



**Needham Public
Health Division**
Prevent. Promote. Protect.



Board of Health AGENDA

**June 10, 2025
9:00 – 11:00 a.m.**

Public Service Administration Building, Charles River room

Webinar ID: 867 7098 6259

Passcode: 304273

<https://needham-k12-ma-us.zoom.us/j/86770986259?pwd=6wGsBNzVBSQOmHpcOnnabQfyF0GnuM.1>

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Link: <https://needham-k12-ma-us.zoom.us/j/86770986259?pwd=6wGsBNzVBSQOmHpcOnnabQfyF0GnuM.1>

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This is a public meeting of the Needham Board of Health. The meeting is open to the public both in person and via Zoom. Residents are invited to provide comment during the public comment period (if set forth below) and for any item explicitly listed as a public hearing. Public comment is not available during other agenda items.

	9:00	Welcome & Public Comment Period Attendees are encouraged to inform the Needham Public Health Division of their intent to participate in the public comment period in advance via email (healthdepartment@needhamma.gov), telephone (781) 455-7940, or in person by the end of the business day prior to the meeting. The Chair will first recognize those who have communicated in advance their desire to speak for up to three minutes. If time allows, others wishing to speak will be recognized in an order determined by the Chair for up to three minutes.
1.	9:04	Review of Minutes – May 20, 2025
2.	9:05	Synthetic Turf Re-testing – Results and Discussion • Tara Gurge, Assistant Director of Public Health • Evan Koncewicz, Environmental Geologist, Fuss & O'Neill • Neal Kelly, Licensed Site Professional, Fuss & O'Neill
3.	9:15	Nicotine Pouches – PUBLIC HEARING & BOARD VOTE • Karen Shannon, Substance Use Program Coordinator • Tara Gurge, Assistant Director of Public Health • Sai Palani, Environmental Health Agent
4.	9:40	Proposed New Fee Schedule – BOARD VOTE • Tara Gurge, Assistant Director of Public Health • Sai Palani, Environmental Health Agent
5.	10:00	Mental Health Resources & SWAC Report on Social Media in Schools • Sara Shine, Director of Youth & Family Services
6.	10:20	May Staff Reports • Environmental Health – Sai Palani & Tara Gurge • Accreditation – Lynn Schoeff & Alison Bodenheimer • Traveling Meals – Rebecca Hall • Regional Substance Use – Carol Read & Lydia Cunningham • Substance Use Prevention: Needham – Karen Shannon, Karen Mullen, Monica DeWinter, Angi MacDonnell, Vanessa Wronski • Public Health Preparedness –Taleb Abdelrahim • Epidemiology – Julie McCarthy • Nursing – Ginnie Chacon-Lopez & Hanna Burnett • Public Health Excellence – Kerry Dunnell

8.	10:45	Feedback to Select Board about FY26 Goals and Beyond • Timothy McDonald, Director of Health & Human Services
9.	10:55	Other Items • Next Meeting Date, Location & Time – Possibly August 8th at 9:00 a.m.?

(Please note that all times are approximate)



Board of Health Meeting Minutes DRAFT

Date: May 20, 2025

Location: via Zoom

Members: Tejal K. Gandhi, MD, MPH; Stephen Epstein, MD, MPP, Member; Robert A. Partridge, MD, MPH, Member, Edward Cosgrove, PhD; Aarti Sawant-Basak, PhD, Member

Staff Present: Timothy Muir McDonald, Director of Health, and Human Services; Tara Gurge, Assistant Director of Public Health; Kerry Dunnell; Sai Palani; Julie McCarthy; Rebecca Hall, Lydia Cunningham, Taleb Abdelrahim, Karen Shannon; Lynn Schoeff; Carol Read

Welcome & Public Comment Period

Dr. Epstein called the meeting to order at 9:00AM.

According to Chapter 107 of the Acts of 2022, as an act relative to extending certain states of emergency accommodations, as passed by the General Court, and signed into law by Acting Governor Karyn Polito, on July 16, 2022, revised Section 20 of Chapter 20, the Acts of 2021. In so doing, provided modifications to the Massachusetts Open Meeting Law, which allow for flexibility to hold remote only, and hybrid meetings, while preserving public access and, where appropriate, public participation.

Kalina Mihova and Grace Tetrault spoke about the importance of banning the sale of nicotine, especially nicotine pouches, in Needham. They spoke of the impacts they have seen nicotine use have on their classmates and teammates.

Stephen Helfer, representing Cambridge Citizens for Smokers Rights, stated that, last year in September, the FDA announced that the teen smoking rate was the lowest it has been in 25 years, and the vaping rate had gone down to the lowest it has been in ten years. The dangers of nicotine are overstated. In Massachusetts, adults 21+ are allowed to use their judgment regarding products such as alcohol and marijuana, both of which impair judgment and driving skills. Nicotine does neither of those. Adults should be free to buy nicotine products as long over the age of 21. Dr. Epstein clarified that Mr. Helfer is not a resident of Needham.

Isabel Tashie stated that sellers of nicotine pouches, like ZYN, would like the public to believe that their products are safe alternatives and are meant to help adult users quit. However, ZYN is owned by Philip Morris. Philip Morris does not want people to quit. Historically they have targeted young people, calling them terms like “pre smokers” because they want young people to replace current users. The industry has also historically used practices such as rewards programs and advertisements involving youth, marketing these products towards young

people. Nicotine pouch products are constantly littered throughout school. There are plenty of youth using them and still teachers are unaware. Philip Morris does not care about helping people quit; they care about having people continue to use products with heavy amounts of nicotine in them. In 2023 there were over 200 million shipments of ZYN products into the US. In comparison between 2016-2018, there were around 40 million imports of e-cigarette products shipped into the US. Zyn pouches are quickly taking over American youth, especially within towns like Needham. Implementing Nicotine Free Generation was a great step toward protecting the future generation of youth in Needham. In order to ensure that the policy will work, it needs to revolve around all products.

Jonathan, representing Cambridge Citizens for Smokers Rights, stated that he would prefer that everyone be allowed to smoke and use nicotine products. The availability of nicotine products could be helpful for students who cannot pay attention or for whom Ritalin does not work. Everyone should have access to coffee and smoke breaks. Smokers do not push anything on non-smokers.

Board Reorganization

Upon motion duly made by Dr. Epstein, and seconded by Dr. Cosgrove, it was voted to nominate Dr. Cosgrove for the position of Chair of the Needham Board of Health, Dr. Sawant-Basak for the position of Vice Chair, and Dr. Partridge for the position of Secretary/Clerk. Motion passed unanimously.

Review of minutes – April 18, 2025

Upon motion, duly made by Dr. Epstein, and seconded by Dr. Sawant-Basak, it was voted to approve the meeting minutes April 18, 2025, as presented. Motion passed 4-0-1 with Dr. Gandhi abstaining.

April Staff Reports

Environmental Health – Sai Palani & Tara Gurge

- Ms. Gurge updated the Board on enforcement of ZYN nicotine pouch products. She and an intern purchased sample vape products which were marked as “clear” but had an apparent flavor to them. These vape products were found at two establishments in Town and a minty-type odor was smelled on them. Staff has sent letters out to the retailers regarding these products having a characterizing flavor. There will be a follow-up to this at the Board’s June meeting.
- Mr. Palani stated that tobacco compliance checks were carried out in April and all the stores passed. Testing for the Nicotine Free Generation items is being considered for checks later this year. A full self-assessment for FDA retail standards was carried out. This will be an iterative process to identify any gaps in the standards and maintaining them over time.

- There was a Food Advisory Board meeting as part of Standard 7, including discussion regarding the potential adoption of the 2022 food code and how those changes might impact the public and retailers. There was also discussion regarding food waste and how the Town could do more to address it.
- Mr. Palani conducted a site visit to the St. Mary's Street housing case and spoke with the occupants. The conditions there have improved to a point where Mr. Palani is willing to close the case.
- Dr. Epstein stated that there will need to be some independence to the testing when characterizing flavors for vape items. Dr. Patridge stated that the Board needs to determine how it would like to continue to enforce this moving forward.

Accreditation - Lynn Schoeff

- Ms. Schoeff stated that the Public Health Accreditation Board provided feedback, identified which documents need work in order to meet requirements, and reopened access to submitted documents last night. There were 26 documents out of several hundred identified that need some work. The deadline for this is July 24th and she is very confident it will be completed by that time.

Traveling Meals – Rebecca Hall

- Ms. Hall stated that meals are currently still being delivered by volunteers. The hiring process for summer drivers occurred in April and offer letters were sent out in May. The number of meals for April was the same as for March. Client numbers did not change.

Substance Use Prevention: Regional – Carol Read & Lydia Cunningham

- Ms. Read explained that the Mass Call 3 funding will revert back to the \$125,000 annual allocation, down from \$250,000. Ms. Read also informed the Board that she will leave her position on June 30, the end of the fiscal year. She thanked everyone on the Board.
- Ms. Cunningham explained that the town of Westwood submitted a Drug Free Communities grant application last month and, if they are awarded the grant, each of the cluster towns will be grantees.
- Staff have been preparing for the annual Regional Mass Call 3 meeting which will focus on sharing youth substance use and mental health data from the Metro West Adolescent Health Survey and updates on the regional strategic plan implementation. Staff have requested and received data cross tab reports from the 2023 Metro West Adolescent Health survey from the four towns. This data can be presented at a future Board of Health meeting.

Substance Use Prevention: Needham - Karen Shannon

- Ms. Shannon stated that this month's SPAN activities included a social host law presentation at the high school.
- The team partnered with the Police Department for drug take back day on April 26th and collected 54 lbs. of medications from the community, for a total of 447 lbs. collected over the previous six months.

- The peer recovery coach has been working full time. SALSA students have been extremely active this spring and several members received awards for their leadership.
- A nicotine summary was previously presented to the Board, and it was requested that staff look further into the Metro West Adolescent Health Survey data from 2023 to find any disparities in the use of electronic vape products and e-cigarettes reported by Needham high school students.
- Ms. Shannon included a chart showing the disparities in use of electronic vapor products among those students who identify as LGBTQ+, across racial groups, and among students who report having a learning and/or physical disability.
- The STOP Act grant ended in April. Ms. Shannon explained that the Police Department is in favor of continuing the compliance work, including alcohol compliance checks.

Public Health Preparedness – Taleb Abdelrahim

- Mr. Abdelrahim stated that staff have started planning with the Norfolk County-8 (NC-8) MRC team to host the September Volunteer Training Day in Needham.

Epidemiology – Julie McCarthy

- Ms. McCarthy stated that the rat reporting survey has been shortened based on the Board's feedback and a handful of responses have been received. An educational website about rats is being created.
- Regarding the Biosafety Committee, all of the permit renewals have been submitted, and all of the lab inspections have been completed. The Biosafety Committee met last week and is on track to have the permit renewals approved by the end of the month.

Nursing – Ms. McCarthy for Ginnie Chaon-Lopez

- Ms. McCarthy stated that staff has begun the process to become HEARTSafe Certified. One specific criterion calls for the integration of AEDs into the 911 system which would require the system to be upgraded. Staff continued to work on this.

