrix	Initials						Sample Specific Comments
1929 -11	West-WF		4/23/22	10:28	Div	ALL						
- 78	MOST-ME			10:29			00000					
-79	West-poe			10:34								
-80	West-POE			10:35			CONTRACTOR OF STREET					
-81	West-WF	-44		10:36			$\Box$					
-82	West - WF	-44-F		10:36			$\Pi$					
-83	Nest_WF-	45		10:37								
-84	WEST-WF-	45-19		10:37								
-85	West-BF	46		10:39								
-810		46-5-		10:40	1	1.1	1		1			
Preservative Code:	Container Code	Westboro: Certification N	o: MA935								+	Diseas seint elegale, feathle
A = None B = HCl	P = Plastic A = Amber Glass	Mansfield: Certification N			Cor	ntainer Type						Please print clearly, legibly and completely. Samples ca
	V = Vial	manuficial outsilication re	o. m/1010				$\vdash$	-	_		+	not be logged in and
	G = Glass				F	reservative						turnaround time clock will no
	B = Bacteria Cup C = Cube			02010			$\vdash$	$\rightarrow$	-	1		start until any ambiguities ar
G = NaHSO <sub>4</sub>	O = Other	Relinquished E	Sy:	Date/			Receiv	ed (By:)	ich	Da	te/Time	resolved. BY EXECUTING THIS COC, THE CLIENT
1 - 11020203	E = Encore	H. Phercopliand	7	4/25/2	2 9:00	hel	-	_	7/	12/2	19.4	HAS READ AND AGREES
VE = ZII ACINGON	D = BOD Bottle	- Legal	2	11/22	14/2	1 60	027	nores	500	161	727/	TO BE BOUND BY ALPHA
O = Other		Parloman	200. 19	2010		0.0	01/	120	> -	100	0010	TERMS & CONDITIONS.
Form No: 01-14 HC (rev. 30	Cant 2012)	1 aux	7.71	25/20	7	(M	liso	Wo	100	DID-fi	b-2200	(See reverse side.)
age 82 of 84	7-Sept-2013)	7	0/0/	1100	-	1 0	1000	0.00		11001	m-7300	pathwest stranscattle date vite

Category 1	ДІРНА	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	lay	5	Page	10	Dat	te Rec'd n Lab 4/	25/2	2	ALPHA Job# 142	9
TEL: 598-98-2930 PAX: 508-98-9139 PAX: 5			Project Information	S 20 3 15	SELECTION OF THE PARTY OF THE P	NAME OF TAXABLE PARTY.		Deliverat	bles	Section 2		Billing Information	
Project Location:   Project #   Project Manager:   SRS Residential/Nen Residential   Is this site impracted by Performance   Project Manager:   SRS Residential/Nen Residential   Is this site impracted by Performance   N. Ground Water Quality Standard's   Performent Performance   N. Ground Water Quality Standard's   N. Ground Water Quality Standard's   Performent Performance   N. Ground Water Quality Standard's   N. Ground Water Quality Standard's   Performent Performance   N. Ground Water Quality Standard's   Performent Performance   N. Ground Water Quality Standard's   N. Ground Water Quality Standard's   Performent Performance   N. Ground Water Quality Standard's   Performent Performent Performance   N. Ground Water Quality Standard's   Performent Perf			THE RESIDENCE OF THE PARTY OF T		Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner			□ NJ	Full / Reduce	d		Same as Client Info	
Client Information  Regulatory Requirement  Site Information  Site I	FAX: 508-898-9193	FAX: 508-822-3288		1 h-11				-			ulS (4 File)	PO#	
Client: (Use Project name as Project #)   Requisitory Requirement   Site Information   Address:   Project Manager:   Site Information   Is this site impacted by Preceded by SRS Residential Property Requirement   Is this site impacted by Preceded by SRS Residential Property Requirement   Is this site impacted by Preceded by SRS Residential Property Requirement   Is the site impacted by SRS Residential Property Requirement   Is the site impacts of control of the site in property   Is	Client Information			) · nati				_			N (16)		
Address	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT			-1		-		Name and Address of the Owner, where the Owner, which is the Own	1000	nt	TO BE ASSE	Site Information	E
ALPHAGuide #:   SRS impact to Groundwater   Petroleum? Yes   Phone:   Turn-Around Time   Number of Days:   Number of D				oject#)				NAME OF TAXABLE PARTY.			ential	The state of the s	
Phone: Frax:   Rush (enk) if pro appressed   Due Date:   Die Date:	Address:												
Fax: Rush (ent) if the approved   # of Days:   Other   Other   Other    Fax: Rush (ent) if the approved   # of Days:   Other    For EPH, selection is   For VOC, selection   Other project specific requirements/comments:   ANALYSIS    For EPH, selection is   For VOC, selection   Other project specific requirements/comments:   ANALYSIS    For EPH, selection is   For VOC, selection   Other project specific requirements/comments:   Other project specific requirem				THE REAL PROPERTY.	THE REAL PROPERTY.			_	especialist and other con-				
Email:  These samples have been previously analyzed by Alpha  These samples have been previously analyzed by Alpha  ANALYSIS  Sample Filtration  For EPH, selection is For VOC, selection is REQUIRED:  Category 1  Category 2  ALPHA Lab ID (Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Category 3  ALPHA Lab ID (Lab to do Preservation  Category 4  ALPHA Lab ID (Lab to do Preservation  Category 5  ALPHA Lab ID (Lab to do Preservation  Category 6  ALPHA Lab ID (Lab to do Preservation  Category 7  ALPHA Lab ID (Lab to do Preservation  Category 8  ALPHA Lab ID (Lab to do Preservation  Category 9  ALPHA Lab ID (Lab to do Preservation  Category 1  ALPHA Lab ID (Lab to do Preservation  Category 1  ALPHA Lab ID (Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Category 1  ALPHA Lab ID (Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Category 1  ALPHA Lab ID (Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do Preservation  Lab to do Preservation  Category 2  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  ALPHA Lab ID (Lab to do (Please Specify below)  All Lab to do (Please Specify below)  All Lab to do (Please Specify below)  All	Phone:		Turn-Around Time	SACRE BY STATE				∐ NJ	Ground Wate	er Quality St	tandards	Petroleum Product:	
These samples have been previously analyzed by Alpha  For PPH, selection is For VOC, selection  REQUIRED:    Category 1	Fax:			100000000000000000000000000000000000000	Due Date:			☐ NJ	IGW SPLP L	eachate Cri	iteria		
For EPH, selection is   REQUIRED:	Email:		Rush (only if pre approved	)	# of Days:			Oti	her				No.
Category 1	These samples have be	een previously analyze	ed by Alpha					ANALYS	SIS	7		Sample Filtration	T
ALPHA Lab ID	REQUIRED:	is REQUIRED:			comments:			lad				Lab to do Preservation Lab to do	t a l B o t
1974 - WF - W		Sa	mple ID	-		-	the state of the state of	Ü				through a compared the disease. If	- 1
State	D. Commonwell Street, S.		411		The same of the sa							Sample Specific Comments	е
West - WF - US - U				4/23/27	10:41	DW	AM						
Preservative Code:		The state of the s			10:41								
10;43	-81	West-WF-	48		(0:42								
10;43	-90	West-WP-	48-F		10:42							( ) ( )	
Container Code:   Container	-91												
Preservative Code: A = None B = HCI C = HNO3 D = H,SO4 E = NahSO4 F = MeOH G = NahSO4 G = Shars  K/E = Zn Ac/NaOH O = Other  B = Do Bottle O = Other  Form No: 01-14 HC (rev. 30-Sept-2013)    D = HC = C   Container Code   P = Plastic   Container Type   Please print clearly, legibly   and completely. Samples car not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING   THIS COC, THE CLIENT   THIS C	-92							$\Box$					$\top$
Preservative Code: A = None B = HCI C = HNO, D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K/E = Zn Ac/NaOH O = Other  Form No: 01-14 HC (rev. 30-Sept-2013)  Preservative Code: A = NaF = Sl Di/47    10/47   10/49	-013						$\vdash$						-
Preservative Code: A = None B = HCI C = HNO <sub>3</sub> C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH E =	The second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a section section in the section is a section section in the section section in the section section is a section	1000 - 175-E	0-1-				++-	<del>    </del>	+				+
Preservative Code: A = None B = HCl C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> D = O = Other D = BOD Bottle D = BOD Bottle Form No: 01-14 HC (rev. 30-Sept-2013)  Preservative  Container Type  Westboro: Certification No: MA935 Container Type  Mansfield: Certification No: MA935 Container Type  Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. By EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES  K/E = Zn Ac/NaOH O = Other  Form No: 01-14 HC (rev. 30-Sept-2013)  (See reverse side.)		112 - 11E	<u>cı</u>	1									-
Preservative Code: A = None B = HCI A = Amber Glass C = HNO <sub>3</sub> C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH B = Bacteria Cup F = MeOH G = NaHSO <sub>4</sub> D = Other  Relinquished By: Date/Time D = Bod Bottle D = Bod Bottle D = Other  Form No: 01-14 HC (rev. 30-Sept-2013)  Westboro: Certification No: MA935 Container Type  Mansfield: Certification No: MA935 Container Type  Mansfield: Certification No: MA935 Container Type  Mansfield: Certification No: MA935 Container Type  Please print clearly, legibly and completely. Samples car not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TERMS & CONDITIONS. (See reverse side.)				1			1	<del>                                      </del>		-	+		+
A = None	(PE	The state of the s	THE REPORT OF THE PARTY OF THE		10.40	4	W	4			+		
B = HCl			Westboro: Certification N	o: MA935		Con	tainer Type					Please print clearly, legit	bly
D = H <sub>2</sub> SO <sub>4</sub> G = Glass E = NaOH B = Bacteria Cup F = MeOH C = Cube G = NaHSO <sub>4</sub> O = Other H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> E = Encore D = BOD Bottle O = Other  Form No: 01-14 HC (rev. 30-Sept-2013)  Preservative  Preservative  Preservative  Preservative  Date/Time Beceived By: Date/Time Turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS BEAD AND AGREES THIS COC, THE CLIENT HAS BEAD AND AGREES TERMS & CONDITIONS. (See reverse side.)			Mansfield: Certification N	o: MA015									s can
E = NaOH B = Bacteria Cup F = MeOH C = Cube G = NaHSO <sub>4</sub> O = Other H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> E = Encore D = BOD Bottle O = Other  Form No: 01-14 HC (rev. 30-Sept-2013)  Start until any ambiguities are resolved. By: Date/Time Tesolved. By EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TERMS & CONDITIONS. (See reverse side.)						Ι.,	Proconvotivo						ill not
F = MeOH C = Cube O = Other G = NaHSO <sub>4</sub> O = Other E = Encore D = BOD Bottle O = Other							1696) valive			111			
G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> E = Encore D = BOD Bottle O = Other  THIS COC, THE CLIENT HAS READ AND AGREES THAS READ AND AGREES THAS READ AND AGREES THE COC, THE CLIENT HAS READ AND AGREE THE COC, THE CLIENT	F = MeOH		Relinguished I	Bv:	Date/	Time		Beceived	Ev.)	/ //Dat	te/Time		
K/E = Zn Ac/NaOH O = Other  Form No: 01-14 HC (rev. 30-Sept-2013)  D = BOD Bottle O = Other  O = Ot	0 11011000				-			-/	2 9	1/22			
O = Other	11 - 14020203		240 2	20	11/3/	111	-	1000	1	1/1/2	1221		
Form No: 01-14 HC (rev. 30-Sept-2013) ) 4/1/1/1/2/20 (See reverse side.)	O = Other		Dans	1/	1000	57.0		and for	vaggelle	1405	100/C		
1 ( ( ( ) ) ( ) ( ) ( ) ( ) ( ) ( ) ( )			Vasce Men	12.4	DSD	X	1 R	9/11	1101	1	2/ 120		
2000 02 04 04	Form No: 01-14 HC (rev. 30 Page 83 of 84	)-Sept-2013)	19	111 1	F3 900	10	110	lessa	MOOD	11021	80000	(200.0.0.000	

Дірна	NEW JERSEY CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Albany, NY 12205: 14 Walker W Tonawanda, NY 14150: 275 Coo	lay		95		Page	- 1		ı	Date Re in Lat	c'd Y	125	122	2	ALPHA Job # 1429
Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information			HOUSE	N. E	1	all of the		-	erables	SERVICE SERVICE	MEST.	STATE OF THE PARTY.	Heas	Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:			THE RESERVE OF THE PARTY OF THE	C SCHOOL				П	NJ Full /	Reduce	d			Same as Client Info
FAX: 508-898-9193	FAX: 508-822-3288	Project Location: WeS	14	v.)]					$\dashv$	Ħ	EQuIS (	File)	П	EQuIS (	4 File)	PO#
Client Information		Project#		io II					$\dashv$		Other	11.00				885
Client:		(Use Project name as Pro	niert t	л П					17	THE REAL PROPERTY.	atory Re	nuiromo	nt	Sec. 162	1000	Site Information
Address:		Project Manager:	OJOUL 7	7					-	-	SRS Res			nidontic	al and	Is this site impacted by
1001000		ALPHAQuote #:					_		$\dashv$	=	SRS Imp		901110.00		31	Petroleum? Yes
Phone:			1000	a	STREET, SOURS	1000	Sec.	TRAVELS OF		=					control of	5.1
Fax:		Turn-Around Time			CHARLES OF				4		NJ Grou					Petroleum Product:
Email:		Standard Rush (only if pre approved)	and the same of		Due Date:						NJ IGW	SPLP L	eachate	Criteria	i.	
					# of Days:		_		_	_	Other					
These samples have be	en previously analyze	Other project specific re	1002						A	NAL	YSIS					Sample Filtration
REQUIRED:  Category 1 Category 2	is REQUIRED:  1,4-Dioxane 8011	Please specify Metals o			comments.				-	Jool						Done Lab to do Preservation Lab to do  (Please Specify below)
ALPHA Lab ID (Lab Use Only)	Sar	mple ID		30000	ection	San		Sampler		7						t include opening persony
	31.1	-:	_	ate	Time	Ma	_	Initials	_				$\sqcup$			Sample Specific Comments
21429 - 97	West-WF		4/.	23/2		DV	V	AM								
-98	West-WF	-52-1			10:50				-						- 0	
									4 6							
									Т	П						
				9						П						
										П						
									$\top$	П			$\vdash$	_		
							$\vdash$		+	11		+	$\vdash$	_	-	
			1	,		-	1,	11	+	W	-	+	$\vdash$	_	_	
A = None B = HCI C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> E E = Zn Ac/NaOH  E E E E E E E E E E E E E E E E E E	P = Plastic	Westboro: Certification No Mansfield: Certification No Relinquished E	o: MA		Date/T	ime 6	500	reservativ	e	ecetvi	ed By)	7/2	frz,	Date/Tip	me Ju	Please print clearly, legibly and completely. Samples cannot be logged in and turnaround time clock will no start until any ambiguities and resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S
o = Other Form No: 01-14 HC (rev. 30- age 84 of 84	Sept-2013)	Faul May	old.	2	100 po	Ź		~	Cel	ise	2 W	500	418	/	<del>X/4</del> 7300	ZIERMS & CONDITIONS.