Shared Public Health Services – Kerry Dunnell

- Ms. Dunnell stated that Sam Menard, who was the assistant manager and lead trainer for shared services, has submitted her resignation. This position and the regional environmental health agent position are open and posted.
- The regional public health nurse continues to provide coverage for the town of Medfield and previously provided coverage for Dover, Sherborn, Medfield, and Needham.
- Staff offered a hands-free CPR event at an employee fair for Dover and Sherborn which was well received.
- Regarding the training hub, there will be a workshop on how to do proper report completion for housing inspections, and a de-escalation for inspectors training. There are a number of curricula that are projected to be developed, including one for camps.

- Regarding the Charles River Health District, the strategic planning work is proceeding, and a draft report will be submitted to the Advisory Board in May. The funding for this group is a combination of State and ARPA funding and this seems fairly secure through 2027.

Designation of Agents

Upon motion duly made by Dr. Partridge, and seconded by Dr. Gandhi, it was voted that Board of Health designate Mr. McDonald as the Board's agent, and empower him to act in its stead, including designating additional deputy agents. Further move that the Board of Health designate Ms. Gurge and Ms. Dunnell as deputy agents to act in its stead when Mr. McDonald is unavailable. Motion passed unanimously.

Public Health Division Charge

Upon motion duly made by Dr. Epstein, and seconded by Dr. Cosgrove, it was voted that the Board of Health approve sending the drafted letter to Mr. McDonald outlining the Board's charge that all the professional staff of the Public Health Division research best practices, review best available data, and educate and inform the community, elected officials, and Town Departments about sound public health practices and the potential impacts of actions, initiatives, and policy choices on the public's health. Also move that a copy of said letter should be sent to the Town Clerk, Ms. Miller, to keep on file. Motion passed unanimously.

Nicotine Pouches

Mr. McDonald stated that the Board previously made some decisions regarding Nicotine Free Generation and agreed to remove the item on nicotine pouches for further discussion. The Board can now consider restricting nicotine pouches to adult-only, not allowing the sale at all, or a third option potentially regarding dosing.

Ms. Read explained that there are two versions of the revised regulations, one which includes a nicotine pouch limit and the other that allows for nicotine pouches in adult-only retail stores. Dr. Epstein stated that Needham has a flavor ban, and he is not aware of any ZYN product that is unflavored. Thus, for all practical purposes, ZYNs are not being sold currently in Needham. Mr. Palani stated that only one product has been determined to have a characterizing flavor. There are grey areas for other products and enforcement has not occurred on them. Dr. Epstein stated that the FDA has taken the authority to approve these for sale. The Town could state that the only ones allowed for sale have to be FDA approved. They also have to be unflavored, with no characterizing flavor or odor. All other items would have to come off the market.

The Board agreed that the language regarding adult-only stores should be removed. The content should not be greater than 6mg per pouch, the pouches should be unflavored, the pouches should be FDA approved, and prior to retail sale the Board or Board's agent should evaluate to confirm they are unflavored. The Board suggested that Ms. Gurge develop a

standard practice for determining if a nicotine pouch is flavored. There was agreement that implementation and enforcement should be discussed with other towns. Mr. McDonald stated that a draft document would be submitted to the Board for further review.

Proposed New Fee Schedule , Permit Fee Calculator, & Risk-Based Fee

Mr. McDonald previewed the Customized Permit Fee Calculator which was developed with significant staff and contractor effort. The dynamic model attempts to capture the true cost to the Public Health Division to accept and process various applications and plan reviews, and to conduct the appropriate inspections and follow-ups. The current calculations show that the Public Health Division may overcharge for some types of permits and licenses and also undercharge for various food service licenses. That is especially true if the Board chooses to move to a risk-based inspection fee model. In May, the Board will debate the appropriate level at which to set permit fees for FY2026, including how to best balance the desire to have the charge accurately reflect the time and effort devoted to that permit with the consideration of not dramatically increasing costs to permit holders without sufficient notice and a potential phase-in period.

Other Items

- Discussion of July or August Meeting Date, Location & Time

The Board agreed to take a poll as to which summer meeting date it would schedule.

- Next Meeting Date, Location & Time

Next Meeting – June 20, 2025 – Charles River room – Public Safety Administration Building

Adjournment

Upon motion duly made by Dr. Cosgrove, and seconded by Dr. Partridge, it was voted to adjourn the meeting. Motion passed unanimously.

The meeting was adjourned at 10:53AM.

Attachment:

May 20, 2025, meeting packet



Needham Public Health Division

Prevent. Promote. Protect.



Board of Health Town of Needham AGENDA FACT SHEET

MEETING DATE: June 20, 2025

Agenda Item	2025 Fuss & O'Neill Synthetic Turf Re-Testing Report
Presenter(s)	Tara Gurge, Assistant Public Health Director Timothy McDonald, Director of Health & Human Services

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED
Enclosed is the latest June 2025 Synthetic Turf Crumb Rubber Retest report for the three turf fields in town, specifically for Memorial Field and for the two fields at DeFazio Park. As you recall, we asked them to re-test for arsenic and zinc in April 2025, using a 6-point field composite sample. Fuss & O'Neill stated that the lab was not able to meet the risk-based levels for arsenic. However, the labs reporting limits were much closer to the risk-based levels than the October 2024 sampling event and they also stated that the method detection limits were less than the risk-based levels for arsenic. Two reps from Fuss & O'Neill, Evan Koncewicz, Environmental Geologist and Neal Kelly, Massachusetts Board of Hazardous Waste Site Cleanup Licensed Site Professional (LSP), will be present in case the board has any follow-up questions on those recent report results.	
2.	VOTE REQUIRED BY BOARD OF HEALTH
No vote requested.	
3.	BACK UP INFORMATION:
a) Copy of June 2025 Crumb Rubber Turf Retest report. b) Copy of previous January 2025 Crumb Rubber Turf testing report. c) Presentation by Fuss & O'Neil Experts	

Crumb Rubber Monitoring Results Memorial Park & DeFazio Park Needham, Massachusetts

Needham Health Department
Needham, Massachusetts

June 2025

June 3, 2025

Ms. Tara Gurge, R.S., C.E.H.T., M.S.
Assistant Public Health Director
Needham Public Health Division
Health and Human Services Department
178 Rosemary Street
Needham, MA 02494

RE: **Crumb Rubber Monitoring Results – June 2025**
Memorial and DeFazio Parks
Needham, Massachusetts
Fuss & O'Neill Project No. 20081266.B51

Dear Ms. Gurge:

Enclosed is the summary report for crumb rubber testing performed at the artificial turf athletic fields located at Memorial Park and DeFazio Park in Needham, Massachusetts in April 2025.

If you should have any questions regarding the contents of this report, please do not hesitate to contact the undersigned below. Thank you for this opportunity to have served your environmental needs.

Sincerely,



Evan Koncewicz
Environmental Geologist
(617) 379-5895



Neal Kelly, LSP
Associate
(781) 987-4323

Enclosure

Table of Contents

Crumb Rubber Monitoring Results
Memorial Park & DeFazio Park
Needham Health Department

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2 Real-Time Measurements	

Figures	End of Report
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Appendix B – Sampling Equipment	
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1 Introduction and Background

Fuss & O'Neill, Inc. (Fuss & O'Neill) was retained by the Needham Health Department (the "Client") to perform periodic monitoring of the crumb rubber used at the artificial turf athletic fields in Needham, Massachusetts. The study involved the collection of field measurements and crumb rubber samples from Memorial Park (Needham High School Field, 92 Rosemary Street) and DeFazio Park (Brock Field and Founders Field, 380 Dedham Avenue) for laboratory analysis. The laboratory data were compared to toxicity reference data from the Massachusetts Department of Environmental Protection (MassDEP).

Historically the crumb rubber samples were submitted for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and total metals. Following detections of zinc above applicable criteria and elevated arsenic detection limits during the October 2024 sampling event, the Client retained Fuss & O'Neill to resample for arsenic and zinc during the April 2025 event.

On April 7, 2025, Mr. Christopher Juliano of Fuss & O'Neill performed the crumb rubber sampling in accordance with our proposal dated March 13, 2025.

2 Methodology and Scope of Testing

On April 7, 2025, Mr. Juliano of Fuss & O'Neill met Ms. Tara Gurge of the Needham Health Department to access the three athletic fields to perform the sampling and monitoring activities. A six-point composite sample of crumb rubber was collected from each artificial turf athletic field using laboratory provided dedicated glass jars. The composite samples contained crumb rubber collected from six locations of each artificial turf athletic field. Approximate discrete locations from which the material was collected to make up the composite samples are indicated on *Figure 1* (Memorial Park) and *Figure 2* (DeFazio Park). Samples were collected from the Needham High School Field in Memorial Park (sample 1643250407-01), from Founders Field (sample 1643250407-02) and Brock Field in DeFazio Park (sample 1643250407-03) as indicated in *Table 1*.

The composite samples were submitted to EMSL Analytical Laboratory of Cinnaminson, New Jersey (EMSL). The crumb rubber was analyzed for trace metals by Environmental Protection Agency (EPA) Methods 6020B (Inductively Coupled Plasma–Mass Spectrometry (ICP-MS). EMSL subcontracted the analysis of trace metals to ALS Laboratories of Holland, Michigan. Copies of the laboratory analytical data packages are included in *Appendix A*.

Real-time ambient conditions were monitored during crumb rubber sampling. Total organic vapors (TOVs) were measured using an Ion Science Tiger Photoionization Detector (PID). Volatile organic compounds (VOCs) are a subset of TOVs. A TSI Q-Trak Air Quality Monitor was used to record ambient temperature and relative humidity (RH). Refer to *Appendix B* for a list of sampling equipment, and *Table 2* for real-time measurements.

3 Results

Analytical data are summarized in *Table 1*. Zinc was detected below applicable criteria in all three samples. Arsenic was not detected in any sample at a reportable concentration, however, the

laboratory reporting limits (MRLs) for arsenic were slightly greater than the risk-based level of 2.5 mg/kg used. The April 23, 2025, laboratory report attributed the elevated MRLs to sample dilution from high concentrations of non-target analytes. Fuss & O'Neill therefore asked the laboratory to provide the laboratory method detection limits (MDLs). The revised May 6, 2025, laboratory package shows the same MRLs however provides the requested MDLs. The revised laboratory report indicated arsenic concentrations reported below MDLs and below the risk-based level, allowing for confident detection at concentrations beneath the applicable criteria. The MDL refers to the minimum concentration of an analyte that can be detected by the laboratory with a degree of confidence.

Real-time measurements provided in *Table 2* indicate TOVs were recorded at concentrations at an average or below 0.1 parts per million by volume (ppmv) in ambient air at each of the fields during sampling activities. Readings recorded as less than or equal to 1.0 ppmv likely were a result of moisture in ambient air effecting the PID detector lamp. The ambient relative humidity at the time of sampling was between 43 and 70 percent, within a 53 to 40.3 degree Fahrenheit environment (recorded within a few inches of the surface).