**APPENDIX B: SAMPLING PLAN** 



# LEAD IN DRINKING WATER TESTING SAMPLING PLAN

## **Union County Vocational Technical Schools**

1776 Raritan Road Scotch Plains, NJ 07076

April 23, 2022

PARTNER Project No. 21-331025.43

#### Prepared for:

Union County Vocational Technical Schools



## Contents

1. INTRODUCTION	
2. OBJECTIVE	
3. SAMPLING PROJECT COORDINATION	
3.1 School District Program Manager (Program Manager)	
3.2 Sampling Project Manager (Project Manager)	5
Project Manager Responsibilities	
3.2 Individual School Sampling Project Officers (Project Officers)	
Project Officer Responsibilities	6
3.3 Individual School Protocols	6
4. SCHOOL SAMPLING PRIORITY	
5. PLUMBING SURVEY	
5.1 Plumbing Profile	
5.2 Filter Inventory (If Applicable)	
6. PLANNING	3
6.1 Walk –Through	
6.2 Floor Diagram	8
7. SAMPLE LOCATIONS	8
7.1 Sample Locations	8
7.2 Sample Location Codes	<u></u>
7.3 Sampling Location Inventory	<u>c</u>
8. SAMPLING PROCEDURES	10
8.1 Timeline	10
Prior to Sampling	10
Day of Sampling	10
8.2 Sample Collection	10
Sample Collection Highlights	10
Sample Collection Method	10
Additional Sampling Event	11
8.3 New Jersey Certified Laboratories	11
Laboratory Responsibilities	11
Sampling Personnel Responsibilities	12

8.4 Sampling Results	12
8.5 Intermediate Remedial Measures	13
Glossary	14

#### 1. INTRODUCTION

This Lead Drinking Water Testing Sampling Plan (Sampling Plan) was developed by the Union County Vocational Technical Schools, (District), based on guidance developed by the New Jersey Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (USEPA), to establish a plan for sampling lead at drinking water outlets used for consumption or food preparation in every school within the District (See Attachment A for full school listing). The data collected through the execution of this Sampling Plan will determine if immediate remedial measures are necessary and will assist in the prioritization of future water testing for lead in accordance with this Sampling Plan.

This Sampling Plan is based on the USEPA publication, "The 3Ts for Reducing Lead in Drinking Water in Schools" and NJDEP guidance.

The District has also developed a Quality Assurance Project Plan (QAPP) for the sampling program which is available under separate cover.

#### 2. OBJECTIVE

The 1988 Lead Contamination Control Act (LCCA) is aimed at identifying and reducing lead (Pb) in drinking water in schools and child care facilities. In response, the USEPA prepared guidance documents to assist school districts in meeting the requirements of the LCCA. The guidance documents were used as a resource in developing this Sampling Plan.

It should be noted, for the purpose of determining immediate remedial measures (i.e. taking drinking water outlets out of service and notifying parents/guardians of results), the District is required to utilize the lead action level established in the SDWA rules by the USEPA at 40 CFR 141.80 for lead in drinking water. At the time of development of this Sampling Plan, the lead action level is 15  $\mu$ g/L, which is more stringent than the guidance provided by USEPA in their Lead in Schools Guidance which recommends action be taken at drinking water outlets greater than 20  $\mu$ g/L. Schools in New Jersey that are served by their own well (not public water), which are regulated pursuant to the Federal and New Jersey SDWA, must adhere to the 15  $\mu$ g/L value for determining compliance.

#### 3. SAMPLING PROJECT COORDINATION

Testing for lead in schools requires a coordinated effort especially when multiple schools are to be included in the testing effort. Designated personnel and set protocols are essential to ensuring a coordinated effort.

#### 3.1 School District Program Manager (Program Manager)

Union County Vocational Technical Schools Program Manager: Janet Behrmann (908) 889-8288 x115

The School District Program Manager (Program Manager) is the overall authority in the execution of the District's lead sampling project. He/she is responsible for the initial notification to the District of the testing

program, obtaining funds for testing, assigning the Sampling Project Manager, requesting/enlisting the assistance from other District departments if needed, approving the District's QAPP(s), approving the Final Report for each school and coordinating with other District officials to make the results of the testing available to the public.

#### 3.2 Sampling Project Manager (Project Manager)

Union County Vocational Technical Schools Sampling Project Manager: Danial Bracey, Partner Engineering and Science (732)275-4674

The Sampling Plan Project Manager (Project Manager) is responsible for overseeing the execution of lead sampling at each of the district's schools. This involves the prioritization of schools to be sampled, and adherence with the District's Sampling Plan and QAPP. He/she serves as the liaison between the District, State agencies, local Health Departments, laboratories and public water systems (if applicable). He/she reports to the Program Manager.

#### **Project Manager Responsibilities**

- Prepare the District's Specific Quality Assurance Project Plan (QAPP) and Sampling Plan;
- Manage the Sampling Plan and QAPP;
- > Oversight of Individual School Project Officers (Project Officers) to ensure that they adhere to the Sampling Plan procedures and the QAPP;
- > Purchase of equipment needed for district lead sampling;
- > Coordinate with New Jersey laboratories certified for lead testing in drinking water;
- Coordinate with Project Officers to establish sampling schedules;
- Ensure properly signed QAPPs are in place prior to initiation of sampling;
- Verify that officials from each school are aware when sampling is scheduled and the expected duration:
- > Review of the School Field Sampling Summary Reports prepared by Project Officers;
- Review of Laboratory Data Reports (LDR) from Laboratory Managers;
- Review of Final Project Reports prepared by Project Officers;
- ➤ Identify limitations in the use of any laboratory data due to information provided in the accompanying School Field Sampling Summary Report;
- Maintain the original signed QAPP(s);
- Maintain documents, reports and records listed in QAPP, including:
  - Laboratory Data Reports (LDR)
  - o Copy of Field Sampling Summary Report with copies of field logbooks,
  - o Field Walk-Through reports including Attachments B, C, D E and F of this Sampling Plan,
  - Chain of custody forms and flush tags.
  - Copy of Final Project Report
- Maintenance of other relevant records, such as:
  - o Purchase orders for analytical costs (copy).
  - o Agreement with laboratory to sample, analyze, and report with details for payment
  - Receipts (originals or copies)

#### **3.2 Individual School Sampling Project Officers (Project Officers)**

An Individual School Sampling Project Officer (Project Officer) shall be assigned for each school. A Project

Officer should be someone who is familiar with the school building layout and plumbing system. See District's QAPP for a list of the Project Officers.

#### **Project Officer Responsibilities**

- General project oversight for assigned school(s).
- > Generate field log book for each assigned school. Document field activities including any changes to procedures outlined in the Sampling Plan or QAPP.
- Ensure proper completion of the Plumbing Profile Form for assigned school(s) See Attachment B.
- > Oversight of completion of the following reports found in the Sampling Plan which require signoff by Project Officer:
  - Water Outlet Inventory (Attachment C)
  - Filter Inventory (Attachment D)
  - Flushing Log (Attachment E)
  - o Pre Sampling Water Use Certification (Attachment F).
- > Prepare labels for outlets to be sampled.
- > Prepare for Walk-Through including acquisition of School Floor Plan.
- > Attend school Walk-Through.
- Ensure proper completion of Walk-Through documentation including identification of outlets on Floor Plan, and Sampling Location Inventory with coding according to the Sampling Plan (Attachment C).
- > Supervision of field activities such as Walk- Through, flushing (if required), locking school prior to sampling, and sample collection.
- ldentify low use water outlets requiring flushing and attach flush tag (Attachment G).
- > Ensure that Field Sampling Team has all relevant sampling supplies including sampling bottles, labels, proper reagent water and chain of custody forms prior to collection of samples.
- > Ensure that all water outlets to be sampled prior to sampling event are labeled.
- Ensure that all low use outlets identified for sampling had been flushed.
- > Remove flush tags from outlet once sampling is completed.
- Responsible for ensuring water remains motionless for a minimum of eight hours (last to leave the school) prior to sampling event by following procedures in Section 8.
- ➤ Verify that the Sampling Plan was followed prior to initiating sampling by completing the Pre-Sampling Water Use Certification (Attachment F).
- > Provide supervision of sampling event.
- > Document issues during sampling event in field log book.
- > Prepare Field Walk-Through Report, School Field Sampling Summary Report and Final Project Report for assigned school(s).
- > Maintain field log books for each school.
- > Prepare samples for shipment and delivery to laboratory per certified laboratory instructions.
- > Ensure that samples are delivered to laboratory within the time period specified by the certified laboratory

#### 3.3 Individual School Protocols

A separate log book and supporting documentation shall be kept for each school. The contents of the log book are to include the Attachments A through F found at the end of this plan. A field log book should include but not be limited to: a material evaluation, filter log, drinking water outlet inventory, flushing log, and label identification codes.

#### 4. SCHOOL SAMPLING PRIORITY

The District developed a list of all school facilities scheduled for sampling. See Attachment A for the school sampling listing. Please note that the list may be updated based on conditions at the school, which prevent sampling from occurring or scheduling issues. Accordingly, the list should include a revision date.

#### **5. PLUMBING SURVEY**

Prior to a sampling event, documentation of various aspects of each school's water system needs to be completed. This following information needs to be compiled and the attachments completed including:

#### **5.1 Plumbing Profile**

The purpose of a Plumbing Profile (Attachment B) is to identify and categorize plumbing and infrastructure in order to prioritize schools/outlets for testing, and to identify potential sources of lead (i.e. lead service lines, or lead piping or solder). The results of the Plumbing Profile determine the sampling locations and priority within the individual school facilities.

A Plumbing Profile should include all of the following:

- Year school built and dates of any additions
- ➤ Building blue prints and floor diagrams
- Service line material;
- Material of internal plumbing, this is an important part of a plumbing profile, and whether it meets the current New Jersey "lead-free" plumbing code;
- Point-of-entry or point-of-use treatment being used;
- All drinking water outlets including fountains that are permanently out of service;
- > All drinking water outlets including fountains that are temporarily out of service;
- All drinking water outlets including drinking water fountains that are leaking or evidence of staining and in need of repair;
- > Type (make and model) and location of all drinking water fountains, including detailed description that identifies of whether they are lead-lined or if they have been involved in any recalls, (See USEPA Fact Sheet at <a href="http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=30005UPU.txt">http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=30005UPU.txt</a>);
- > Locations of all drinking water outlets including fountains;
- > All plumbing repairs and replacements needed for internal plumbing;
- > All plumbing repairs and replacements conducted within the past year;
- Locations of any electrical wires grounded to water pipes

#### **5.2 Filter Inventory (If Applicable)**

A Filter Inventory (Attachment D) shall be prepared, including the following information:

- Location (school and outlet);
- Make and model;
- Installation date (last replaced);

- Replacement frequency;
- > Documentation of repairs; and
- > Contaminants the filter is capable of and/or NSF-certified for the removing e.g. lead and others

#### 6. PLANNING

#### 6.1 Walk -Through

A Walk-Through must be conducted by the Project Officer prior to sampling as part of the planning process. The Walk-Through must include every room (including but not limited to classrooms, offices, bathrooms, kitchens and recreational areas) in the facility. During the Walk- Through, all drinking water and food preparation outlets to be sampled will be labeled by the Project Officer on the Floor Diagram (6.2).