4 Data Evaluation

The Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) establishes soil standards for a variety of uses based on publicly-available toxicity data for a range of compounds, including VOCs, SVOCs, and metals. The numerical standards and their derivations are publicly-available¹.

MassDEP generally establishes these standards based on four criteria:

- Publicly-available toxicity data, including EPA and MassDEP Office of Research and Standards (ORS) data, and peer-reviewed industry sources.
- Typical background levels in New England soil.
- Ceiling concentrations (i.e. maximum concentrations set for compounds of limited toxicity).
- Practical quantification limits (PQLs), i.e. levels which analytical laboratories can reliably quantify.

In its toxicity calculations for Method 1 S-1 Soil Standards (applicable to sensitive land uses, including residences, schools and day-care facilities), MassDEP considers inhalation and skin-absorption risks over exposures from infancy to adulthood. Fuss & O'Neill evaluated the crumb rubber analytical results relative to MassDEP's published toxicity levels (i.e. the levels which would be used in the absence of ceiling, background or PQL considerations). For metals, concentrations were compared to MassDEP Residential Receptor Direct Contact Risk-Based Soil Concentration Levels. These values are included in *Table 1*.

As noted on *Table 1*, zinc was detected in all samples at concentrations below the MassDEP Risk based level (15,000 mg/kg) and less than the historically reported range. Arsenic was not detected in any of the samples above method detection limits. The MassDEP exposure levels assume continuous high-contact exposure (five days per week, 30 weeks per year) over a multiple-year duration and are therefore conservative with regard to the actual exposures for users of the field.

¹ MassDEP, December 2017, "MCP Numerical Standards." <https://www.mass.gov/doc/mcp-numerical-standards-derivation/download>, accessed May 2025.

Compared to analytical data from October 2024, the concentration of zinc was much less during the April 2025 sampling event. Detected concentrations of zinc in October 2024 ranged from 12,600 to 15,200 mg/kg and had a sample in exceedance of the 15,000 mg/kg risk-based level. The April 2025 sampling event detected concentrations of zinc ranging from 3,160 to 4,240 mg/kg which were beneath the risk-based level. Method detection limits of arsenic were additionally in exceedance of the risk-based level during the October 2024 sampling event and ranged from 12.9 to 13.2 mg/kg. Method detection limits for arsenic were beneath the risk-based level during the May 2025 sampling event, ranging from 0.375 to 0.402 mg/kg.

5 Conclusions

Fuss & O'Neill collected field and analytical data to characterize the crumb rubber at three athletic fields in Needham, Massachusetts in April 2025 following detections of zinc above applicable criteria and elevated arsenic detection limits during the October 2024 sampling event. The analytical results of zinc and arsenic were compared to MassDEP risk-based guidance levels for soil, to evaluate potential health risks associated with the use of the crumb rubber media on these athletic fields. The following conclusions were formed:

- The concentrations of zinc in all three composite samples were less than the MassDEP risk-based threshold value, which is derived from an assumption of high-intensity exposure for a multi-year duration on a consistent basis.
- The laboratory method detection limit concentrations of arsenic in all three samples were less than the MassDEP risk-based threshold value.

Tables

Table 1
Summary of Crumb Rubber Monitoring Results – Collected April 7, 2025

Analyte	Analytical Results			Risk-Based Levels
	Memorial Park	DeFazio Park		
	Needham High School 1643250407-01	Founders Field 1643250407-02	Brock Field 1643250407-03	
Total Metals – dry weight (mg/kg) by method 6020B				
Arsenic	ND < 3.12 (0.375)	ND < 3.31 (0.397)	ND < 3.35 (0.402)	2.5
Zinc	3,990	4,240	3,160	15,000

ND: None Detected

ND<X (X): <X value is the laboratory method reporting limit (MRL) and the X value in the parenthesis is the laboratory reported method detection limit (MDL) where analyte MDLs were not detected above the Risk Based Levels.

Italicized value indicates that the reporting value exceeds the Risk Based Level.

Table 2
Real-Time Measurements, Needham Crumb Rubber Sampling –April 7, 2025

Location	TOVs (ppmv)	Temperature (°F)	RH (%)
Needham High School (HS)	0.1	53	43
Founders Field (D1)	0.0	47.5	49.4
Brock Field (D2)	0.0	40.3	70

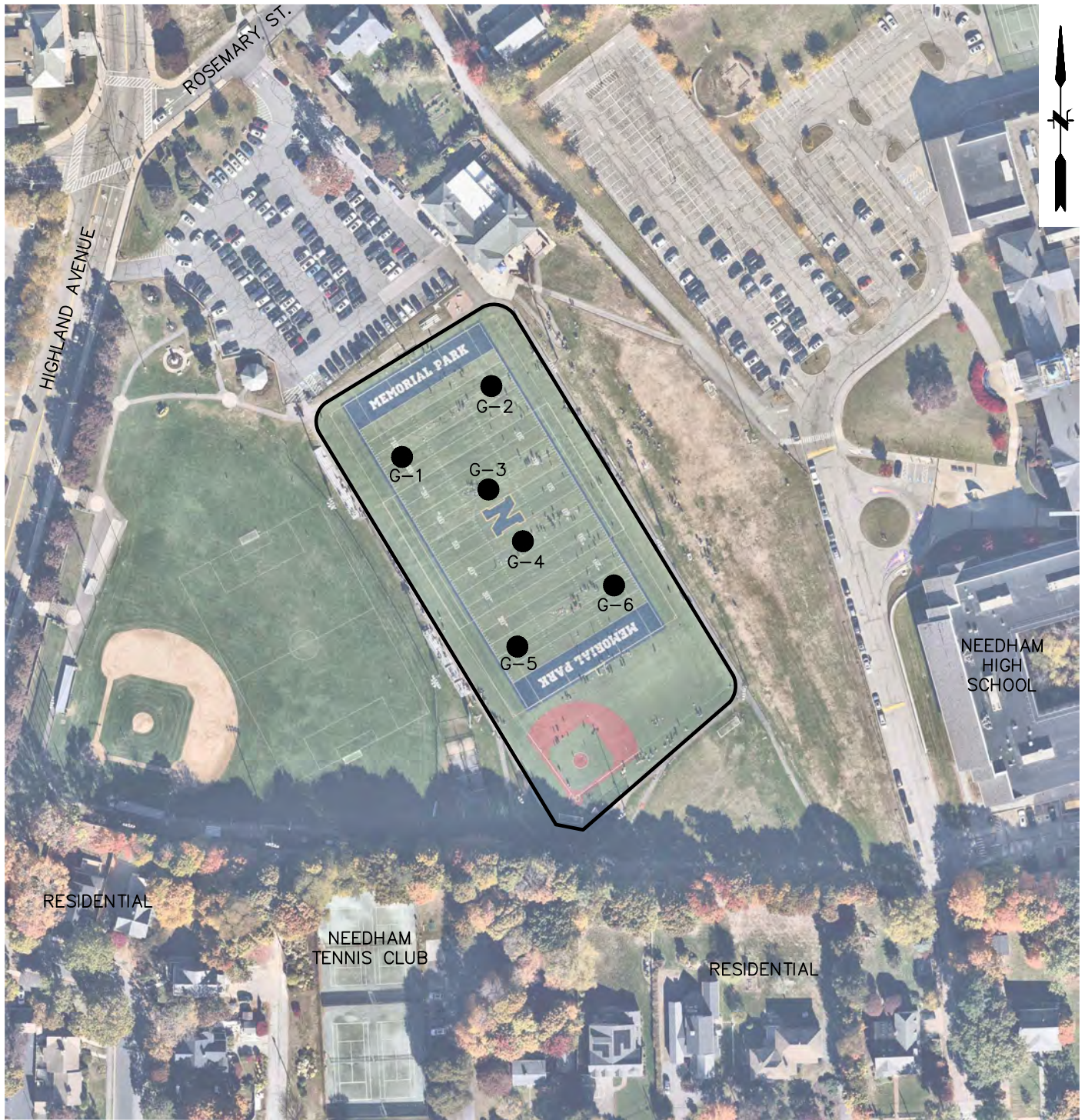
TOVs, temperature and relative humidity were collected from a discrete location at each field.

ppmv: Parts per million by volume

°F: Degrees Fahrenheit

RH: Relative Humidity

Figures



REFERENCES:

1. AERIAL IMAGE WAS TAKEN FROM THE WEBSITE
[HTTP://WWW.NEARMAP.COM](http://www.nearmap.com), DATED 2024.
2. FIELD BOUNDIES APPROXIMATE BASED ON SITE
OBSERVATIONS.

LEGEND



PARK BOUNDARY



SAMPLE LOCATIONS TO
FORM COMPOSITE

SCALE:	
HORZ.: 1" = 150'	
VERT.: -	
DATUM:	
HORZ.: -	
VERT.: -	
0 125' 150'	
GRAPHIC SCALE	

**FUSS &
O'NEILL**

108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
www.fando.com

NEEDHAM HEALTH DEPARTMENT

SITE PLAN

MEMORIAL PARK - 92 ROSEMARY ROAD

NEEDHAM

MASSACHUSETTS

PROJ. No.: 20081266.B51
DATE: MAY 2025

FIGURE 1



REFERENCES:

1. AERIAL IMAGE WAS TAKEN FROM THE WEBSITE
[HTTP://WWW.NEARMAP.COM](http://www.nearmap.com), DATED 2024.
2. FIELD BOUNDRIES APPROXIMATE BASED ON SITE
OBSERVATIONS.

LEGEND

-  FOUNDERS FIELD BOUNDARY
-  BROCK FIELD BOUNDARY
-  SAMPLE LOCATIONS TO
FORM COMPOSITE

SCALE:	
HORZ.:	1" = 200'
VERT.:	-
DATUM:	
HORZ.:	-
VERT.:	-
0 150' 200'	
GRAPHIC SCALE	

**FUSS &
O'NEILL**

108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
www.fando.com

NEEDHAM

NEEDHAM HEALTH DEPARTMENT

SITE PLAN

DEFAZIO PARK - 380 DEDHAM ROAD

MASSACHUSETTS

PROJ. No.: 20081566.B51
DATE: MAY 2025

FIGURE 2

Appendix A

Laboratory Analytical Reports & Chain of Custody Forms



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: cs@emsl.com
EMSL-CIN-01

EMSL Order ID: 012516803
LIMS Reference ID: AD16803
EMSL Customer ID: ENVI54

April 24, 2025

Chris Lore
Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 4/10/2025. The results are tabulated on the attached pages for the following client designated project:

Needham Crumb Rubber - 20081266.B51

The reference number for these samples is EMSL Order #: AD16803 . Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact the lab at 856-858-4800.

Owen McKenna Laboratory Manager or other approved signatory

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:cs@emsl.com
EMSL-CIN-01

EMSL Order ID: 012516803**LIMS Reference ID:** AD16803**EMSL Customer ID:** ENVI54

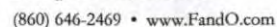
Attention: Chris Lore
Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
chris.lore@fando.com

Project Name: Needham Crumb Rubber - 20081266.B51

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 04/10/2025 10:30
Reported: 04/24/2025 18:46

Positive Hits Summary

No positive results reported



☒ 146 Hartford Road, Manchester, CT 06040
☐ 56 Quarry Road, Trumbull, CT 06611
☐ 1419 Richland Street, Columbia, SC 29201
☐ 78 Interstate Drive, West Springfield, MA 01089

☒ 108 Myrtle Street, #502, North Quincy, MA 02171
☐ 317 Iron Horse Way, Suite 204, Providence, RI 02908
☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

4559

Turnaround

☐ 1 Day* ☐ 3 Days* ☐ Other _____ (days)
☐ 2 Days* ☒ Standard (____ days) *Surcharge Applies

LABORATORY,

EMSL/ALS

Containers

Date: 4/7/2025

$$\Lambda = \Lambda_{\text{air}}$$

X=Other Crumb Rubber

[illegible]

Transfer Number	Relinquished By	Accepted By	Date	Time	Reporting and Detection Limit Requirements: please meet detection limits:
1	<i>Chris In</i>	<i>APR Mally (FX)</i>	4/10/15	10:30am	Arsenic - 2.5 mg/kg zinc 15,000 mg/kg
2					Additional Comments: Send samples to ALS Lab, Holland, Michigan
3					<i>APR</i>
4					15.60



April 23, 2025

Travis Albert
EMSL Analytical
200 Route 130 North
Cinnaminson, NJ 08077

Work Order: **HN2504814**

Re: **AD16803**

Dear Travis,
Enclosed are the results of the sample(s) submitted to our laboratory.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to contact me:
ADDRESS: 3352 128th Avenue, Holland, MI, USA PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Chelsey Cook
/S/ CHELSEY COOK
Project Manager



Client: EMSL Analytical
Project: AD16803

Work Order: HN2504814
Date Received: 15-Apr-2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt

3 soil/solid samples were received for analysis at ALS Environmental on 15-Apr-2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals

EPA 6020B-3050B-S

Batch ID: 3073778

The concentration in the Method Blank was greater than the quantitation limit. Positive results in the batch may be biased high for this analyte: Cu batch 1956896

The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: K batch 1956896

The matrix spike recoveries are unavailable due to dilution below the calibration range. K batch 1956896

The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: K batch 1956896

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Pb batch 1956896

The MS recovery was outside of the control limit. However, the MSD recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: As, Pb batch 1956895

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Pb batch 1956896

Batch ID: 3072027

The concentration in the Method Blank was greater than the quantitation limit. Positive results in the batch may be biased high for this analyte: Cu batch 1956896

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al Ba Ca Fe Pb Mg Mn Zn batch 1956896

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al Ba Ca Fe Pb Mg Mn Zn batch 1956896

HN2504814-001: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes. As

HN2504814-002: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes. As

HN2504814-003: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes. As

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting limits.

For a full listing of sample results, continue to the Sample Results section of this Report.



CLIENT ID: AD16803-01		Lab ID: HN2504814-001			
Analyte	Results	Flag	MRL	Units	Method
Percent Moisture	11.9		0.1	%	EPA 3550C
Zinc	3990		62.5	mg/kg	EPA 6020B

CLIENT ID: AD16803-02		Lab ID: HN2504814-002			
Analyte	Results	Flag	MRL	Units	Method
Percent Moisture	8.5		0.1	%	EPA 3550C
Zinc	4240		66.2	mg/kg	EPA 6020B

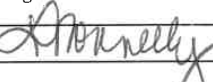
CLIENT ID: AD16803-03		Lab ID: HN2504814-003			
Analyte	Results	Flag	MRL	Units	Method
Percent Moisture	11.0		0.1	%	EPA 3550C
Zinc	3160		67.0	mg/kg	EPA 6020B

SAMPLE SUMMARY



Client: EMSL Analytical
Project: AD16803
Workorder: HN2504814

Laboratory Sample ID	Client Sample ID	Sample Matrix	Collection Date	Date Received
HN2504814-001	AD16803-01	SOIL/SOLID	04/07/25 11:30	04/15/25 09:00
HN2504814-002	AD16803-02	SOIL/SOLID	04/07/25 12:30	04/15/25 09:00
HN2504814-003	AD16803-03	SOIL/SOLID	04/07/25 13:00	04/15/25 09:00

EMSL Analytical, Inc. Environmental Chemistry Lab Service 200 Route 130 North, Cinnaminson, NJ 08077 TEL: (856) 858-4800 FAX: (856) 786-5974				Chain of Custody / Analysis Request Form Print ALL Information. Incomplete chain of custody could result in the delay of analysis.				EMSL Project # AD16803 Account Rep: ENV154 Indicate State where samples were collected: MA							
REPORT RESULTS TO:				SEND INVOICE TO:				Turnaround Time DUE 4/25 Analytical Laboratory Services 3352 128th Ave Holland MI 49424 616-403-6136							
Name: Travis Albert PO#:				Name: PO#:											
Company EMSL Analytical, Inc.				Company EMSL Analytical, Inc.											
Address: 200 Route 130 North				Address: 200 Route 130 North											
City: Cinnaminson				City: Cinnaminson											
State: NJ Zip: 08077				State: NJ Zip: 08077				PROJECT NAME:							
Tel: 856-858-4800 ext. 2548 Fax: 856-854-2362				Tel: 856-858-4800 Fax: 856-854-2362				Date of Sample Shipment: 4/14/25							
Email: sublab@emsl.com				# of Samples in Shipment: 3 (3 jars each)											
Sampled by: (Signature) EMSL CLIENT				Matrix		Preservative		Sampling		List Method and Test Needed					
Lab Sample Number				Waste Water		SLUDGE		DATE		TIME		Metals by ICP (6020B)			
1. AD16803-01								4/07/25		11:30a		X			
2. AD16803-02								4/07/25		12:30		X			
3. AD16803-03								4/07/25		1300		X			
4.															
Released By Signature		Date & Time Released		Delivery Method		Received By Signature		Date & Time Received		Condition Noted					
		4/14/25		FedEx				4-8-25 900		164 JLB					
Please indicate reporting requirements: ☐ 1. Results Only ☒ 2. Results and QC ☐ 3. Reduced Deliverables ☐ 4. Disk Deliverable ☐ 5. Other															
Comments: Analyze for As, Zn by 6020B															

Page 5 of 13



Telephone : +1 616 399 6070

ALS Holland Sample Receiving Checklist

Received by:

Date/Time:

Carrier Name:

Shipping container/cooler in good condition?

Yes / No / Not Present

Custody seals intact on shipping container/cooler?

Yes / No / ~~Not~~ Present

Custody seals intact on sample bottles?

Yes / No / Not Present

Chain of Custody present?

Yes / No

COC signed when relinquished and received?

Yes / No

COC agrees with sample labels?

Yes / No

Samples in proper container/bottle?

Yes / No

Sample containers intact?

Yes / No

Sufficient sample volume for indicated test?

Yes / No

All samples received within holding time?

Yes / No

Container/Temp Blank temperature in compliance?

☒ Yes / No

Temperature(s) (°C):

Thermometer(s):

Sample(s) received on ice?

Yes / No

Matrix/Matrices:

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

Water – VOA vials have zero headspace?

Yes / No / ~~No Vials~~

Water – pH acceptable upon receipt?

Yes / No / ☒ N/A

pH strip lot #: < 2 > 12 Other

pH adjusted (note adjustments below)?

Yes / No / ~~N/A~~

pH adjusted by:

Login Notes:

REPORT QUALIFIERS AND DEFINITIONS

*	Value exceeds Regulatory Limit (if MCL displayed)
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
NC	Not Calculated
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
V	The Continuing Calibration Verification was outside of control criteria
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Holland Laboratory Certifications¹

Agency	Type	ID	Issued	Expires
Alabama	Drinking Water (Secondary)	42500	12/17/2024	12/31/2025
Colorado	UST		06/21/2024	06/30/2025
Connecticut	Drinking Water (Secondary)	PH-0155	12/10/2024	12/31/2026
Florida	NELAP (Primary)	E871106	07/01/2024	06/30/2025
Illinois	NELAP (Secondary)	200076	11/14/2024	12/31/2025
Indiana	Drinking Water (Secondary)	C-MI-08	12/31/2024	09/04/2026
Iowa	State Specific	403	09/18/2023	09/01/2025
Kansas	NELAP (Secondary)	E-10411	07/09/2024	07/31/2025
Kentucky	Waste Water	KY98004	12/20/2024	12/31/2025
Kentucky	UST	120474	06/24/2024	06/30/2025
Michigan	Drinking Water (Primary)	0022	12/19/2023	09/04/2026
Minnesota	NELAP (Secondary)	026-999-449	12/17/2024	12/31/2025
Missouri	Drinking Water (Secondary)	01262	11/14/2024	12/30/2027
New Jersey	NELAP (Secondary)	MI015	07/01/2024	6/30/2025
New York	NELAP (Secondary)	12128	04/01/2024	04/01/2025
North Dakota	State Specific	R-192	11/18/2024	06/30/2025
Ohio	Drinking Water (Secondary)	87783	06/25/2024	6/30/2025
Pennsylvania	NELAP (Secondary)	68-03827	06/14/2024	07/31/2025
Texas	NELAP (Secondary)	T104704494	02/12/2025	01/31/2026
USDA	Domestic CA	Soil-MI-007	02/06/2025	08/07/2026
USDA	Soil Import	525-23-62-77572	03/03/2023	03/03/2026
West Virginia	State Specific	355	02/04/2025	08/31/2025
Wisconsin	State Specific	399084510	08/15/2024	08/31/2025

¹ - Scope available upon request

ANALYST SUMMARY



Client: EMSL Analytical
Project: AD16803

Work Order: HN2504814

Sample Name: AD16803-01
Laboratory Code: HN2504814-001
Sample Matrix: SOIL/SOLID

Date Collected: 04/07/25
Date Received: 04/15/25

Analysis Method	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	1952125		3060436	Jeffrey Blakeman
EPA 6020B	1956896	Elise Poll	3073778	Stephanie Pierson
EPA 6020B	1956896	Elise Poll	3072027	Stephanie Pierson

Sample Name: AD16803-02
Laboratory Code: HN2504814-002
Sample Matrix: SOIL/SOLID

Date Collected: 04/07/25
Date Received: 04/15/25

Analysis Method	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	1952125		3060436	Jeffrey Blakeman
EPA 6020B	1956896	Elise Poll	3073778	Stephanie Pierson
EPA 6020B	1956896	Elise Poll	3072027	Stephanie Pierson

Sample Name: AD16803-03
Laboratory Code: HN2504814-003
Sample Matrix: SOIL/SOLID

Date Collected: 04/07/25
Date Received: 04/15/25

Analysis Method	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	1952125		3060436	Jeffrey Blakeman
EPA 6020B	1956896	Elise Poll	3073778	Stephanie Pierson
EPA 6020B	1956896	Elise Poll	3072027	Stephanie Pierson

Analytical Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID

Work Order: HN2504814
Date Collected: 04/07/25 11:30
Date Received: 04/15/25 09:00