The Project Officer will also conduct an onsite assessment of each sample outlet to document (using Attachment C) specific characteristics of the outlet (e.g. leaking outlets; staining). During this assessment, the water should be turned on to determine the spray pattern, whether there is adequate flow to collect samples or if any odor or color differences are present and whether the cold water faucet is functioning properly. Only cold water faucets are to be sampled. For motion sensor and metered sinks, the hot water valve will be shut off on the day of sampling. All outlets in need of repair must be repaired prior to sampling or documented on the temporary out of service list in the Plumbing Profile (Attachment B).

#### **6.2 Floor Diagram**

Each drinking water outlet shall be identified on the school schematic (floor diagram). The floor diagram should have the classroom numbers and the following locations labeled:

- Service Line = SL
- Point of Entry (The closest water outlet to the entrance of the service line into the school)
- Food preparation outlets (i.e. cafeteria, kitchen and home economics class faucets);
- > Drinking Water Fountains; and
- > Other drinking water outlets to be sampled (i.e. nurse's office, teacher's lounge, home economics, etc.), and any other room or outside facility used for water consumption.

The Project Officer must date and sign the floor diagram.

#### 7. SAMPLE LOCATIONS

#### **7.1 Sample Locations**

The following locations shall be identified and labeled for each school:

- Kitchen outlets
- Food Preparation outlets
- > Teacher Lounge outlets
- Nurse's Office outlets

- ➤ Home Economic Sink outlets
- ➤ Drinking Water Fountains Bubblers and Water Coolers
- Outside drinking water fountains and food preparation areas
- Ice Machines
- > Other drinking water outlets used for consumption

Examples of outlets that do not need to be sampled include utility sinks, outside spigots, bathroom sinks and classroom sinks, unless any of these sinks are used routinely for consumption.

#### 7.2 Sample Location Codes

Each sampling location shall be identified by its location and type using the following coding system (Note additional codes as needed):

KC = Kitchen Outlet, Cold
CT= Cafeteria Outlet
FP= Food Preparation Sink
TL= Teacher Lounge Sink
NS = Nurse's Office Sink
EC = Home Economics Outlet, Cold
DW= Drinking Water Bubbler
WC = Water Cooler (Chiller Unit)
IM = Ice Machine
WF=Water Fountain

#### 7.3 Sampling Location Inventory

BF=Bottle Fillers

Attachment C shall be used to develop a detailed inventory of each drinking water outlet in the school to be sampled. The inventory must be completed and signed by the Project Officer.

The Drinking Water Outlet Inventory shall include the following information:

- ➤ All drinking water outlets in the school
- The type, location, and sample location code of each drinking water outlet
- > If the drinking water outlet has a chiller unit
- ➤ If the drinking water outlet has an aerator/screen
- > If the drinking water outlet is motion activated, in which the hot water at the outlet must be turned off prior to sampling
- > If the drinking water outlet is operational
- > If the drinking water outlet has not been used frequently
- > If the drinking water outlet is leaking
- > If the drinking water outlet has a filter
- > The make and model of all drinking water fountains and water coolers

#### 8. SAMPLING PROCEDURES

#### 8.1 Timeline

Samples should be collected before the facility opens in the morning and before any water is used in the building. The water shall sit in the pipes unused for at least 8 hours, but no more than 48 hours, before a sample is collected.

#### At no time should filters, aerators and screens be removed prior to or during the sampling event.

#### **Prior to Sampling**

- For buildings that have not been used for more than 48 hours, the District will perform systematic flushing 48 hours prior to the sampling event, as described in the USEPA's "3Ts For Reducing Lead in Drinking Water in Schools" (revised October 2006, see page 56). This flushing event and locations shall be documented in a log (Attachment E).
  - o The flushing log must be completed and signed by the Project Officer.
- > The Project Officer will contact the laboratory to confirm sample bottles, weatherproof labels, chain of custody forms and coolers are available and ready for the sampling event.
- ➤ Every drinking water outlet to be sampled (previously identified in Attachment C) will be labeled with a specific Sample Location Code in indelible marker on the underside of the sampling fixture in the event the District has to re-visit the sample location.
- A communication will be sent out to all staff in schools being sampled explaining what time all staff must exit the building.
- After this time, signs shall be posted to indicate that water should not be used and access to the building shall be restricted to ensure that water sits undisturbed for a minimum of 8 hours.
- > Turn off all irrigation and outdoor water features.

#### **Day of Sampling**

The Project Officer will use Attachment F to document when the water was last used and when sampling began.

#### **8.2 Sample Collection**

#### **Sample Collection Highlights**

- > All samples shall be collected in a pre-cleaned HDPE 250mL wide mouth single use rigid sample container.
- ➤ Identify on the Sampling Plan the outlet closest to the water service line(s) entry point to be collected first, then identify the next closest outlet as second, and move away from the water service line(s) entry point until the outlet farthest away is identified to be sampled last on the sampling plan. This will minimize the chance that a sampling location will be flushed by an upstream fixture. Sampling will begin at the outlet closest to the point of entry and continue to the furthest outlet to ensure the water remains motionless in the plumbing.

#### **Sample Collection Method**

USEPA recommends a two-step sampling process to be followed for identifying lead contamination. Lead

in a water sample taken from an outlet can originate from the outlet fixture (the faucet, bubbler etc.), plumbing upstream of the outlet fixture (pipe, joints, valves, fittings etc.), or it can already be in the water that is entering the facility. The two-step sampling process helps to identify the actual source(s) of lead.

All sampling must be conducted in accordance with this Sampling Plan and the District's QAPP.

- 1. For each drinking water outlet sampled, a new pair of non-colored latex or nitrile gloves shall be used to collect both the first draw and flush follow-up samples. This is to minimize the potential for cross contamination of outlets by sampling personnel.
- 2. First draw samples (i.e. samples collected from outlets where water sat undisturbed for a minimum of 8 hours) will be collected from a cold water outlet at each location identified in 7.3 above. The sample must be collected by placing the bottle under the outlet before turning the cold water on. No water should be allowed to run prior to collecting a sample. For motion-activated faucets, the hot water valve must be turned off prior to sampling.
- 3. Immediately after the first draw sample is collected, the sampler will collect a follow-up flush sample.
- 4. When collecting the follow-up flush sample, the outlet will be turned on and allowed to run for 30 seconds then the water will be captured in a pre-cleaned 250 mL container.
- 5. If the drinking water outlet is a water cooler with a cooler unit, DO NOT COLLECT A FOLLOW-UP FLUSH SAMPLE UNTIL ALL FIRST DRAW SAMPLES ARE COLLECTED IN THE SCHOOL.
- 6. After all sampling is completed, return to the water coolers to collect a follow-up flush sample, again starting at the water cooler located in closest proximity to the POE and then move outward. Allow the water to run for 15 minutes, then sample the drinking water outlet utilizing a pre-cleaned 250 mL container.
- 7. Each sample collected shall be properly identified on the sample bottle and chain of custody using the Sample Location Code previously identified by the District (as identified on the label on the outlet and on the floor diagram). In addition, follow-up flush samples shall be identified by noting "FLUSH" after the Sample Location Code on the sample bottle and on the chain of custody (e.g. MM-2F-DW-01 and MM-2F-DW-01 FLUSH).

#### **Additional Sampling Event**

Upon receiving the results of the initial and follow-up flush samples at all outlets, the District will conduct additional sampling events for the following situations: any location required to be sampled previously but was not sampled (not operational during initial sampling event), where there was a possible lab error or sample collection error, and any location that was not sampled but could help pinpoint the source of lead in a sampled outlet.

#### **8.3 New Jersey Certified Laboratories**

#### **Laboratory Responsibilities**

Certify to the District that they have received, and will follow, the Sampling Plan and QAPP.

- Fach laboratory must document that laboratory personnel have previous experience sampling for lead and have been properly trained to conduct USEPA Method 200.8 or other methods that are approved sampling methods. Approved sampling methods are USEPA methods for the analysis of lead in drinking water (USEPA Method 200.9, USEPA Method 200.5, SM3113B, ASTM3559-D) provided that the reporting limit used by the laboratory for that method is less than or equal to 2 μg/L.
- > The laboratory will conduct analysis of a laboratory fortified blank (Field Blank) to assess the accuracy. The acceptance criteria for accuracy for the results will be within plus or minus 15% recovery of the known value.
- Laboratories must provide the results to the District within timeframe required under contract (14 day is average).
- > Laboratories will report in μg/L (ppb) and to at least three significant figures.

#### **Sampling Personnel Responsibilities**

Each sampler will be responsible for the following:

- Preparation of pre-printed waterproof labels, which will include, the sampler's name, the school name, the Sample Location Code, parameter to be analyzed (lead), date of collection and any preservation technique used;
- Preparation of a chain of custody to include the field sample information;
- > Obtaining from the laboratory, prior to the sampling event, ASTM Type I reagent-grade water (RGW) to be used as Field Reagent Blanks (FRB). The sampler will transport this RGW to the school to be sampled. Before the first sample is collected the RGW collected at the Laboratory will be transferred to a sample container near the first sample location inside the school building. This FRB sample will be stored and transported in the same cooler, handled and preserved in the same manner as samples collected at that school.
- Documentation of any and all observations such as automatic sensors, odors, change in water color, low water flow, water outlet leaks (i.e. 1 second drip), irregular water spray, attached filter(s), if the screen/aerator is on/off the water outlet or if the water becomes warm/hot.
- Minimizing the potential for cross contamination of sample outlets by sampling personnel. The water will be collected from the outlet directly into each container.
- Following all of the sampling procedures outlined in the Sampling Plan and QAPP.

#### 8.4 Sampling Results

The laboratories will provide the lead sample results to the District in electronic format within the timeframe required under the contract. A spreadsheet of all results, the analytical results report, and the chain of custody forms must be included.

Within 24 hours after the District has reviewed and verified the final laboratory results, the District will make the results publically available and if any results exceed the action level provide written notification to the parents/guardians of all students as well as to the Department of Education.

#### **8.5 Intermediate Remedial Measures**

Upon receiving sample results, the District will turn off all outlets with results that exceed 15  $\mu$ g/L (as defined as greater than or equal to 15.5  $\mu$ g/L). If these locations must remain on for non-drinking purposes, a "DO NOT DRINK – SAFE FOR HANDWASHING ONLY" sign will be posted (Attachment H.v).

#### **Glossary**

**Drinking Water Outlet-** an outlet that can be used for the consumption of water, such as, water fountains, water coolers, bubblers, kitchen sinks and food preparation sinks; however, classroom, bathroom, and outlets used for washing dishes are not drinking water outlets.

**Action Level (AL)-** The lead level established by the USEPA at 40 CFR 141.80 for lead in drinking water.

**Bottled Water-** includes sealed purchased water from an external company (individual bottles or dispensers). Drinking water dispensers that utilize purchased water are not required to be sampled. **First Draw Sample** – a sample that is collected from outlets where water sat undisturbed for a minimum of 8 hours.

**Follow-up Flush Sample -** sample that is collected from outlets after they have been manually flushed.

**Low-Use Outlets**- outlets that are not used routinely and may sit for periods of time with minimal or no use. Examples include those outlets in a wing of a school that is temporarily closed off and are not being used, or fountains and food preparation outlets that are only used during sporting or other events.

**Out of Service Outlets**- drinking water outlets as identified on Attachment C that are not operational.

- a. **Permanently Out of Service Outlets** outlets that are not being used and the District plans to decommission.
- b. **Temporarily Out of Service Outlets** outlets that require repair or replacement and will be put back in service once they are repaired. For example, an outlet with a broken handle.

**Point of entry (POE)-** The point at which the service line enters the building. For the purposes of sample collection, the POE sample location is the closest water outlet to the entrance of the service line into the school.

**Quality Assurance Project Plan (QAPP) Template-** describes the planning, implementation, and evaluation steps that will be consistently applied by those involved in a School District's Sampling Plan. The QAPP will provide a high level of confidence in the results of this sampling and aide in meeting the overall goal of ensuring any appropriate remediation measures are quickly identified and implemented.

**Sampler-** personnel responsible for collecting the drinking water outlet samples for a school. The individual is required to review and understand their roles and responsibilities under the District's Quality Assurance Program Plan and be able to collect samples in accordance with the District's Sampling Plan.

**Service Line-** the pipe that carries water to the school from the public water system's main in the street.

**School Wide Systematic Flush-** system flushing is required if the school has been dormant for greater than 48 hours (holiday or seasonal break). A Flushing Log (Attachment E) needs to be

completed for each school flushed.

**Water Cooler-** any mechanical device affixed to drinking water supply plumbing that actively cools water for human consumption. The reservoir can consist of a small tank or a pipe coil.

## Attachment A - List of Union County Vocational Technical Schools Priority for Sampling

SCHOOL NAME/FACILITY NAME	DATE OF SAMPLING	CERTIFIED LABORATORY	NOTES
Administration Building	04/23/2022	Alpha Analytical	
Academy of Performing Arts	04/23/2022	Alpha Analytical	
Baxel Hall	04/23/2022	Alpha Analytical	
Bistocci Hall	04/23/2022	Alpha Analytical	
Mancuso Hall	04/23/2022	Alpha Analytical	
West Hall	04/23/2022	Alpha Analytical	
			-

### **Attachment C - Drinking Water Outlet Inventory**

	Name of School: <u>Administration Building</u> Address: <u>1776 Raritan Road, Scotch Plains, NJ</u> Grade Levels: <u>9-12 Year School Constructed</u> : Renovated/Additions:									<u></u>			
	Indiv	idual school ہ	oroject officer Na	me/Signature	e: 70	Mund			Date	Comple	eted:		
#1	Туре	Location	Code	Operational <sup>2</sup> (Y/N)	Sign of Corrosion 3 (Y/N)	Filter <sup>4</sup> (Y/N)	Brass Fittings, Faucets or valves? (Y/N)	Aerator/ Screen (Y/N)	Motion Activated (Y/N)	Chiller (Y/N)	Make Wa	ater Cooler  Model	Comments
1	POE	Electrical Rm	Adm-POE	Υ	N	N	N	N	N	N			
2	WF	Hallway	Adm-WF-01	Υ	N	N	N	N	N	N			
3	WF	Hallway	Adm-WF-02	Υ	N	N	N	N	N	N			
4	S	Kitchen	Adm-WF-03	Y	N	N	N	N	N	N			

<sup>&</sup>lt;sup>1</sup> Number outlets starting at the closest outlet to the Point of Entry (POE).

<sup>&</sup>lt;sup>2</sup> Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

<sup>&</sup>lt;sup>3</sup> Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

<sup>&</sup>lt;sup>4</sup> Document on Attachment D- Filter Inventory.

## **Attachment C - Drinking Water Outlet Inventory**

	Name of School: West Hall Address: 1776 Raritan Road, Scotch Plains, NJ													
	Gra	de Levels: <u>9-1</u>	12 Year Sch	nool Constru	ucted:	Rer	novated/Ad	dditions:	100 E	(1				
	Indi	vidual school pr	oject officer Nan	ne/Signature	э:	T 9.	Touch		Date C	ompleted	d:			
#1	Туре	Location	Location	Code	Operational <sup>2</sup>	Signs of	Filter <sup>4</sup>	Brass	Aerator/	Motion	Chiller	Wate	r Cooler	Comments
				(Y/N)	Corrosion <sup>3</sup> (Y/N)	(Y/N)	Fittings, Faucets or valves? (Y/N)	Screen (Y/N)	Activated (Y/N)	(Y/N)	Make	Model		
1	POE (1964 Main)	Sink in Boiler Room Office	WEST-POE	Υ	N	N	N	N	N	N				
2	WF	Outside 308A	WEST-WF-01	Υ	N	N	N	N	N	Υ				
3	BF	Outside 308A	WEST-BF-02	Υ	N	Y	N	N	Y	Y			Off	
4	WF	Outside 307	WEST-WF-03	Υ	N	N	N	N	N	N				
5	WF	Outside 307	WEST-WF-04	Υ	N	N	N	N	N	N				
6	WF	Outside 314	WEST-WF-05	Υ	N	N	N	N	N	N			Out of Service	
7	WF	Rm 317	WEST-WF-06	Υ	N	N	N	N	N	N				
8	WF	Outside Rm	WEST-WF-07	Υ	N	N	N	N	N	N				

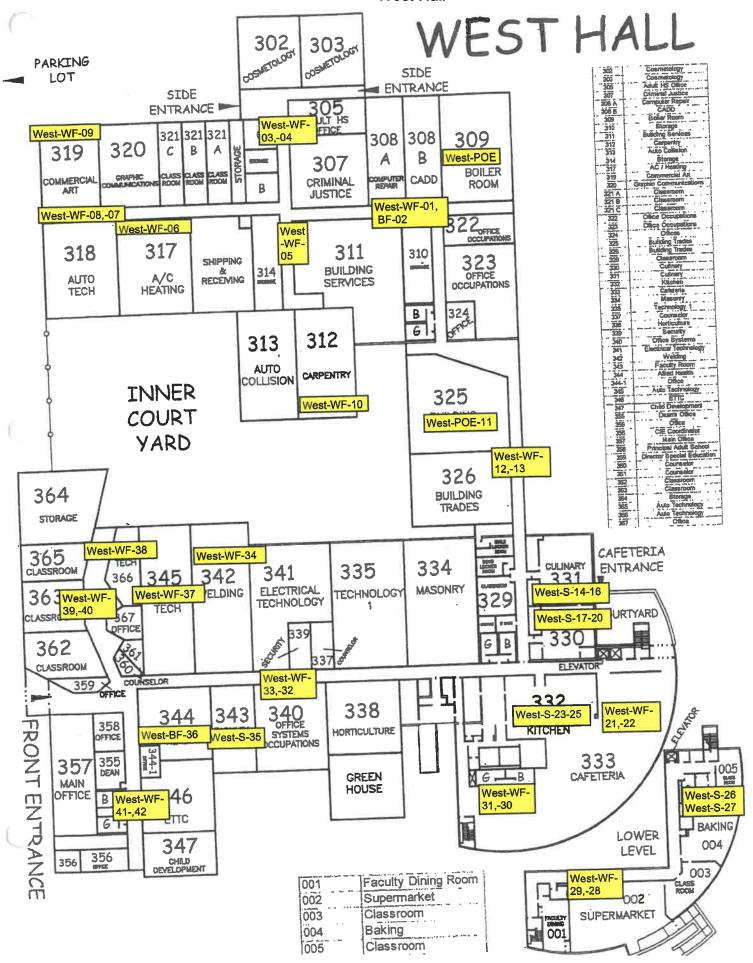
<sup>&</sup>lt;sup>1</sup> Number outlets starting at the closest outlet to the Point of Entry (POE).
<sup>2</sup> Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

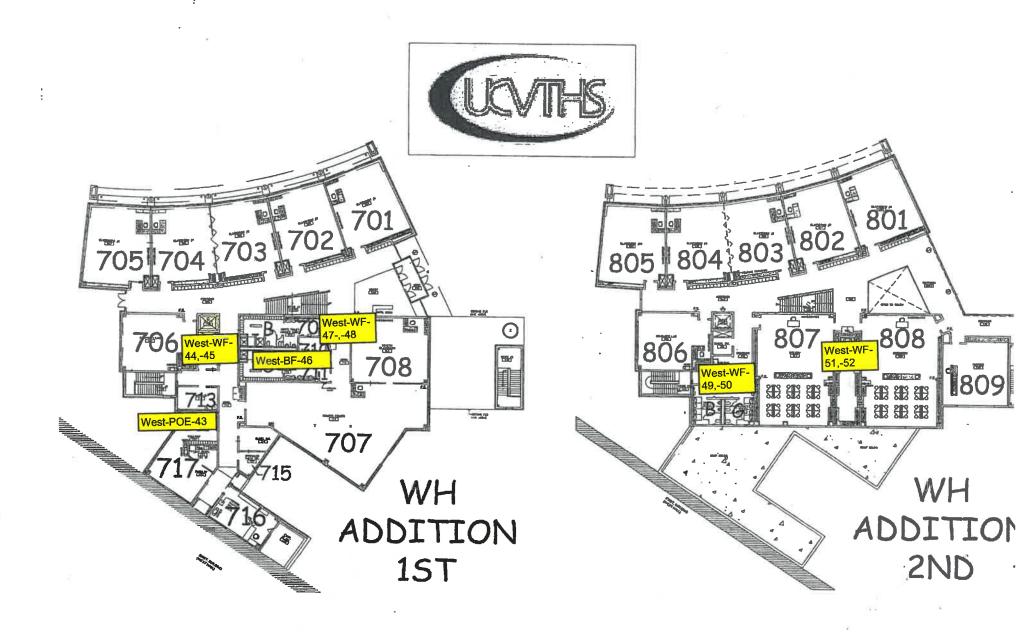
<sup>&</sup>lt;sup>3</sup> Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

<sup>&</sup>lt;sup>4</sup> Document on Attachment D- Filter Inventory.

9	WF	Outside Rm 319	WEST-WF-08	Υ	N	N	N	N	N	N			
10	WF	Rm 319	WEST-WF-09	Υ	N	N	N	N	N	N			
11	WF	Rm 312	WEST-WF-10	Υ	N	N	N	N	N	N	Sunro	NSW 14	
12	POE (1981 Main)	Boiler Rm Bathroom	WEST-POE- 11	Υ	N	N	N	N	N	N			SINK
13	WF	Outside 325	WEST-WF-12	Υ	N	N	N	N	N	N			
14	WF	Outside 325	WEST-WF-13	Υ	N	N	N	N	N	N			
15	S	Rm 331	WEST-S-14	Υ	N	N	N	N	N	N			
16	S	Rm 331	WEST-S-25	Υ	N	N	N	N	N	N			
17	S	Rm 331	WEST-S-16	Υ	N	N	N	N	N	N			
18	S	Rm 330	WEST-S-17	Υ	N	N	N	N	N	N			
19	S	Rm 330	WEST-S-18	Υ	N	N	N	N	N	N			
20	S	Rm 330	WEST-S-19	Υ	N	N	N	N	N	N			
21	S	Rm 330	WEST-S-20	Υ	N	N	N	N	N	N			
22	WF	Cafeteria	WEST-WF-21	Υ	N	N	N	N	N	N			
23	WF	Cafeteria	WEST-WF-22	Υ	N	N	N	N	N	N			
24	S	Kitchen	WEST-S-23	Υ	N	N	N	N	N	N			
25	S	Kitchen	WEST-S-24	Υ	N	N	N	N	N	N			
26	S	Kitchen	WEST-S-25	Υ	N	N	N	N	N	N			
27	S	Room 004	WEST-S-26	Υ	N	N	N	N	N	N			Downstairs
28	S	Room 004	WEST-S-27	Υ	N	N	N	N	N	N			Downstairs
29	WF	Outside 002	WEST-WF-28	Υ	N	N	N	N	N	N			Downstairs
30	WF	Outside 002	WEST-WF-29	Υ	N	N	N	N	N	N			Downstairs
31	WF	Across Cafeteria	WEST-WF-30	Υ	N	N	N	N	N	N			Near Boys

32	WF	Across	WEST-WF-31	Y	N	N	N	N	N	N		Nears Girls
		Cafeteria										
33	WF	Outside 341	WEST-WF-32	Υ	N	N	N	N	N	N		
34	WF	Outside 341	WEST-WF-33	Υ	N	N	N	N	N	N		
35	WF	Rm 342	WEST-WF-34	Υ	N	N	N	N	N	N		
36	S	Rm 343	WEST-S-35	Υ	N	N	N	N	N	N		
37	BF	Rm 344	WEST-BF-36	Υ	N	Y	N	N	N	N	Brita	
38	WF	Room 345	WEST-WF-37	Υ	N	N	N	N	N	N		
39	WF	Room 366	WEST-WF-38	Υ	N	Y	N	N	N	N		Out of Service
40	WF	Outside 363	WEST-WF-39	Υ	N	N	N	N	N	N		Out of Service
41	WF	Outside 363	WEST-WF-40	Υ	N	N	N	N	N	N		
42	WF	Outside 346	WEST-WF-41	Υ	N	N	N	N	N	N		
43	WF	Outside 346	WEST-WF-42	Υ	N	N	N	N	N	N		
44	S	Faculty	WEST-POE-	Υ	N	N	N	N	N	N		1 <sup>st</sup> Addition
		Lounge	43									
45	WF	Outside 707	WEST-WF-44	Υ	N	N	N	N	N	N		1 <sup>st</sup> Addition
46	WF	Outside 707	WEST-WF-45	Υ	N	N	N	N	N	N		1 <sup>st</sup> Addition
47	BF	Room 707	WEST-BF-46	Υ	N	N	N	N	Y	Y	Brita	1 <sup>st</sup> Addition
48	WF	Outside 710	WEST-WF-47	Υ	N	N	N	N	N	N		1 <sup>st</sup> Addition
49	WF	Outside 710	WEST-WF-48	Υ	N	N	N	N	N	N		1 <sup>st</sup> Addition
50	WF	Outside L18	WEST-WF-49	Υ	N	N	N	N	N	N		2 <sup>nd</sup> Addition
51	WF	Outside L18	WEST-WF-50	Υ	N	N	N	N	N	N		2 <sup>nd</sup> Addition
52	WF	Outside 808	WEST-WF-51	Υ	N	N	N	N	N	N		2 <sup>nd</sup> Addition
53	WF	Outside 808	WEST-WF-52	Υ	N	N	N	N	N	N		2 <sup>nd</sup> Addition





### **Attachment C - Drinking Water Outlet Inventory**

Address: 1776 Raritan Road, Scotch Plains, NJ

N

N

Ν

Ν

N

Ν

Ν

Ν

Ν

Ν

Ν

N

Elkay

Elkay

Elkay

Nurse's

2nf Floor

2<sup>nd</sup> Floor

2<sup>nd</sup> Floor

**Basement** 

		Levels: 9-12		ool Construc		_ Ren	ovated/A	Additions		Comple	eted:		
#1	Туре	Location	Code	Operational <sup>2</sup>	Signs of	Filter <sup>4</sup>	Brass	Aerator/	Motion	Chiller	Wate	er Cooler	Comments
				(Y/N)	Corrosion 3 (Y/N)	(Y/N)	Fittings, Faucets or valves?	Screen (Y/N)	Activated (Y/N)	(Y/N)	Make	Model	
1	WF	Outside MO	BIS-POE	Υ	N	N	(Y/N)	N	N	N	Elkay		
2	WF	Outside MO	BIS-WF-01	Υ	N	N	N	N	N	N	Elkay		
3	S	Rm 503	BIS-S-02	Υ	N	N	N	N	N	N			Nurse's

N

N

Ν

N

Ν

Ν

Ν

N

Ν

Ν

Ν

Ν

N

N

Ν

Ν

Ν

Ν

<sup>1</sup> Number outlets starting at the closest outlet to the Point of Entry (POE).