CLIENT ID: AD16803-01	Lab ID: HN2504814-001

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	11.9		%	0.1	1	04/15/25 13:53	NA
Metals								
Arsenic	EPA 6020B	ND	U	mg/kg	3.12	10	04/22/25 00:21	04/18/25 09:59
Zinc	EPA 6020B	3990		mg/kg	62.5	100	04/22/25 13:58	04/18/25 09:59

Analytical Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID

Work Order: HN2504814
Date Collected: 04/07/25 12:30
Date Received: 04/15/25 09:00

CLIENT ID: AD16803-02

Lab ID: HN2504814-002

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	8.5		%	0.1	1	04/15/25 13:53	NA
Metals								
Arsenic	EPA 6020B	ND	U	mg/kg	3.31	10	04/22/25 00:23	04/18/25 09:59
Zinc	EPA 6020B	4240		mg/kg	66.2	100	04/22/25 14:00	04/18/25 09:59

Analytical Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID

Work Order: HN2504814
Date Collected: 04/07/25 13:00
Date Received: 04/15/25 09:00

CLIENT ID: AD16803-03	Lab ID: HN2504814-003

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	11.0		%	0.1	1	04/15/25 13:53	NA
Metals								
Arsenic	EPA 6020B	ND	U	mg/kg	3.35	10	04/22/25 00:24	04/18/25 09:59
Zinc	EPA 6020B	3160		mg/kg	67.0	100	04/22/25 14:01	04/18/25 09:59

QA/QC Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID
Batch: 1952125

Work Order: HN2504814
Date Collected: NA
Date Received: NA

General Chemistry Parameters

MB	CLIENT ID: Method Blank						Lab ID: QC-1952125-001			

Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 04/15/25 13:05
Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	ND	%	0.1							U

LCS	CLIENT ID: Laboratory Control Sample						Lab ID: QC-1952125-002			

Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 04/15/25 13:05
Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	100	%	0.1	100		100	98-102			

DUP	CLIENT ID: Batch QC						Lab ID: QC-1952125-004			

Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 04/15/25 13:05
Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	51.7	%	0.1		51.8			0.0580	10	

DUP	CLIENT ID: Batch QC						Lab ID: QC-1952125-015			

Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 04/15/25 13:54
Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	25.8	%	0.1		25.6			0.779	10	

The following samples were analyzed in this batch:

QA/QC Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID
Batch: 1956896

Work Order: HN2504814
Date Collected: NA
Date Received: NA

Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-1956896-001

Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 04/21/25 23:53
Prep Date: 04/18/25 10:00

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	ND	mg/kg	0.250							U
Zinc	ND	mg/kg	0.500							U

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-1956896-002

Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 04/21/25 23:55
Prep Date: 04/18/25 10:00

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	4.94	mg/kg	0.250	5		98.9	80-120			
Zinc	5.23	mg/kg	0.500	5		105	80-120			

MS	CLIENT ID: Batch QC	Lab ID: QC-1956896-004

Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 04/21/25 23:59
Prep Date: 04/18/25 10:00

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	6.26	mg/kg	0.341	5.359	1.58	93.6	75-125			
Zinc	507	mg/kg	0.682	5	557	NC	75-125			EO

MSD	CLIENT ID: Batch QC	Lab ID: QC-1956896-005

Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 04/22/25 00:01
Prep Date: 04/18/25 10:00

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	5.99	mg/kg	0.336	5.2743	1.58	90.0	75-125	4.44	20	
Zinc	362	mg/kg	0.671	5	557	NC	75-125	33.4	20	EOR

The following samples were analyzed in this batch: HN2504814-001, HN2504814-002, HN2504814-003

May 06, 2025

Travis Albert
EMSL Analytical
200 Route 130 North
Cinnaminson, NJ 08077

Re: **AD16803**

Work Order: **HN2504814**

Revision: **1**

Dear Travis,
Enclosed are the results of the sample(s) submitted to our laboratory.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to contact me:
ADDRESS: 3352 128th Avenue, Holland, MI, USA PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Chelsey Cook

/S/ **DALE SCHIPPER** on behalf of PM listed above

Project Manager



Client: EMSL Analytical
Project: AD16803

Work Order: HN2504814
Date Received: 15-Apr-2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt

3 soil/solid samples were received for analysis at ALS Environmental on 15-Apr-2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals

EPA 6020B-3050B-S

Batch ID: 3073778

The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: K batch 1956896

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Pb batch 1956896

The concentration in the Method Blank was greater than the quantitation limit. Positive results in the batch may be biased high for this analyte: Cu batch 1956896

The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: K batch 1956896

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Pb batch 1956896

The MS recovery was outside of the control limit. However, the MSD recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: As, Pb batch 1956895

The matrix spike recoveries are unavailable due to dilution below the calibration range. K batch 1956896

Batch ID: 3072027

The concentration in the Method Blank was greater than the quantitation limit. Positive results in the batch may be biased high for this analyte: Cu batch 1956896

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al Ba Ca Fe Pb Mg Mn Zn batch 1956896

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al Ba Ca Fe Pb Mg Mn Zn batch 1956896

HN2504814-001: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes. As

HN2504814-002: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes. As

HN2504814-003: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes. As

SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting limits.

For a full listing of sample results, continue to the Sample Results section of this Report.



CLIENT ID: AD16803-01	Lab ID: HN2504814-001

Analyte	Results	Flag	MDL	MRL	Units	Method
Percent Moisture	11.9		0.1	0.1	%	EPA 3550C
Zinc	3990		61.3	62.5	mg/kg	EPA 6020B

CLIENT ID: AD16803-02	Lab ID: HN2504814-002

Analyte	Results	Flag	MDL	MRL	Units	Method
Percent Moisture	8.5		0.1	0.1	%	EPA 3550C
Zinc	4240		64.9	66.2	mg/kg	EPA 6020B

CLIENT ID: AD16803-03	Lab ID: HN2504814-003

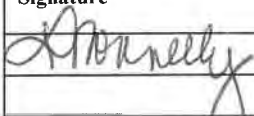
Analyte	Results	Flag	MDL	MRL	Units	Method
Percent Moisture	11.0		0.1	0.1	%	EPA 3550C
Zinc	3160		65.6	67.0	mg/kg	EPA 6020B

SAMPLE SUMMARY



Client: EMSL Analytical
Project: AD16803
Workorder: HN2504814

Laboratory Sample ID	Client Sample ID	Sample Matrix	Collection Date	Date Received
HN2504814-001	AD16803-01	SOIL/SOLID	04/07/25 11:30	04/15/25 09:00
HN2504814-002	AD16803-02	SOIL/SOLID	04/07/25 12:30	04/15/25 09:00
HN2504814-003	AD16803-03	SOIL/SOLID	04/07/25 13:00	04/15/25 09:00

EMSL Analytical, Inc. Environmental Chemistry Lab Service 200 Route 130 North, Cinnaaminson, NJ 08077 TEL: (856) 858-4800 FAX: (856) 786-5974		Chain of Custody / Analysis Request Form Print ALL Information. Incomplete chain of custody could result in the delay of analysis.		EMSL Project # AD16803 Account Rep: ENVI54 Indicate State where samples were collected: MA															
REPORT RESULTS TO:		SEND INVOICE TO:		Turnaround Time DUE 4/25 Analytical Laboratory Services 3352 128 th Ave Holland MI 49424 616-403-6136															
Name: Travis Albert PO#:		Name: PO#:																	
Company EMSL Analytical, Inc.		Company EMSL Analytical, Inc.																	
Address: 200 Route 130 North		Address: 200 Route 130 North																	
City: Cinnaaminson		City: Cinnaaminson																	
State: NJ Zip: 08077		State: NJ Zip: 08077		PROJECT NAME:															
Tel: 856-858-4800 ext. 2548 Fax: 856-854-2362		Tel: 856-858-4800 Fax: 856-854-2362																	
Email: <u>sublab@emsl.com</u>		# of Samples in Shipment: 3 (3 jars each)		Date of Sample Shipment: 4/14/25															
Sampled by: (Signature) EMSL CLIENT			Matrix	Preservative	Sampling	List Method and Test Needed													
	Lab Sample Number		Waste Water	SOIL	AIR	SLUDGE	OTHER	HCL	HNO3	H2SO4	OTHER	DATE	TIME	ICP (6020B)	Metals by ICP (6020B)				
1.	AD16803-01										X	4/07/25	11:30a	X					
2.	AD16803-02										X	4/07/25	12:30	X					
3.	AD16803-03										X	4/07/25	1300	X					
4.																			
Released By Signature		Date & Time Released	Delivery Method		Received By Signature		Date & Time Received		Condition Noted										
		4/14/25	FedEx				4-15-25 900		164 JRG										
Please indicate reporting requirements: ☐ 1. Results Only ☒ 2. Results and QC ☐ 3. Reduced Deliverables ☐ 4. Disk Deliverable ☐ 5. Other											Environmental Division Holland Work Order Reference HN2504814								
Comments: Analyze for As, Zn by 6020B																			



Telephone : + 1 616 399 6070

REPORT QUALIFIERS AND DEFINITIONS

*	Value exceeds Regulatory Limit (if MCL displayed)
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
NC	Not Calculated
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
V	The Continuing Calibration Verification was outside of control criteria
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Holland Laboratory Certifications¹

Agency	Type	ID	Issued	Expires
Alabama	Drinking Water (Secondary)	42500	12/17/2024	12/31/2025
Colorado	UST		06/21/2024	06/30/2025
Connecticut	Drinking Water (Secondary)	PH-0155	12/10/2024	12/31/2026
Florida	NELAP (Primary)	E871106	07/01/2024	06/30/2025
Illinois	NELAP (Secondary)	200076	11/14/2024	12/31/2025
Indiana	Drinking Water (Secondary)	C-MI-08	12/31/2024	09/04/2026
Iowa	State Specific	403	09/18/2023	09/01/2025
Kansas	NELAP (Secondary)	E-10411	07/09/2024	07/31/2025
Kentucky	Waste Water	KY98004	12/20/2024	12/31/2025
Kentucky	UST	120474	06/24/2024	06/30/2025
Michigan	Drinking Water (Primary)	0022	12/19/2023	09/04/2026
Minnesota	NELAP (Secondary)	026-999-449	12/17/2024	12/31/2025
Missouri	Drinking Water (Secondary)	01262	11/14/2024	12/30/2027
New Jersey	NELAP (Secondary)	MI015	07/01/2024	6/30/2025
New York	NELAP (Secondary)	12128	04/01/2024	04/01/2025
North Dakota	State Specific	R-192	11/18/2024	06/30/2025
Ohio	Drinking Water (Secondary)	87783	06/25/2024	6/30/2025
Pennsylvania	NELAP (Secondary)	68-03827	06/14/2024	07/31/2025
Texas	NELAP (Secondary)	T104704494	02/12/2025	01/31/2026
USDA	Domestic CA	Soil-MI-007	02/06/2025	08/07/2026
USDA	Soil Import	525-23-62-77572	03/03/2023	03/03/2026
West Virginia	State Specific	355	02/04/2025	08/31/2025
Wisconsin	State Specific	399084510	08/15/2024	08/31/2025