BIS-S-03

**BIS-S-04** 

BIS-WF-05

BIS-WF-06

BIS-S-07

BIS-WF-08

Υ

Y

Y

Υ

Υ

Y

Ν

N

Ν

Ν

Ν

Ν

<sup>4</sup> Document on Attachment D- Filter Inventory.

Name of School: Bistocci Hall

Rom 503A

Student BR

Student BR

Outside Rm

Rm 501D

Outside

Outside

Rm 619

400 Gym

S

S

WF

WF

S

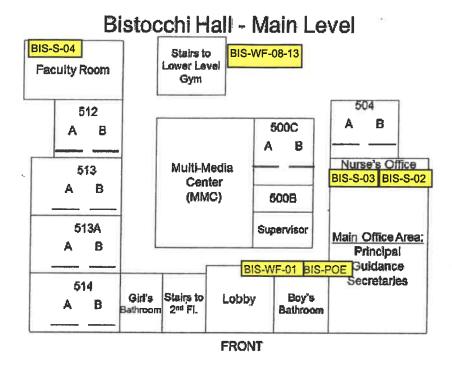
WF

8

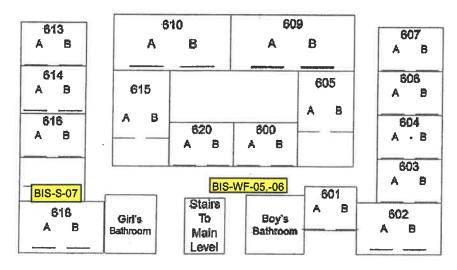
<sup>&</sup>lt;sup>2</sup> Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

<sup>&</sup>lt;sup>3</sup> Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

10	WF	Outside Rm	BIS-WF-09	Υ	N	N	N	N	N	N	Elkay	Basement
		400 Gym										
11	WF	Rm 401	BIS-WF-10	Υ	N	N	N	N	N	N		Basement
12	WF	Rm 401	BIS-WF-11	Υ	N	N	N	N	N	N		Basement
13	WF	Rm 402	BIS-WF-12	Υ	N	N	N	N	N	N		Basement
14	WF	Rm 402	BIS-WF-13	Υ	N	N	N	N	N	N		Basement



# Bistocchi Hall - Second Floor



**FRONT** 

## **Attachment C - Drinking Water Outlet Inventory**

	1	Name of School:	Mancusco Hall			Add	lress:	1776 Ra	ritan Road	l, Scotch	Plains,	NJ	
	(	Grade Levels: <u>9-1</u>	2Year Sc	hool Constru	ıcted:	Re	novated	/Addition	s:				
		ndividual school pro	ject officer Nar	ne/Signature	e: 0.91	Pul			Date	Comple	ted:		
# <sup>1</sup>	Тур	Location	Code	Operational <sup>2</sup>	Signs of	Filter <sup>4</sup>	Brass	Aerator/	Motion	Chiller	W	ater Cooler	Comments
	e			(Y/N)	Corrosion 3 (Y/N)	(Y/N)	Fittings, Faucets or valves? (Y/N)	Screen (Y/N)	Activated (Y/N)	(Y/N)	Make	Model	
1	W F	Outside Rm 219	MAN-POE	Υ	N	N	N	N	N	N	Elkay	Flexguard	Enters 2 <sup>nd</sup> floor
2	W F	Outside Rm 219	MAN-WF-01	Y	N	N	N	N	N	N	Elkay	Flexguard	
3	S	Rm 223-Faculity	MAN-S-02	Υ	N	N	N	N	N	N			
4	W F	Outside Rm 208A	MAN-WF-03	Υ	N	N	N	N	N	N	Elkay	Flexguard	
5	W F	Outside Rm 208A	MAN-WF-04	Υ	N	N	N	N	N	N	Elkay	Flexguard	
6	W F	Outside Rm 131	MAN-WF-05	Υ	N	N	N	N	N	N	Elkay	Flexguard	

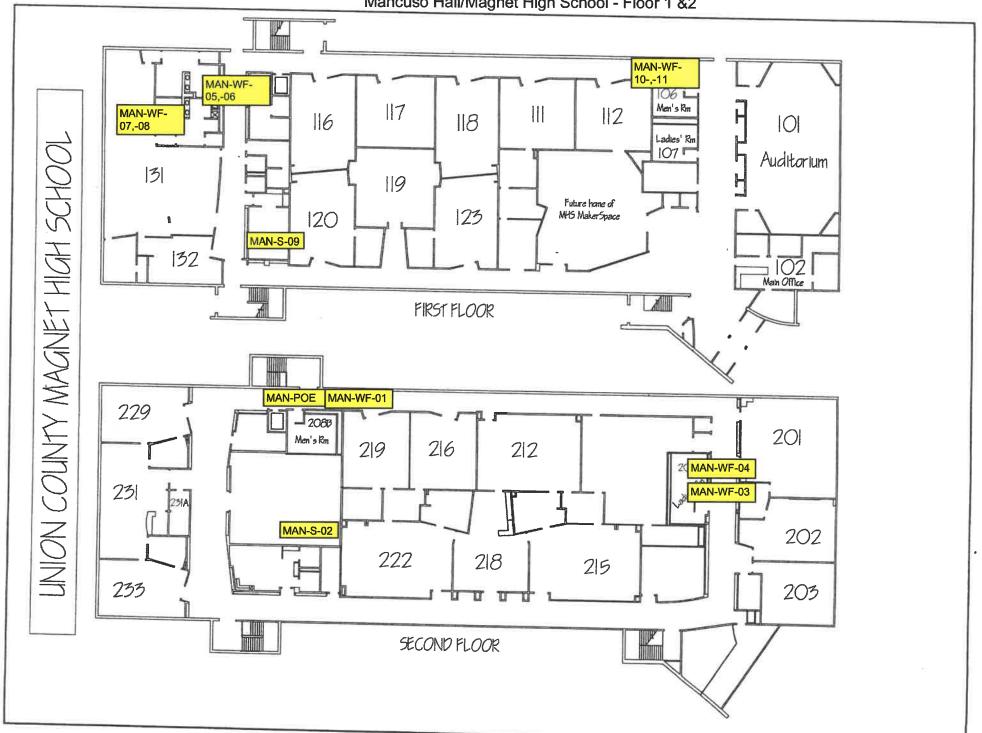
<sup>&</sup>lt;sup>1</sup> Number outlets starting at the closest outlet to the Point of Entry (POE).

<sup>&</sup>lt;sup>2</sup> Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

<sup>&</sup>lt;sup>3</sup> Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

<sup>&</sup>lt;sup>4</sup> Document on Attachment D- Filter Inventory.

7	W	Outside Rm 131	MAN-WF-06	Υ	N	N	N	N	N	N	Elkay	Flexguard	
	F												
8	W	Room 131-Gym	MAN-WF-07	Υ	N	N	N	N	N	N	Elkay	Flexguard	
9	W	Room 131-Gym	MAN-WF-08	Υ	N	N	N	N	N	N	Elkay	Flexguard	
10	S	Rm 127	MAN-08	Υ	N	N	N	N	N	N			
11	W	Outside Rm 112	MAN-09	Υ	N	N	N	N	N	N			
12	W	Outside Rm 112	MAN-10	Y	N	N	N	N	N	N	Elkay	Flexguard	



### **Attachment C - Drinking Water Outlet Inventory**

Address:

1776 Raritan Road, Scotch Plains, N.J.

	Gra	de Levels: <u>9-1</u>	2Year Sc	hool Constru	ucted:	Re	novated	/Addition	s:				
	Indi	vidual school pro	oject officer Nar	me/Signatur	20	Mary	4		Date	Comple	eted:		
#1	Type	Location	Code	Operational <sup>2</sup>	Signs of	Filter <sup>4</sup>	Brass	Aerator/	Motion	Chiller	1	Water Cooler	Comment
				(Y/N)	Corrosion <sup>3</sup> (Y/N)	(Y/N)	Fittings, Faucets or valves? (Y/N)	Screen (Y/N)	Activated (Y/N)	(Y/N)	Make	Model	s
1	POE	Girls Bathroom	BAX-POE	Y	N	N	N	N	N	N			Sink to the Right
2	S	Faculty Lounge	BAX-S-01	Y	N	N	N	N	N	N			
3	WF	Outside 121	BAX-WF-02	Υ	N	N	N	N	N	N	Elkay	LZFSTLB_1B	
4	WF	Outside 121	BAX-WF-03	Υ	N	N	N	N	N	N	Elkay	LZFSTLB 1B	
5	WF	Across Office	BAX-WF-04	Υ	N	N	N	N	N	N	Elkay	LZFSTLB_1B	
6	WF	Across Office	BAX-F-05	Υ	N	N	N	N	N	N	Elkay	LZFSTLB 1B	
7	WF	Outside 219	BAX-WF-06	Υ	N	N	N	N	N	N	Elkay	LZFSTLB 1B	
8	WF	Outside 219	BAX-WF-07	Υ	N	N	N	N	N	N	Elkay	LZFSTLB 1B	

**Baxel Hall** 

Name of School:

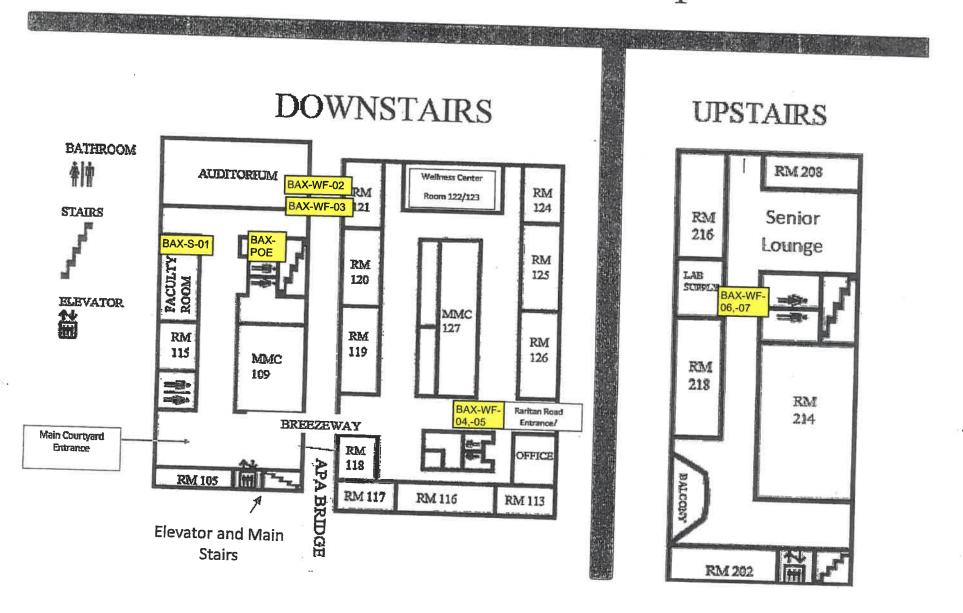
<sup>&</sup>lt;sup>1</sup> Number outlets starting at the closest outlet to the Point of Entry (POE).

<sup>&</sup>lt;sup>2</sup> Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

<sup>&</sup>lt;sup>3</sup> Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

<sup>&</sup>lt;sup>4</sup> Document on Attachment D- Filter Inventory.

# AAHS Baxel Hall Map



## **Attachment C – Drinking Water Outlet Inventory**

	Name o	of School: A	ts Hall	s Hall Address: <u>1776 Raritan Road, Scotch Plains, NJ</u>									
	Grade	Levels: <u>9-12</u>	_Year Schoo	l Constructe	d:	Renov	ated/Add	ditions: _			x		
	Individu	ual school proje	ect officer Na	me/Signature	e 20	Mone	_		Date	Comple	eted:		_
#1	Туре	Location	Code	Operational <sup>2</sup> (Y/N)	Signs of Corrosion 3 (Y/N)	Filter <sup>4</sup> (Y/N)	Brass Fittings, Faucets or valves? (Y/N)	Aerator/ Screen (Y/N)	Motion Activated (Y/N)	Chiller (Y/N)	Make	ater Cooler  Model	Comments
1	POE	Bathroom	APA-POE	Υ	N	N	N	N	N	N			Right BR
2	WF	Outside Bathroom	APA-WF- 01	Y	N	N	N	N	N	N			
3	WF	Outside 208	APA-WF- 02	Y	N	N	N	N	N	N	Elkay	EZFS_1C	
4	S	Rm 208	APA-WF- 03	Y	N	N	N	N	N	N			

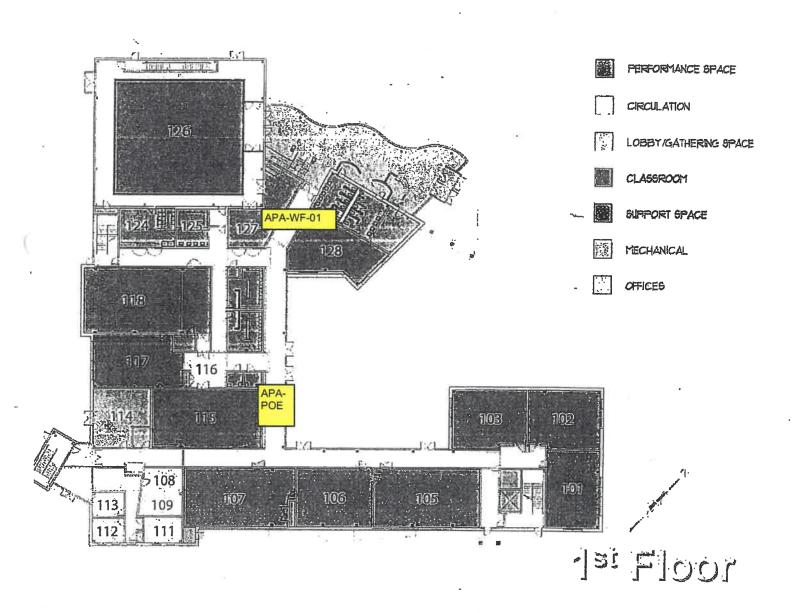
<sup>&</sup>lt;sup>1</sup> Number outlets starting at the closest outlet to the Point of Entry (POE).

<sup>&</sup>lt;sup>2</sup> Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

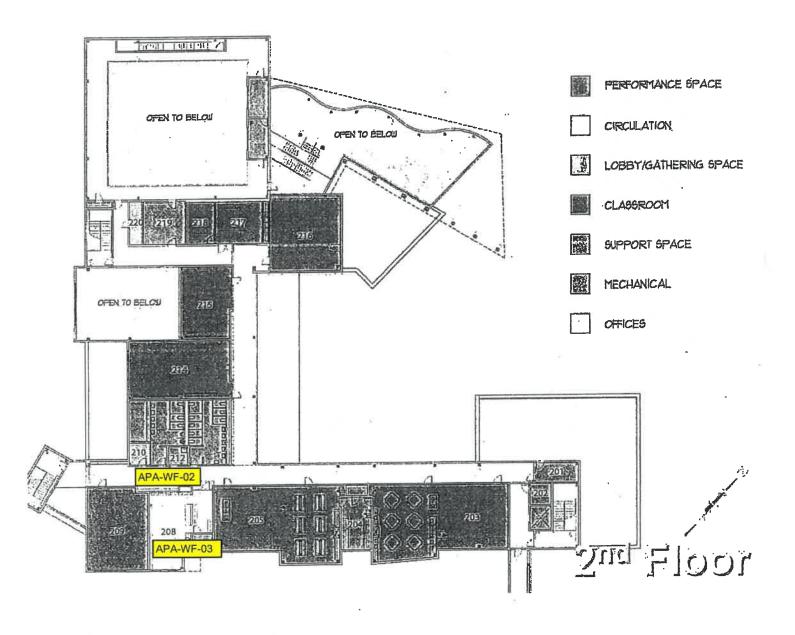
<sup>&</sup>lt;sup>3</sup> Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

<sup>&</sup>lt;sup>4</sup> Document on Attachment D- Filter Inventory.

# Union County Vocational Technical Schools - 1776 Raritan Road, Scotch Plains, New Jersey Academy for Performing Arts - Floor 1



# Union County Vocational Technical Schools - 1776 Raritan Road, Scotch Plains, New Jersey Academy for Performing Arts - Floor 2



# Attachment E - Flushing Log (Complete for each school as applicable)

Name of School:	Union County	Vocationa	al And Techr	nical School	
Address: <u>1776 Rari</u>	tan Road, Sco	tch Plains,	NJ		
Grade Levels:					
Individual School Proj	ect Officer Sig	nature:	Mark	Date	e:
Sample Location Description	Sample Location Code	Date	Time	Duration of Flushing	Reason for Flushing
				/	
			V.		
		7			
		/			
	7				
	/				
	^				
,					
*					

# Attachment F - Pre - Sampling Water Use Certification (Complete for each school)

TO BE COMPLETED BY THE I	PVRHS D	ISTRICT REPRESE	NTATIVE	
School Name: Union County Vocational Technical Schools				
Sample collection address:				
Water was last used:	Time:	5:00pm	Date:	3/02/02
Sample commencement:	Time:	9:00 Am	Date:	3/83/82
I have read the Union County V Sampling Plan and Quality Assu collected in accordance with the	ırance Pro			9
and make				
Signature / Mhow			Date	

#### Attachment G - Example of a Sample Flush Tag

# **FLUSH TAG** Water outlet sampling in progress. Please do not use water School District Name: Union County Vocational Technical Schools Date Flushed: School Name: Flushing Process School Address: Start Time: Location of flushed outlet: End Time: Is the fountain front cover removed for the sampler to determine the reservoir type (circle one): YES / NO Person responsible for the flushing process (print name): Signature: \* Water within the school distribution system should sit in the pipes unused for at least eight (8) hours after flushing but not more than 48 hours before a sample is taken.\*

Note to the person responsible for the flushing process:

- A. Turn-off lawn sprinkler outlet(s) until water sampling is complete.
- B. Make sure sampling outlets are accessible.

#### Attachment H - Sampling Toolkit

#### H.i: Recalled Water Cooler List

#### USEPA's Water Cooler Recall List

Tables from EPA's 3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance

#### <u>Table E-1</u> Halsey Taylor Water-Coolers With Lead-Lined Tanks<sup>2</sup>

The following six model numbers have one or more units in the model series with lead-lined tanks:

WT11A Serial No. 222650

LL14A Serial No. 64346908

<u>WM8A WT8A GC10ACR GC10A GC5A RWM13A</u>

The following models and serial numbers contain lead-lined tanks:

WM14A Serial No. WM14A Serial No.

843034 843006

WT21A Serial No. WT21A Serial No.

<u>64309550</u> <u>64309542</u>

<sup>&</sup>lt;sup>2</sup>Based upon an analysis of 22 water coolers at a US Navy facility and subsequent data obtained by EPA, EPA believes the most serious cooler contamination problems are associated with water coolers that have lead-lined tanks.

# <u>Table E-2</u> Water Coolers With Other Lead Components

#### **EBCO Manufacturing**

All pressure bubbler water coolers with shipping dates from 1962 through 1977 have a bubbler valve containing lead. The units contain a single, 50-50 tin-lead solder joint on the bubbler valve. Model numbers for coolers in this category are not available.

The following models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each.

CP3	DP15W	DPM8	<u>71</u> °	<u>13P</u>	DPMSH	DP15M	DP3R	DP8A	
DP16M	DP5\$	CIOE	<u> 12X-10</u>	DP7S	DP13SM	DPZM	<b>DP7MH</b>	DP7WMI	2
WTC10	DP13M-60	DP14M	CP10-50	<u>CP5</u>	CP5M	DP15MW	DP3R	DP14S	
DP20-50	DP7SM	DPTOX	DP13A	DP13A-50	EP10F	ĎP5M	DPIDE	СРЗН	€ *
CP3-50	<u>DP13M</u>	DP3RH	DP5F	CP3M	EP5F	13FL	DP8AH	DP13S	-
<u>CP10</u>	DP20	DP12N	DP7WM	DP14A-50/66	<u>o</u>				

#### Halsey Taylor

1. Lead solder was used in these models of water coolers manufactured between 1978 and the last week of 1987;

WMA-1

SCWT/SCWT-A

SWA-I

DC/DHC-1

S3/5/10D

BFC-4F/7F/4FS/7FS

S300/500/100D

2. The following coolers manufactured for Haws Drinking Faucet Company (Haws) by Halsey Taylor from November 1984 through December 18, 1987, are not lead-free because they contain 2 tin-lead solder joints. The model designations for these units are as follows:

	HC8WT	HCL/IF	HC6W	HWC7D	HCBWTH	HCI4E H	HC8W	HC2F	HC14WT
Ì	HC14FL	HC14W	HC2FH	HC14WTH	HC8FL	HC4F	HC5F	HC14W1.	HCBF7D
Ì	HC4FH	HC10F	HC16WT	НСВЕ/НО	HC8F	HC8FH	HC4W	HWC7	



APPENDIX C: QUALITY ASSURANCE PROJECT PLAN



# QUALITY ASSURANCE PROJECT PLAN (QAPP)

# FOR DRINKING WATER SAMPLING OF LEAD CONCENTRATIONS IN SCHOOL DRINKING WATER OUTLETS

# **Union County Vocational Technical Schools**

1776 Raritan Road Scotch Plains, NJ 07076

April 29, 2022

PARTNER Project No.21-331027.43

Prepared for:

Union County Vocational Technical Schools



800-419-4923

www.PARTNEResi.com

### **Approvals**

#### <u>Union County Vocational Technical Schools Representatives:</u> Janet Behrmann Program Manager: -Print Name Signature Date Project Manager(s): \_\_ 04/29/2022 Danial Bracey Print Name Signature Date Individual School Project Officer(s) (See page iii) Third Party Sampling Firm: Partner Engineering & Science 4/29/2022 Angelica Rosaperez Print Name Date Signature Anthony Mercogliano 04/29/2022 Print Name Signature Date Nicholas Schiera 04/29/2022 Print Name Date Signature Print Name Signature Date Alpha Analytical, Inc. <u>Laboratory:</u> Name of Laboratory Laboratory Manager: John Trimble 04/29/22

Laboratory QA Officer: James Todaro

Print Name

Signature

James Todaro

Signature

Date

04/29/22

Date

# Individual School Project Officers (ISPO)

School	Name	Title	Signature	Date
Administration Building	Mark Leary	Maintenance Engineer	20/10	
	Phone: (908) 889-8288 x353		11/11 A Legy	
APA Hall	Mark Leary	Maintenance Engineer	m 100	
	Phone: (908) 889-8288 x353		Moul A Leany	
Baxel Hall	Mark Leary	Maintenance Engineer	n/100	
	Phone: (908) 889-8288 x353		poll King	
Bistocci Hall	Mark Leary	Maintenance Engineer	20 100	
	Phone: (908) 889-8288 x353		Told Story	
Mancuso Hall	Mark Leary	Maintenance Engineer	0.110	
	Phone: (908) 889-8288 x353		MANATERS	
West Hall	Mark Leary	Maintenance Engineer	20110	
	Phone: (908) 889-8288 x353		1 pops steam	
	Phone:			
	Phone:			
	Phone:			
	Phone:			
	Phone:			
	Phone:			
	Phone:			
	Phone:			
	1			
	Phone:			
	1			
	Phone:			
	,			
	Phone:			
<u> </u>	<del>-</del>	<del></del>		ļ

## **Table of Contents**

1.	Obj	ective & Goals/Background	7
	1.1	Objective and Goals	7
	1.2	Background	7
2.	Pro	ject/Task Organization	8
	2.1	Union County Vocational Technical Schools Program Manager (Program Manager)	8
	2.2	Union County Vocational Technical Schools Project Manager (Project Manager)	8
	2.3	Individual School Project Officer(s)	9
	2.4	Laboratory Manager	10
	2.5	Laboratory's Quality Assurance Officer (LQAO)	10
	2.6	Field Sampler or Field Sampling Team	10
3.	Spe	cial Training Needs/Certification	10
4.	Pro	ject/Task Description	11
5.	Lea	d Data Quality Objectives and Criteria for Measurement	11
	5.1	Precision	11
	5.2	Bias	11
	5.3	Representativeness	12
	5.4	Comparability	12
	5.5	Completeness	12
	5.6	Sensitivity	12
6.	Sec	ondary Data	12
7.	Fiel	d Monitoring Requirements	13
	7.1	Monitoring Process Design	13
	7.2	Monitoring Methods	13
	7.3	Field Quality Control	13
8.	Ana	llytical Requirements	14
	8.1	Analytical Methods	14
	8.2	Analytical Quality Control	14
9.	San	nple Handling and Custody Requirements	15
	9.1	Sample Archive/Disposal	15

10. Instrument/Equipment Testing, Inspection, Maintenance & Calibration Requirements	. 15
10.1 Instrument/Equipment Testing, Inspection and Maintenance	. 15
10.2 Instrument/Equipment Calibration and Frequency	. 16
10.3 Inspection/Acceptance of Supplies and Consumables	. 16
11. Data Management	. 16
12. Assessments/Oversight	. 16
13. Data Review, Verification, Validation, and Usability	. 17
13.1 Data Review, Verification and Validation	. 17
13.2 Reconciliation with User Requirements	. 17
14. Reporting, Documents and Records	. 17
Appendix A	. 19
3Ts for Reducing Lead in Drinking Water in Schools:	. 19
Appendix B	. 20
Insert School District Lead Water Testing Sampling Plan	. 20
Appendix C: Chain of Custody	. 21
Appendix D: Excel Template for Lead Results	. 23

#### 1. **Objective & Goals/Background**

#### 1.1 **Objective and Goals**

A Quality Assurance Project Plan is a document that describes the planning, implementation and evaluation steps involved in the acquisition of data that will be used to arrive at a specific goal. The overall objective for this QAPP is to determine the lead concentration at drinking water outlets within the District's schools so that corrective action(s) may be implemented at any drinking water outlets sampled found to exceed the US Environmental Protection Agency (USEPA) drinking water lead action level of 15 micrograms per liter (µg/L). For the purposes of compliance, any concentration greater than 15 µg/L (as defined as greater than or equal to 15.5  $\mu$ g/L) is considered to exceed the lead action level.