¹ - Scope available upon request

ANALYST SUMMARY



Client: EMSL Analytical
Project: AD16803

Work Order: HN2504814

Sample Name: AD16803-01
Laboratory Code: HN2504814-001
Sample Matrix: SOIL/SOLID

Date Collected: 04/07/25
Date Received: 04/15/25

Analysis Method	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	1952125		3060436	Jeffrey Blakeman
EPA 6020B	1956896	Elise Poll	3073778	Stephanie Pierson
EPA 6020B	1956896	Elise Poll	3072027	Stephanie Pierson

Sample Name: AD16803-02
Laboratory Code: HN2504814-002
Sample Matrix: SOIL/SOLID

Date Collected: 04/07/25
Date Received: 04/15/25

Analysis Method	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	1952125		3060436	Jeffrey Blakeman
EPA 6020B	1956896	Elise Poll	3073778	Stephanie Pierson
EPA 6020B	1956896	Elise Poll	3072027	Stephanie Pierson

Sample Name: AD16803-03
Laboratory Code: HN2504814-003
Sample Matrix: SOIL/SOLID

Date Collected: 04/07/25
Date Received: 04/15/25

Analysis Method	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	1952125		3060436	Jeffrey Blakeman
EPA 6020B	1956896	Elise Poll	3073778	Stephanie Pierson
EPA 6020B	1956896	Elise Poll	3072027	Stephanie Pierson

Analytical Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID

Work Order: HN2504814
Date Collected: 04/07/25 11:30
Date Received: 04/15/25 09:00

CLIENT ID: AD16803-01	Lab ID: HN2504814-001

Analyte	Method	Results	Qual	Units	MDL	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters									
Percent Moisture	EPA 3550C	11.9		%	0.1	0.1	1	04/15/25 13:53	NA
Metals									
Arsenic	EPA 6020B	<0.375	U	mg/kg	0.375	3.12	10	04/22/25 00:21	04/18/25 09:59
Zinc	EPA 6020B	3990		mg/kg	61.3	62.5	100	04/22/25 13:58	04/18/25 09:59

Analytical Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID

Work Order: HN2504814
Date Collected: 04/07/25 12:30
Date Received: 04/15/25 09:00

CLIENT ID: AD16803-02	Lab ID: HN2504814-002

Analyte	Method	Results	Qual	Units	MDL	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters									
Percent Moisture	EPA 3550C	8.5		%	0.1	0.1	1	04/15/25 13:53	NA
Metals									
Arsenic	EPA 6020B	<0.397	U	mg/kg	0.397	3.31	10	04/22/25 00:23	04/18/25 09:59
Zinc	EPA 6020B	4240		mg/kg	64.9	66.2	100	04/22/25 14:00	04/18/25 09:59

Analytical Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID

Work Order: HN2504814
Date Collected: 04/07/25 13:00
Date Received: 04/15/25 09:00

CLIENT ID: AD16803-03	Lab ID: HN2504814-003

Analyte	Method	Results	Qual	Units	MDL	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters									
Percent Moisture	EPA 3550C	11.0		%	0.1	0.1	1	04/15/25 13:53	NA
Metals									
Arsenic	EPA 6020B	<0.402	U	mg/kg	0.402	3.35	10	04/22/25 00:24	04/18/25 09:59
Zinc	EPA 6020B	3160		mg/kg	65.6	67.0	100	04/22/25 14:01	04/18/25 09:59



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID
Batch: 1952125

Work Order: HN2504814
Date Collected: NA
Date Received: NA

General Chemistry Parameters

MB	CLIENT ID: Method Blank	Lab ID: QC-1952125-001

Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 04/15/25 13:05
Prep Date: NA

Analyte	Result	Units	MDL	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	<0.1	%	0.1	0.1							U

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-1952125-002

Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 04/15/25 13:05
Prep Date: NA

Analyte	Result	Units	MDL	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	100	%	0.1	0.1	100		100	98-102			

The following samples were analyzed in this batch: HN2504814-001, HN2504814-002, HN2504814-003

QA/QC Report



Client: EMSL Analytical
Project: AD16803
Matrix: SOIL/SOLID
Batch: 1956896

Work Order: HN2504814
Date Collected: NA
Date Received: NA

Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-1956896-001

Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 04/21/25 23:53
Prep Date: 04/18/25 10:00

Analyte	Result	Units	MDL	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	<0.0300	mg/kg	0.0300	0.250							U
Zinc	<0.490	mg/kg	0.490	0.500							U

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-1956896-002

Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 04/21/25 23:55
Prep Date: 04/18/25 10:00

Analyte	Result	Units	MDL	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	4.94	mg/kg	0.0300	0.250	5		98.9	80-120			
Zinc	5.23	mg/kg	0.490	0.500	5		105	80-120			

The following samples were analyzed in this batch: HN2504814-001, HN2504814-002, HN2504814-003

Appendix B

Sampling Equipment

Sampling Equipment

Analyte	Description	Calibration
Volatile Organic Compounds (VOCs)	Ion Science Tiger Photoionization Detector	Calibrated by Rental Company Verified Prior to Use
Surface Temperature & Relative Humidity	TSI Q-Trak Air Quality Monitor	Verified Prior to Use

Appendix C

Field Logs

Location Needham Crumb Rubber Date 4/7/2025 25

Project / Client 20081206, B51

Tech: C Julian

Task: Crumb Rubber Sampling

Weather: 40's Rain / Hail

Time : Description

830 : C Julian arrived at FEO press for Crumb Rubber Sampling.

0930: C Julian leaves for Needham Memorial Field.

1000 : C Julian meets Tara from town of Needham, Begins Sampling

1130 : C Julian completes memorial Field. moves to Flanders / Brock Field.

1300: C Julian completes Sampling fields. Returns to FEO

1400: C Julian arrives at FEO unloads equipment, composites samples.

Sample ID	Time	Location
1643250407-01	1130	Memorial Field
↓ -02	1230	Flanders Field
↓ -03	1300	Brock Field

CJ

Crumb Rubber Sampling Field Data

Client/Project Name: Needham Crumb Rubber		 FUSS & O'NEILL
Project Location: Needham, MA	PROJECT #: 20081266.B50	
Sample#: 1643250407 1643241002-01	Sample Location ID G-01, G-02, G-03, G-04, G-05, G-06 <i>[Handwritten signature]</i>	

Sample Location Description (include sketch map with location of sample)

Memorial park - See figure

Sample Data

Sample Data	Container	Quantity	Preservative
Date: ~~11/11/2011~~ 4/7/25 Time: 1130 Sampler: CJ Weather: Ambient Temperature: 53°F 11911 Relative Humidity: 43% Barometric Pressure: — Sampling Device: Auger / Core Sampler / Shovel / Trowel / Other: <u>395</u> Field decon: Yes / No <u>Dedicated</u> Type of Sample: Grab / Composite / Other: _____ PID Reading (ppm): <u>0.1</u>	4oz ~~amber~~	3	—

Description Data

Generic Sample Description: Crumb rubber

Comments:

Crumb Rubber Sampling Field Data

Client/Project Name: Needham Crumb Rubber		 FUSS & O'NEILL
Project Location: Needham, MA	PROJECT #: 20081266.B50	
1643250407 Sample#: ~~1643241002~~ 02	Sample Location ID G-7, G8, G9, G10, G11, G12	

Sample Location Description (include sketch map with location of sample)

Foundation field - see figure

Sample Data

Date: ~~10/02/2024~~ 4/17/25 Time: 1230
 Sampler: CJ
 Weather: Ambient Temperature: 47.5
 Relative Humidity: 49.4
 Barometric Pressure: _____
 Sampling Device: Auger / Core Sampler / Shovel / Trowel /
 Other: Sur
 Field decon: Yes / No / Dedicated
 Type of Sample: Grab / Composite / Other _____
 PID Reading (ppm): 0.0

Container	Quantity	Preservative
4oz ~~Amber~~	3	---

Description Data

Generic Sample Description: Crumb rubber

Comments:

Crumb Rubber Sampling Field Data

Client/Project Name: Needham Crumb Rubber		 FUSS & O'NEILL
Project Location: Needham, MA	PROJECT #: 20081266.B50	
Sample #: <u>1643250407-03</u> ~~1643241002~~	<u>Sample Location ID</u> G-13, G-14, G-15, G-16, G-17, G-18	

Sample Location Description (include sketch map with location of sample)

Rock Field - See Map

Sample Data

Date: 4/7/25 ~~10/02/2024~~ Time: 1300
 Sampler: CJ
 Weather: Ambient Temperature: 40.3 ~~14.1~~
 Relative Humidity: 70%
 Barometric Pressure: —
 Sampling Device: Auger / Core Sampler / Shovel / Trowel /
 Other _____
 Field decon: Yes / No / Dedicated
 Type of Sample: Grab / Composite /
 Other Sers
 PID Reading (ppm): 0.0

Container	Quantity	Preservative
~~4oz Amber~~	3	---

Description Data

Generic Sample Description: Crumb rubber

Comments:



MAP REFERENCE

THIS MAP WAS PREPARED FROM USGS ORTHOPHOTOGRAPHY, (c) 2013 MASSGIS.

SOURCE: OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS.

MEMORIAL FIELD BOUNDARIES APPROXIMATE BASED ON SITE OBSERVATIONS

LEGEND

PARK BOUNDARY

SAMPLE LOCATIONS TO FORM COMPOSITE

SCALE	
HORIZ	1" = 150'
VERT	
DATUM	
HORIZ	
VERT	
0 75' 150'	
GRAPHIC SCALE	



FUSS & O'NEILL

108 MYRTLE STREET, SUITE 502
 QUINCY, MA 02171
 617.262.4675
www.fando.com

NEEDHAM HEALTH DEPARTMENT

SITE PLAN
 MEMORIAL PARK
 92 ROSEMARY ROAD

NEEDHAM

MASSACHUSETTS

PROJ No: 20081266 B10
 DATE: JUNE 2020

FIGURE 1

File Path: J:\DWGP\20081266A9E\EnvironmentalPlan\20081266A9E_STP01.dwg Layout: DEFAZIO PARK Plotted: Tue, June 23, 2020 - 2:54 PM User: sdevincante
MS VIEW
Printer: DWG TO PDF PC3 CTB File: FO HALF STB
LAYER STATE:



MAP REFERENCE

THIS MAP WAS PREPARED FROM USGS ORTHOPHOTOGRAPHY, (c) 2013 MASSGIS.

SOURCE: OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS.

FIELD BOUNDARIES APPROXIMATE BASED ON SITE OBSERVATIONS

LEGEND



FOUNDERS FIELD BOUNDARY



BROCK FIELD BOUNDARY



SAMPLE LOCATIONS TO FORM COMPOSITE

SCALE:	
HORIZ.:	1" = 150'
VERT.:	
DATUM:	
HORIZ.:	
VERT.:	
0 75' 150'	
GRAPHIC SCALE	



FUSS & O'NEILL

108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
www.fandoo.com

NEEDHAM HEALTH DEPARTMENT

SITE PLAN
DEFAZIO PARK
380 DEDHAM ROAD

NEEDHAM

MASSACHUSETTS

PROJ. No.: 20081266.B10
DATE: JUNE 2020

FIGURE 2



FUSS & O'NEILL ENVIROSCIENCE, LLC

Disciplines to Deliver

(860) 646-2469 • www.FandO.com

- ☒ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☐ 1419 Richland Street, Columbia, SC 29201
- ☐ 78 Interstate Drive, West Springfield, MA 01089

- ☒ 108 Myrtle Street, #502, North Quincy, MA 02171
- ☐ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD

4559

Turnaround

- ☐ 1 Day* ☐ 3 Days* ☐ Other _____ (days)
- ☐ 2 Days* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME <i>Needham Crumb Rubber</i>		PROJECT LOCATION <i>Needham MA</i>		PROJECT NUMBER <i>20081266.B51</i>		LABORATORY <i>EMSL/ALS</i>	
REPORT TO: <i>Evan Koncewicz</i>				Analysis Request <i>Arsenic / Zinc (Preferred 6000 B if only use Geloc if detection limit can be met)</i>			
INVOICE TO: <i>↓</i>							
P.O. No.: <i>20081266.B51</i>							
Sampler's Signature: <i>Chris J.</i> Date: <i>4/7/2025</i>							
Source Codes: MW=Monitoring Well PW=Potable Water S=Soil W=Waste SW=Surface Water T=Treatment Facility B=Sediment A=Air X=Other <i>Crumb Rubber</i>							
Item No.	Transfer Check			Sample Number	Source Code	Date Sampled	Time Sampled
	1	2	3	4			
<i>1</i>					<i>X</i>	<i>4/7/25</i>	<i>1130</i>
<i>2</i>					<i>X</i>	<i>↓</i>	<i>1230</i>
<i>3</i>					<i>X</i>	<i>↓</i>	<i>1300</i>

Transfer Number	Relinquished By	Accepted By	Date	Time	Reporting and Detection Limit Requirements: <i>please meet detection limits:</i>
<i>1</i>	<i>Chris J.</i>				<i>Arsenic - 2.5 mg/kg zinc 15,000 mg/kg</i>
<i>2</i>					Additional Comments:
<i>3</i>					<i>Send samples to ALS Lab, Holland, Michigan</i>
<i>4</i>					

Crumb Rubber Monitoring Results Memorial Park & DeFazio Park Needham, Massachusetts

Needham Health Department
Needham, Massachusetts

January 2025

January 14, 2025

Ms. Tara Gurge, R.S., C.E.H.T., M.S.
Assistant Public Health Director
Needham Public Health Division
Health and Human Services Department
178 Rosemary Street
Needham, MA 02494

RE: **Crumb Rubber Monitoring Results – October 2024**
Memorial and DeFazio Parks
Needham, Massachusetts
Fuss & O'Neill Project No. 20081266.B50

Dear Ms. Gurge:

Enclosed is the summary report for crumb rubber testing performed at the artificial turf athletic fields located at Memorial Park and DeFazio Park in Needham, Massachusetts in October 2024.

If you should have any questions regarding the contents of this report, please do not hesitate to contact the undersigned below. Thank you for this opportunity to have served your environmental needs.

Sincerely,



Evan Koncewicz
Environmental Geologist
(617) 379-5895



Neal Kelly, LSP
Associate
(781) 987-4323

Enclosure

Table of Contents

Crumb Rubber Monitoring Results
Memorial Park & DeFazio Park
Needham Health Department

1 Introduction and Background 1

2 Methodology and Scope of Testing.....1

3 Results.....2

4 Data Evaluation.....2

5 Conclusions 4

Tables End of Report

1 Summary of Crumb Rubber Monitoring Results

2 Real-Time Measurements

Figures End of Report

1 Site Plan – DeFazio Park

2 Site Plan – Memorial Park

Appendices End of Report

Appendix A – Laboratory Analytical Reports & Chain-of-Custody Forms

Appendix B – Sampling Equipment

Appendix C – Field Logs

Appendix D – Method Detection Limit Laboratory Analytical Report



1 Introduction and Background

Fuss & O'Neill, Inc. (Fuss & O'Neill) was retained by the Needham Health Department (the "Client") to perform periodic monitoring of the crumb rubber used at the artificial turf athletic fields in Needham, Massachusetts. The study involved the collection of field measurements and crumb rubber samples from Memorial Park (Needham High School Field, 92 Rosemary Street) and DeFazio Park (Brock Field and Founders Field, 380 Dedham Avenue) for laboratory analysis. The laboratory data were compared to toxicity reference data from the Massachusetts Department of Environmental Protection (MassDEP) and/or US Environmental Protection Agency (EPA) to evaluate potential health-related impacts.

On October 2, 2024, Mr. Christopher Juliano of Fuss & O'Neill performed the crumb rubber sampling in accordance with our proposal dated July 1, 2024.

2 Methodology and Scope of Testing

On October 2, 2024, Mr. Juliano of Fuss & O'Neill met Ms. Tara Gurge of the Needham Health Department to access the three athletic fields to perform the sampling and monitoring activities. A three-point composite sample of crumb rubber was collected from each artificial turf athletic field using laboratory provided dedicated glass jars. The composite samples were comprised of crumb rubber collected from three locations (each end and the middle) of each artificial turf athletic field. Approximate discrete locations from which the material was collected to make up the composite samples are indicated on *Figure 1* (Memorial Park) and *Figure 2* (DeFazio Park). Samples were collected from the Needham High School Field in Memorial Park (sample 16431002-04) and from Founders Field (sample 1643241002-01) and Brock Field in DeFazio Park (sample 1643241002-02).

The composite samples were submitted to EMSL Analytical Laboratory in Cinnaminson, New Jersey (EMSL). The crumb rubber was analyzed for trace metals by Environmental Protection Agency (EPA) Methods 6010C/7471B (inductively coupled plasma atomic emission spectrometry [ICP-AES] and mercury by manual cold-vapor technique, respectively); semi-volatile organic compounds (SVOCs) by EPA Method 8270E; and volatile organic compounds (VOCs) by EPA Method TO-15 (analyzed by gas chromatography/mass spectrometry (GC/MS)). The VOCs were collected from a "closed container" test, with an air headspace over a sample of the crumb rubber heated to 120°F for one hour. A VOC "tentatively identified compound" (TIC) analysis was also conducted. EMSL subcontracted the analysis of trace metals and SVOCs to ALS Laboratories of Middletown Pennsylvania.

The purpose of the closed container VOC test was to determine what concentrations and types of VOCs could be generated from the crumb rubber in a heated state, e.g. a field with full sun on summer day. Refer to *Appendix A* for the laboratory analytical reports and chain of custody forms. Refer to *Table 1* for a summary of the analytical results.

Real-time ambient conditions were monitored during crumb rubber sampling. TOVs (total organic vapors) were measured using an Ion Science Tiger Photoionization Detector (PID). A TSI Q-Trak Air Quality Monitor was used to record ambient temperature and relative humidity (RH). Refer to *Appendix B* for a list of sampling equipment, and *Table 2* for real-time measurements.

3 Results

Analytical data are summarized in *Table 1*. Multiple VOCs (including TICs) were identified in each sample. The following VOCs were detected in the gas stream samples:

- 2-Butanone (MEK)
- 4-Methyl-2-Pentanone (MIBK)
- Acetone
- Carbon disulfide
- Chloromethane
- Ethanol
- Isopropyl alcohol (2-Propanol)
- Propylene
- Tertiary butyl alcohol (TBA)
- Bromomethane (only identified in Founder's Field sample)

Furthermore, 2-butene, carbonyl sulfide and furan, 2-methyl were identified in all three samples as TICs in the analyses. No concentrations of undefined TIC(s) were identified in any samples.

Iron and zinc were each detected in all three samples. Arsenic, cadmium, chromium, lead, manganese, mercury, and selenium were not detected in any sample. The laboratory detection limits of arsenic were greater than the risk-based level used. Arsenic has historically not been detected above the previous risk based level of 2.2 milligrams per kilogram (mg/kg) during previous sampling events.

Eleven SVOCs were identified in each of the rubber samples. N-nitrosodiphenylamine was additionally identified in the Needham High School and Founder's Field samples. The majority of SVOCs identified were within the class of "polycyclic aromatic hydrocarbons" (PAHs), with the exception of acetophenone, hexachlorobutadiene, hexachloroethane and n-nitrosodiphenylamine.

TOVs were recorded at concentrations at an average or below 0.1 parts per million by volume (ppmv) in ambient air. Readings recorded as less than or equal to 1.0 ppmv likely were a result of moisture in ambient air effecting the PID detector lamp. The ambient relative humidity at the time of sampling was between 41.1 and 57.4 percent, within a 69.8- to 78.5 degree Fahrenheit environment (recorded within a few inches of the surface).

4 Data Evaluation

The Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) establishes soil standards for a variety of uses based on publicly-available toxicity data for a range of compounds, including VOCs, SVOCs, and metals. The numerical standards and their derivations are publicly-available¹. MassDEP generally establishes these standards based on four criteria:

¹ MassDEP, December 2017, "MCP Numerical Standards." <https://www.mass.gov/doc/mcp-numerical-standards-derivation/download>, accessed October 2024.

- Publicly-available toxicity data, including EPA and MassDEP Office of Research and Standards (ORS) data, and peer-reviewed industry sources.
- Typical background levels in New England soil.
- Ceiling concentrations (i.e. maximum concentrations set for compounds of limited toxicity).
- Practical quantification limits (PQLs), i.e. levels which analytical laboratories can reliably quantify.

In its toxicity calculations for Method 1 S-1 Soil Standards (applicable to sensitive land uses, including residences, schools and day-care facilities), MassDEP considers inhalation and skin-absorption risks over exposures from infancy to adulthood. Fuss & O'Neill evaluated the crumb rubber analytical results relative to MassDEP's published toxicity levels (i.e. the levels which would be used in the absence of ceiling, background or PQL considerations). For SVOCs and metals, concentrations were compared to MassDEP Residential Receptor Direct Contact Risk-Based Soil Concentration Levels. For VOCs, concentrations were compared to MassDEP Vapor Intrusion Guidance Risk Management Criteria Use to Develop the Threshold Values. These values are included in *Table 1*. Where MassDEP has not published toxicity values, Fuss & O'Neill consulted the EPA "regional screening levels," (RSLs) last updated in November 2024, which consist of similarly derived guidance values for a range of compounds used for screening contaminant concentrations on sites evaluated under the Superfund program². Where RSLs were incorporated into this evaluation, the "non-carcinogenic child screening levels" for resident soil and resident air were generally the most conservative values and were incorporated herein.

The RSL considers the potential for noncancer effects to develop in children and adults via the inhalation route, only. The Resident Air RSL considers that the receptor spends most, if not all, of the day at home and performing home chores as well as outdoor activities. The resident is assumed to be exposed to contaminants via inhalation of ambient air, with no assumption of how contaminants get into the air.

With the exceptions of 2 butene, furan 2-methyl, ethanol, and isopropyl alcohol, MassDEP and/or EPA RSL values were available for all detected compounds.