The lead sampling will consist of the collection of a first draw (initial) sample according to this QAPP and the Union County Vocational Technical Schools Lead Water Testing Sampling Plan (Sampling Plan). The drinking water outlets can be faucets, drinking water fountains (or bubblers) and water coolers (see Sampling Plan for details).

Follow-up sampling will also be covered by this QAPP and the Sampling Plan. An optional follow-up flushed sample may be analyzed at selected drinking water outlets after flushing for 30 seconds. (An exception to the 30 second follow-up flushed sample is for a water cooler which requires a different follow-up sampling timeframe).

The analytical results and field data will be used by the Project Manager and the District (See Section 2.2) to determine whether drinking water distributed from drinking water outlets such as water fountains (bubblers), faucets, food preparation areas and water coolers have concentrations of lead that exceed 15 µg/L. If a first draw (initial) or follow-up flushed cold water sample is found to contain lead at a concentration greater than 15 µg/L, the Project Manager will instruct the Individual School Project Officer (Project Officer) (See Section 2.3) to isolate the source of drinking water by turning off the device or providing a barrier to the consumption of the water (tape and bag) until appropriate remediation is determined.

#### 1.2 **Background**

Lead is a toxic metal that can be harmful to human health when ingested. Young children are particularly sensitive to the effects of lead because their bodies are still undergoing development. Lead can get into drinking water by being present in the source water or by interaction of the water with plumbing materials containing lead (through corrosion). Common sources of lead in drinking water include: solder, fluxes, pipes and pipe fittings, fixtures, and sediments. It is possible that different drinking water outlets in a given building could have dissimilar concentrations of lead.

In April 1994, USEPA prepared two guidance documents to assist municipalities in meeting the requirements of the Lead Contamination and Control Act (LCCA): Lead in Drinking Water in Schools and Non-Residential Buildings (EPA 812-B-94-002) and Sampling for Lead in Drinking Water in Nursery Schools and Day Care Facilities (EPA 812-B-94-003). In December 2005, amended October 2006, EPA issued the



revised technical guidance document 3Ts for Reducing Lead in Drinking Water in Schools (EPA 816-B-05-008) which replaced the Lead in Drinking Water in Schools and Non-Residential Buildings (EPA 812-B-94-002). The 3Ts Revised Technical Guidance document is meant to assist school officials in implementing programs and policies to reduce children's exposure to lead in drinking water in schools.

#### 2. **Project/Task Organization**

#### 2.1 Union County Vocational Technical Schools Program Manager (Program Manager)

The Union County Vocational Technical Schools Program Manager is the overall authority in the execution of the District's lead sampling project. He/she is responsible for the initial notification to the District of the testing program, obtaining funds for testing, assigning the Project Manager, requesting/enlisting the assistance from other District departments if needed, approving the District's QAPP(s), approving the Final Report for each school and coordinating with other District officials to make the results of the testing available to the public. The Project Manager reports to the Program Manager.

#### 2.2 Union County Vocational Technical Schools Project Manager (Project Manager)

The Project Manager is responsible for overseeing the execution of lead sampling at each of the district's schools. This involves the prioritization of schools to be sampled, and adherence with the District's Sampling Plan and QAPP. He/she serves as the liaison between the School District, State agencies, local Health Departments, laboratories and public water systems (if applicable). He/she reports to the Program Manager.

#### The Project Manager's responsibilities include:

- Preparing the District's Specific QAPP
- Managing the Sampling Plan and QAPP.
- Oversight of Individual School Project Officers (Project Officers) to ensure that they adhere to the Sampling Plan procedures and the QAPP.
- Purchasing of equipment needed for district lead sampling
- Coordination with New Jersey laboratories certified for lead in drinking water
- Coordination with Project Officers to establish sampling schedules
- Ensuring properly signed QAPPs are in place prior to initiation of sampling
- Verify that officials from each school are aware when sampling is scheduled and the expected duration
- Review of the School Field Sampling Summary Reports prepared by Project Officers
- Review of Laboratory Data Reports (LDR) from Laboratory Managers



- Review of Final Project Reports prepared by Project Officers. Identify limitations in the use of any laboratory data due to information provided in the accompanying School Field Sampling Summary Report.
- Maintain the original signed QAPP(s)
- Maintain documents, reports and records listed in Section 14 of the QAPP
  - Laboratory Data Reports (LDR)
  - Copy of Field Sampling Summary Report with copies of field logbooks, field Walk-Through reports including Attachments B, C, D, E, and F of the Lead Sampling Plan, chains of custody and flush tags.
  - Copy of Final Project Report
- Maintenance of other relevant records such as:
  - o Purchase orders for analytical costs (copy).
  - o Agreement with laboratory to sample/analyze/report with details for payment
  - Receipts (originals or copies)

#### 2.3 Individual School Project Officer(s)

#### The Individual School Project Officer's responsibilities include:

- General project oversight for assigned school(s).
- Generate field log book for each assigned school. Document field activities including any changes to procedures outlined in the Sampling Plan or QAPP.
- Ensure proper completion of the Plumbing Profile for assigned school(s) See Attachment B of the Sampling Plan.
- Oversight of completion of the following reports found in the Sampling Plan which require sign off by Project Officer:
  - Drinking Water Outlet Inventory (Sampling Plan Attachment C)
  - o Filter Inventory Report (Sampling Plan Attachment D)
  - Flushing Log (Sampling Plan Attachment E)
  - o Pre Sampling Water Use Certification (Sampling Plan Attachment F).
- Prepare labels for drinking water outlets to be sampled.
- Prepare for Walk-Through including acquisition of School Floor Plan.
- Attend school Walk-Through.
- Ensure proper completion of Walk-Through documentation including identification of drinking water outlets on Floor Plan, and Sampling Location Inventory with coding according to the Sampling Plan (Attachment C of Sampling Plan).
- Supervision of field activities such as Walk- Through, flushing (if required), locking school prior to sampling, and sample collection.
- Identify drinking water outlets to be flushed and attach flush tag.
- Ensure that Field Sampling Team has all relevant sampling supplies including sampling bottles, labels, proper reagent water and chains of custody prior to collection of samples.
- Ensure that all drinking water outlets to be sampled prior to sampling event are labeled.
- Ensure that any low-use drinking water outlets identified for sampling had been flushed.
- Remove flush tags from drinking water outlet once sampling is completed.



- Responsible for ensuring water remains motionless for a minimum of eight hours (last to leave the school) prior to sampling event by following procedures in Section 8 of Sampling Plan.
- Verify that the Sampling Plan was followed prior to initiating sampling by completing the Pre-Sampling Water Use Certification (Attachment F in Sampling Plan).
- Supervision of sampling event.
- Documentation of issues during sampling event in field log book.
- Preparation of Field Walk-Through Report, School Field Sampling Summary Report and Final Project Report for assigned school(s).
- Maintenance of field log books for each school.
- Prepare samples for shipment and delivery to laboratory per certified laboratory instructions.
- Ensure that samples are delivered to laboratory within the time period specified by the certified laboratory

#### 2.4 Laboratory Manager

The Laboratory Manager is responsible for:

- Supervising laboratory analyses to be performed in the Laboratory. This includes oversight of all QA requirements in the laboratory, data review, and qualification of the data.
- Providing the Laboratory Data Report Package to the Project Manager and Project Officer.

#### 2.5 Laboratory's Quality Assurance Officer (LQAO)

The Laboratory's Quality Assurance Officer (LQAO) is responsible for reviewing the QAPP and resolving any QA issues that may arise during the project.

#### 2.6 Field Sampler or Field Sampling Team

The Field Sampler or Field Sampling Team, whether affiliated with the Passaic Valley Regional High School, ESC Labs, and/or Partner Engineering and Science, is responsible for ensuring that field activities are conducted in accordance with this QAPP and the Sampling Plan.

#### 3. Special Training Needs/Certification

Sampling will be performed by Partner Engineering and Science.

Laboratory personnel designated to analyze the samples will have successfully completed required demonstrations of capability for the methods used. The Laboratory must be a drinking water laboratory certified by New Jersey for the analysis and reporting of lead using USEPA drinking water methods which are listed in Section 8.

Assessments of the Laboratory capability are conducted on a bi-annual basis by the NJDEP Office of



Quality Assurance. The Laboratory Manager has responsibility for correction of all deficiencies in their laboratory program.

#### 4. Project/Task Description

Drinking water samples will be collected from drinking water outlets including water fountains (bubblers), food preparation outlets (located in the cafeteria, kitchen, and home economics classrooms) and other outlets where there is the possibility of drinking the water such as in the special education classrooms, the medical office, the teachers' lounge, and ice machines. Concession stands and outside water fountains (such as in playgrounds and athletic fields) may also be considered for sampling. The custodian sink faucet may also be considered for sampling if it is used for filling large water coolers to provide water at school events. Outside hose spigots are not appropriate sampling locations for the purpose of this QAPP. The Sampling Plan provides more detail on appropriate sampling locations.

The Field Sampler or Team will conduct first draw (initial) sample collection and, as appropriate, follow-up flushed sample collection at the drinking water outlets specified in the Sampling Plan. The Sampling Team will consist of the Project Officer and the Sampler from Partner Engineering and Science. The NJ Certified Laboratory specified in the QAPP will perform the analysis for lead.

#### 5. Lead Data Quality Objectives and Criteria for Measurement

#### 5.1 Precision

The NJ Certified Laboratory will perform replicate analysis of the Laboratory Control Standard (LCS) for every set of individual school samples to assess method precision. This is not a requirement of any of the USEPA approved methods for lead analysis. The acceptance criterion for replicate analysis is a maximum of 20 percent (%) Relative Percent Difference (RPD). In addition to the LCS data, a duplicate laboratory fortified blank (LFB) or a matrix spike and a matrix spike duplicate (MS/MSD) will also provide precision information.

#### **5.2 Bias**

As part of the analytical methodology, the NJ Certified Laboratory will perform analysis of laboratory fortified blanks (LFB) to assess accuracy/bias. The acceptance criterion for accuracy is for the results to be within plus or minus 15% recovery of the known value.

A field reagent blank (FRB) must be collected for each school. The FRB is normally only a requirement for USEPA Method 200.8, however the collection of a FRB is required with any of the other approved lead methods for this sampling event. The information provided by the results is used to determine whether the field or sample transporting procedures and environmental effects have contributed to contamination of the sample.

If any sample result(s) are qualified, this must be clearly indicated on the report and all final reports such as



the field summary report. The Project Manager must be consulted to determine how to deal with the qualified results.

#### 5.3 Representativeness

The sampling effort is designed to identify all drinking water outlets, within a school, where there is a potential for water consumption such as at water fountains (bubblers) that may require corrective action due to first draw and/or follow-up flushed sample results that exceed 15  $\mu$ g/L of lead (as defined as greater than or equal to 15.5  $\mu$ g/L or greater). Food preparation outlets and other potential ingestion outlets such as special education classrooms, the medical office and bathroom sinks are to be considered for sampling.

#### 5.4 Comparability

The analytical methods for lead analysis in drinking water are found in the federal Safe Drinking Water Regulations at 40 CFR141.86 and 40 CFR 141 Appendix A to Subpart C. Use of these methods allows for the comparison of data to USEPA's drinking water action level for lead of greater than 15  $\mu$ g/L.

Analytical results from the first draw (initial) and the follow-up flushed samples will be compared to assist in determining the source of lead contamination. Appropriate corrective measures must then be taken by the Passaic Valley Regional High School.

#### 5.5 Completeness

In order to satisfy the objective of the project, samples will be collected from drinking water outlets according to the sampling plan established in this QAPP.

One hundred percent (100%) of collected and verified initial draw samples will be analyzed and reported. In the event that an initial draw sample is determined to have a lead content above 15  $\mu$ g/L, the flush sample for that water outlet will be analyzed and reported.

#### 5.6 Sensitivity

The Laboratory's Reporting Limit (RL) for the determination of lead in drinking water samples must be no higher than 2  $\mu$ g/L which is lower than the regulatory Practical Quantitation Level for lead of 5  $\mu$ g/L. The Practical Quantitation Level for Lead is stated in the National Primary Drinking Water Contaminant Regulations 40 CFR141 Subpart I. The required reporting limit of 2  $\mu$ g/L for this QAPP is achievable with any of the approved USEPA methods listed in 11.1.

#### 6. Secondary Data

Secondary data for the District would be their historical lead data.



#### 7. Field Monitoring Requirements

Sampling may occur in the morning hours before schools are open or on weekdays or weekends when no school activities are expected. This will minimize the potential for people in the building to use water during the sampling survey. While sampling is underway it is advisable to prohibit any persons other than the sampling team to enter the building in order to ensure that no toilets or water outlets are being used.

#### 7.1 Monitoring Process Design

The sampling design, described in detail in the Sampling Plan (Appendix B) is based in part upon the 3T's Guidance for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance, December 2005; Errata to 3Ts, October 2006 (see Appendix A).

#### 7.2 Monitoring Methods

Equipment and supplies that will be needed to perform the sampling survey are ASTM Type I reagent-grade water for the field reagent blank (FRB), latex non-colored gloves, pre-cleaned HDPE wide-mouth 250 mL single use rigid sample containers ("sample container") and chain of custody (COC forms-Appendix C or lab may use their own) and indelible ink/marker.

For sampling events where the Laboratory will collect the samples, the nitric acid can be either added to the collection bottle at the Laboratory and prior to collection or the nitric acid can be added at the school after collection of the sample. If the water samples are not acidified at the time of collection, the Laboratory will preserve all samples with laboratory grade concentrated nitric acid (HNO3) to a pH of 2 standard units (SU) or less within 48 hours of sample receipt.

Each school will have a separate sample cooler or box which will contain the field reagent blank (FRB) and the other samples collected. Samples will be transported by Laboratory or Samplers or appropriate representative to the Laboratory.

#### 7.3 Field Quality Control

The analytical results obtained from the FRB will determine whether field or sample transporting procedures is a cause of sample contamination.

Prior to the sampling event, the Sampler will collect a 250 mL ASTM Type I reagent-grade water from the Laboratory which will be used for the FRB. At the school and prior to the first sample collected at a school, the ASTM Type I reagent-grade water will be transferred into a sample container which will be identified as the FRB sample.

The ASTM Type I reagent-grade water will either be supplied by the Laboratory or purchased through a vendor. The 250 mL sample containers are purchased pre-cleaned. Sample containers are not to be



reused.

#### 8. Analytical Requirements

#### 8.1 Analytical Methods

The Union County Vocational Technical Schools must use one of the USEPA approved drinking water methods listed in the table below for the analysis of lead. Any of these methods can be used provided that the Laboratory is certified to analyze and report lead by that method and that the Laboratory has a reporting limit no greater than  $2 \mu g/L$ .

For the purposes of the School District's QAPP, the analytical performance information is as follows:

Analyte	Analytical Method	Sample Matrix	Recommended Guidance Level	Reporting Level
Lead (Pb)	USEPA Method 200.8 USEPA Method 200.9 USEPA Method 200.5 SM 3113B ASTM D3559-D	Drinking Water	Greater than 15 μg/L (15.5 μg/L and above) first draw (initial) sample	2.0 μg/L (ppb)

The pH of all samples must be checked at the time of receipt at the Laboratory. If the pH is not less than 2, the pH must be adjusted with the addition of nitric acid. Samples that require the addition of nitric acid must sit for 16 hours prior to digestion (if applicable) or analysis. The pH of each sample must be documented.

The turbidity of each sample must also be checked at the time of receipt at the Laboratory. If the turbidity of the sample is greater than 1 NTU, the sample must be digested prior to analysis. The turbidity of each sample must be documented and those samples digested must be recorded by the Laboratory.

If a sample result exceeds 90% of the linear dynamic range, the sample must be diluted and re-analyzed. The dilution factor must be included in the Laboratory report for each sample that is diluted.

#### 8.2 Analytical Quality Control

The USEPA has established protocols for the analysis of Quality Control (QC) samples with each analytical batch of samples, generally defined as a maximum of twenty samples. All QC results must be assessed and evaluated on an on-going basis and QC acceptance criteria must be used to determine the validity of the data.

For analytical testing, the laboratory includes positive control samples Laboratory Control Sample (LCS) or



Analytical Quality Control (AQC)] to evaluate the total analytical system. Negative control samples (Method Blanks) are used to assess the preparation batch for possible contamination during the preparation and processing steps. A blank is considered contaminated with any result at or above the analyte reporting limit. Specific control samples (Matrix Spikes) are used to indicate the effect of the sample matrix and replicates (matrix spike, LCS replicate) are performed to assess the precision of the results generated.

Specific information regarding acceptance criteria and corrective actions is documented in the Laboratory's SOP for any of the analytical methods listed in the table above.

#### 9. Sample Handling and Custody Requirements

All samples are aqueous and will be collected and labeled by the laboratory. Standard USEPA Chain of Custody (COC) procedures will be followed according to the information provided in the District's Sampling Plan (Appendix B). The COC form found in Appendix C or equivalent is to be used for this project.

Samples will be transported by Laboratory or Samplers or appropriate representative to the Laboratory.

Analyte	Sample Volume	Container	Preservation (Note1)	Holding Time
Lead (Pb)	250 mL	unused 250 mL rigid plastic wide-mouth – clean	Reagent Grade Nitric Acid (HNO3) pH < 2	6 months

Note 1. Sample preservation will be conducted either in the field or by the Laboratory upon receipt.

#### 9.1 Sample Archive/Disposal

The samples received by the Laboratory for each school, including any digestates, will be eligible for disposal at a minimum 30 days unless otherwise directed by the District after the final report has been distributed. Samples including any digestates will not be archived unless a written request is provided to the Laboratory.

#### 10. Instrument/Equipment Testing, Inspection, Maintenance & Calibration Requirements

#### 10.1 Instrument/Equipment Testing, Inspection and Maintenance

All laboratory equipment will be tested, calibrated, and maintained in accordance with existing SOPs



approved by the laboratory.

There are no field instruments anticipated for this project.

#### 10.2 Instrument/Equipment Calibration and Frequency

The USEPA approved analytical methods for lead listed in the National Primary Drinking Water Contaminant Regulations at 40 CFR 141.23 and Appendix A to Subpart C require that the instrument calibration be performed on a daily basis.

#### 10.3 Inspection/Acceptance of Supplies and Consumables

250 mL sample containers are purchased pre-cleaned. Sample containers are not to be reused. Sample gloves are to be disposable, non-colored and not reused.

#### 11. Data Management

The Laboratory will immediately notify the Project Manager and Project Officer of the affected school(s) upon receipt of any validated laboratory results that exceed the action level for lead in drinking water that is greater than 15  $\mu$ g/L (as defined as greater than or equal to 15.5  $\mu$ g/L). For all results, the Laboratory will provide the result in micrograms per liter ( $\mu$ g/L) and to at least three (3) significant figures (i.e.19.6  $\mu$ g/L or 20.4  $\mu$ g/L).

The Laboratory will provide a final electronic copy of the Lead Data Report Package (LDR) for each school that will consist of: 1) PDF cover sheet that identifies the school name and all qualifiers with a description for that qualifier used by the laboratory, 2) laboratory report of the analytical results in PDF format, 3) the chain of custody in PDF format and 4) a spreadsheet of the results. The spreadsheet must include the information outlined in the template provided in Appendix D. Information required to be included in separate columns includes but is not limited to; the field ID (sample location identifier and/or code), the Laboratory sample ID, the Laboratory Name and Laboratory certification number, whether the sample was flushed, the date and time of collection and analysis, the analytical method, the analytical result in  $\mu$ g/L, the reporting limit in  $\mu$ g/L, and whether the sample was diluted or digested and any qualifiers.

The LDR Package will include the analytical results, appropriate qualifiers and reporting limits for analyses of submitted samples as requested by the District. The LDR Package must include explanations of any relevant procedural deviations or anomalies associated with the sample handling and analysis of the project. This report will be completed within the timeframe indicated in the contract. (see Section 5).

### 12. Assessments/Oversight

Formal field audits by QA personnel may be conducted for this project. However, identification of



problems related to technical performance will be the responsibility of the staff working on this project.

The Project Officer(s) will assess any problem that arises in the field. If necessary, modifications to technical procedures may be considered. Any changes in technical procedures will be documented in the field logbook, evaluated to determine if there will be any impact to the data and then highlighted in the Final Project Report.

The Laboratory personnel will perform self-audits and institute corrective actions in accordance with their respective written procedures.

### 13. Data Review, Verification, Validation, and Usability

#### 13.1 Data Review, Verification and Validation

The Project Manager will evaluate the School Field Sampling Summary Reports against the final analytical results to determine if any field observations may have contributed to lower or higher analytical results.

The Project Manager will review the analytical report and determine any limitations on the use of the data (see Section 5.2 Bias of this QAPP) and include these limitations in the Final Project Report.

Data review of all laboratory generated data is performed by the Laboratory Quality Assurance Officer (LQAO) who is not associated with the actual measurement operations for the given analytical batch but knowledgeable in the analytical processes employed. It is the responsibility of the LQAO to ensure that all data generated are correct and of known and documented quality. Once the review is completed, the LQAO will sign and date the appropriate QA/QC checklist according to the Laboratory's SOP. Any limitations on the use of data (e.g. data qualifiers) will be included in the Final Project Report.

#### 13.2 Reconciliation with User Requirements

As long as the Field Sampling Summary Report, LDR Package and Final Project Report of this QAPP are satisfied, the data will be useable for the purpose intended and no further assessment is required. If any data are determined to be unusable by the Project Manager, re-sampling may be required.

### 14. Reporting, Documents and Records

Original documents (X) will be stored as follows:



	Individual	Union County Vocational Technical	Union County Vocational Technical
		Schools Project	
Document:	<u>Officer</u>	<u>Manager</u>	m Manager
QAPP	Сору	Χ	Сору
Field Walk-Through Report	Χ	Сору	Сору
Field Logbook	Χ		
Chains of Custody	Х	Сору	Сору
Flushing Notification/ Flushing Log Tags/Procedure	Х	Сору	Сору
Field Sampling Summary Report	Х	Сору	Сору
Flush Tags	Χ	Сору	Сору
Floor Diagrams	Χ	Сору	Сору
Plumbing Profile	Χ	Сору	Сору
Filter Inventory	Χ	Сору	Сору
Drinking Water Outlet Inventory	Χ	Сору	Сору
Pre Sampling Water Use Certification	X	Сору	Сору
Laboratory Data Report	Х	Сору	Сору
Final Project Report	Сору	X	Сору



# Appendix A 3Ts for Reducing Lead in Drinking Water in Schools:

Revised Technical Guidance, December 2005; Errata to 3Ts, October 2006

Available online at:

https://www.epa.gov/sites/production/files/2015-09/documents/toolkit leadschools guide 3ts leadschools.pdf

http://www.nj.gov/dep/watersupply/dwc-lead-schools.html



# **Appendix B**

# School District Lead Water Testing Sampling Plan 4/23/2022

Available under separate cover



## Appendix C: Chain of Custody

#### POTABLE WATER SAMPLING FOR LEAD CONCENTRATION SAMPLE COLLECTION FORM

LIENT IN		TION												AB INFORM	IATION							
Name:													_	Name:								
Addre														Address:								
Client	Rep:												Ľ	Proj.Mgr:								
SCHOO	L/PROJE	ECT II	NFO	RMATIC	ON																	
BLDG																						
BLDG																						
BLDG																						
Conta		ie &	Nu	mbers																		
(0) Yr.	(0) Yr. Built: (1) Yr.1st Add.: (2) Yr. 2nd Add.:													3) Yr. 1st N	Лod.:		(4)	Yr. 2nd I	Mod.:			
SAMP	LING T	EAN	И:											DATE OF S	SAMPL	ING						
SAMPLE																	1		_	_		
Sa	ample De	escrip I	tion	D (ID n	nust i	matc	h contai	_		$-\perp$		Drir	nkin	g Water Outl	et Inform	ation	<u> </u>			4		
		lal	Space Code						Sample/Outlet Code							sp	Seconds					
le #	JC	ctio	e l						ole/c							Seconds	ecc	Time of				
Sample#	Floor	Functional	Spa	N/BY	 	om '	Number		amp	Sam	pled Outle	t Location/Co	oor	dinates/numb	er	0 Se	30 S	collectior (24hr)	1			
S			0,		I NO	JOHH	vullibei	- (	<u>ν Ο</u>								(,)	(24111)		-		
		$\Box$	$\dashv$					$\dagger$														
								1														
								+												_		
									+													
								1														
								+												_		
			$\dashv$					+	+													
			_																			
$\perp$			_			Ш		1	4													
A II -	L			lac::	1/ 05			. 1.	441 -		. m. e - 1	INO O :	1 -4	) h, e - ! !								
				ieanec	1/ 25	U M	piasti	od c	tties	prese	erved w F	1NO3 @ bł	H<2	2 by field	or to be	e pre	serv	ed by lab <sub>.</sub>				
CHAIN (						1							_		1							
Relinqui	ished By	<i>r</i> :					Receiv	ed E	sy:				<u> </u> T	ime:								
l													+									
II. III.													+									
Metho	d of eh	inm	onf	/deliv	2r\/'					Fed	-Ev L	land Deliv	<u> </u>	/ US Ma	 il	JPS		Courier	Other:			
									_	_i eu	<u>-                                    </u>	iana Deliv	GI)	,03 IVIA	···	J- 3		Country _				
INSTRU	CHONS	101	HEL	ABORA	AIOI	ΚY				- 1.	Lab:				le	one	rt D	esults to				
 Δna	lyze bo	th in	itiəl	and fo	llov	מנו /	eamnl	<b>_</b> c			∟av.					epo Pho		รอนเเจี เ0	•			
	iyze bo ier:	u 1 11 1	iuai	and 10	,110 00	uμ	Jampi	J							-	Em						
	w QAPI	P ine	truc	tions						c	Contact	•			-	_∟⊞ _Fax						
	ור עניתו	1113	, ii u C							`						_ i a/	١.					



Comments: Provide Laboratory Data Report (LDR) Package and Chain of Custody



# Appendix D: Excel Template for Lead Results

Field ID	Flushed Y/N	Laboratory sample ID	Laboratory Name	Lab Certification ID	Date Sampled	Time Sampled	Analytical Method	Date of Analysis	Time of Analysis	Concentration in ug/L	Reporting Limit (ug/L)	Dilution Factor	Digested (Y/N)	Qualifier
01 AC-HS-1FL-N-1-OFFICE	N	DWS-1234-01	LAB	01234	3/19/2016	9:15	200.8	3/22/2016	22:44	235	0.2	1	Υ	