As noted on *Table 1*, zinc was detected in the sample from Memorial Park at a concentration of 15,200 mg/kg which is greater than the MassDEP threshold value (15,000 mg/kg) and greater than the historically reported range. The zinc concentrations in the other two samples were less than the respective risk-based value. While arsenic was not detected in any of the samples, the laboratory reporting limits were greater than the MassDEP threshold value of 2.5 mg/kg. Arsenic has historically not been detected above the Risk Based Level in our sampling events. The MassDEP exposure levels assume continuous high-contact exposure (five days per week, 30 weeks per year) over a multiple-year duration and are therefore conservative with regard to the actual exposures for users of the field. Except for zinc, all reported metal concentrations were less than the corresponding risk-based levels.

² EPA, May 2021. "Regional Screening Levels – Generic Tables." <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>, accessed October 2024.

Three VOC compounds (2-butene, carbonyl sulfide, and furan, 2-methyl) were reported by the laboratory as a TIC, all less than risk-based values. TICs are compounds that are not method target compounds (for which there are calibration standards). The identification of TICs is based on a review of the TIC's mass spectrum against a mass spectral library available in the instrument's software, as TICs are not contained in the calibration standards, the calculation of the concentration of TICs are estimates. As indicated in the laboratory narrative, TIC data is qualified as estimated values which have presumptive evidence of the compound based on the library match. Further, the EPA does not consider the identification as absolute or confirmed until a known standard for the suspect compound can be analyzed on the same instrument which made the tentative identification³.

All other reported VOC and all SVOC concentrations were less than the associated risk-based levels.

5 Conclusions

Fuss & O'Neill collected field and analytical data to characterize the crumb rubber at three athletic fields in Needham, Massachusetts in October 2024. The analytical results were compared to MassDEP and/or EPA risk-based guidance levels for soil and air, to evaluate potential health risks associated with the use of the crumb rubber media on these athletic fields. The follow conclusions were formed:

- The concentrations of zinc in one of the three samples were greater than the MassDEP threshold value, which is derived from an assumption of high-intensity exposure for a multi-year duration on a consistent basis.
- The laboratory reporting limit of arsenic was greater than the MassDEP threshold value for all three samples, however, arsenic has not been historically detected during crumb rubber sampling at the Site.
- All other reported concentrations of metals, VOCs, and SVOCs were less than the threshold values.

³ EPA, Feb 2006. "Tentatively Identified Compounds."
<https://19january2017snapshot.epa.gov/sites/production/files/2015-06/documents/tics.pdf>, accessed November 2024.

Tables

Table 1
Summary of Crumb Rubber Monitoring Results – October 2, 2024

Analyte	Analytical Results			Risk-Based Levels
	<u>Memorial Park</u>	<u>DeFazio Park</u>		
	Needham High School 16431002-04	Brock Field 1643241002-02	Founders Field 1643241002-01	
Semivolatile Organic Compounds** – dry weight (mg/kg) by method 3546/8270D				
Acenaphthylene	0.06	0.051	0.054	2,400
Acetophenone	0.152	0.181	0.112	NE [7,800]
Anthracene	0.082	0.08	0.078	24,000
Bis(2-Ethylhexyl)phthalate	5.1	5.17	4.41	110
Chrysene	2.45	1.86	2.11	190
Fluoranthene	3.76	2.68	3.05	3,200
Hexachlorobutadiene	0.426	0.486	0.524	29
Hexachloroethane	0.205	.169	0.221	57
Naphthalene	0.131	0.111	0.172	1,600
N-Nitrosodiphenylamine	0.168	ND < 0.096	0.115	NE [110]
Phenanthrene	0.541	0.453	0.426	2,400
Pyrene	8.32	6.89	7.07	2,400
Volatile organic compounds – vapor (mg/m³) Closed Container Test by method TO-15				
2-Butene*	0.018	0.019	0.110	NE
Carbonyl Sulfide*	0.0048	0.0055	0.069	NE [0.1]
Furan, 2-Methyl-*	0.044	0.027	0.028	NE
Bromomethane	ND < 0.00088	ND < 0.00078	0.00082	0.005
Carbon Disulfide	0.00078	0.00078	0.00096	NE [0.730]
Chloromethane	0.00054	0.00083	0.001	NE [0.0094]
Propylene	0.0019	0.0032	0.0037	NE [3.1]
Ethanol	0.064	0.099	0.087	NE
Isopropyl alcohol (2-Propanol)	0.019	0.019	0.029	NE
Acetone	0.026	0.093	0.110	0.8
Tertiary butyl alcohol (TBA)	0.0026	0.0029	0.0037	NE
2-Butanone (MEK)	0.013	0.018	0.027	5.00
4-Methyl-2-Pentanone (MIBK)	0.024	0.023	0.025	3.00

* Tentatively-identified compound

**For the SVOC full list, refer to the laboratory analytical report

ND: None Detected; NE: risk threshold not established by MassDEP or EPA.

NE [X]: not established by MassDEP, value is EPA "regional screening level" for risk screening at Superfund sites (Resident Soil/Air).

NR: Not reported

Chromium risk level conservatively assumes hexavalent (Cr-VI) form.

VOCs and TICs were only reported if detected in at least one sample.

Bold and underlined value indicates that the detected value exceeds the Risk Based Level.

Italicized value indicates that the laboratory reporting limit exceeds the Risk Based Level.

Analyte	Analytical Results			Risk-Based Levels
	Memorial Park	DeFazio Park		
	Needham High School 16431002-04	Brock Field 1643241002-02	Founders Field 1643241002-01	
Total Metals – dry weight (mg/kg) by method 6010C				
Arsenic	ND < 39.5 (13.2)	ND < 39.7 (13.2)	ND < 38.6 (12.9)	2.5
Cadmium	ND < 9.9	ND < 9.9	ND < 9.7	79
Chromium	ND < 19.8	ND < 19.8	ND < 19.3	150
Iron	640	889	762	NE [55,000]
Lead	ND < 39.5	ND < 39.7	ND < 38.6	130
Manganese	ND < 19.8	ND < 19.8	ND < 19.3	NE [1,800]
Mercury	ND < 0.049	ND < 0.047	ND < 0.047	21
Selenium	ND < 98.8	ND < 99.2	ND < 96.5	430
Zinc	15,200	13,200	12,600	15,000

* Tentatively-identified compound

**For the SVOC full list, refer to the laboratory analytical report

ND: None Detected;

NE: risk threshold not established by MassDEP or EPA.

NE [X]: not established by MassDEP, value is EPA “regional screening level” for risk screening at Superfund sites (Resident Soil).

ND < X (X): value in parenthesis is reported method detection limit (MDL), where the analytes were not detected above the MDL.

Chromium risk level conservatively assumes hexavalent (Cr-VI) form.

VOCs and TICs were only reported if detected in at least one sample.

Bold and underlined value indicates that the detected value exceeds the Risk Based Level.

Italicized value indicates that the laboratory reporting limit exceeds the Risk Based Level.

Table 2
Real-Time Measurements, Needham Crumb Rubber Sampling – October 2, 2024

Location	TOVs (ppm)	Temperature (°F)	RH (%)
Needham High School (HS)	0.0	78.5	41.1
Brock Field (D1)	0.1	77.4	45.1
Founders Field (D2)	0.1	69.8	57.4

The highest TOV value from the three sampling locations was recorded. Temperature and relative humidity were averaged amongst the three sampling locations.

°F: degrees Fahrenheit

RH: Relative Humidity

Figures

File: J:\DWG\2008\1266\B50\EnvironmentalPlan\20081266B50_STP01.dwg Layout: FIGURE 1 DEFAZIO PARK Plotted: 2024-12-11 2:46 PM Saved: 2024-12-11 2:45 PM User: susan.iron
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB
LAYER STATE:



REFERENCES:

1. AERIAL IMAGE WAS TAKEN FROM THE WEBSITE
[HTTP://WWW.NEARMAP.COM](http://www.nearmap.com), DATED 2024.
2. FIELD BOUNDRIES APPROXIMATE BASED ON SITE
OBSERVATIONS.

LEGEND

-  FOUNDERS FIELD BOUNDARY
-  BROCK FIELD BOUNDARY
-  SAMPLE LOCATIONS TO
FORM COMPOSITE

SCALE:	
HORZ.:	1" = 200'
VERT.:	-
DATUM:	
HORZ.:	-
VERT.:	-
0 150' 200'	
GRAPHIC SCALE	

**FUSS &
O'NEILL**

108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
www.fando.com

NEEDHAM

NEEDHAM HEALTH DEPARTMENT

SITE PLAN

DEFAZIO PARK - 380 DEDHAM ROAD

MASSACHUSETTS

PROJ. No.: 20081266.B50
DATE: DECEMBER 2024

FIGURE 1



REFERENCES:

1. AERIAL IMAGE WAS TAKEN FROM THE WEBSITE
[HTTP://WWW.NEARMAP.COM](http://www.nearmap.com), DATED 2024.
2. FIELD BOUNDIES APPROXIMATE BASED ON SITE
OBSERVATIONS.

LEGEND

-  PARK BOUNDARY
-  SAMPLE LOCATIONS TO
FORM COMPOSITE

SCALE:
HORZ.: 1" = 150'
VERT.: -
DATUM:
HORZ.: -
VERT.: -
0 125' 150'
GRAPHIC SCALE

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QUINCY, MA 02171
617.282.4675
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NEEDHAM

NEEDHAM HEALTH DEPARTMENT
SITE PLAN
MEMORIAL PARK - 92 ROSEMARY ROAD

MASSACHUSETTS

PROJ. No.: 20081266.B50
DATE: DECEMBER 2024

FIGURE 2

Appendix A

Laboratory Analytical Reports & Chain of Custody Forms

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

Attention: Results
Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Order ID: 012433250
LIMS Reference ID: AC33250
EMSL Customer ID: ENVI54

Project Name: 0000-5465.10E
Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 10/07/2024 11:40
Reported: 10/21/2024 14:48

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
AC33250-01	1-1643 241002-01	Bulk	10/02/2024	10/07/2024
AC33250-02	2-1643 241002-02	Bulk	10/02/2024	10/07/2024
AC33250-03	4-1643 241002-04	Bulk	10/02/2024	10/07/2024
AC33250-04	Lab Background	Bulk	10/02/2024	10/07/2024

Owen McKenna Laboratory Manager or other approved signatory

Test results meet all NELAP requirements unless
otherwise specified. NJDEP Certification #: 03036

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

**EMSL Analytical, Inc.**

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EMSL-CIN-01

Attention: Results

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One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Order ID: 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Analysis Case Narrative****Method Reference**

USEPA: Compendium TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air..." Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), January 1999, (EPA/625/R-96/010b).

Column

Restek RTX-502.2, 60m x 0.25mm x 1.4um

Concentrator Traps:

Entech Dual Cold Traps: (1) 1/8" No Packing, (2) 1/8" Tenax.

Gas Standards:

Certified Gas standards were used for all analyses.

Sample Volumes:

Sample volume aliquots for this procedure are 250cc for indoor/ambient air and 50cc for soil gas. Other volumes for sample dilutions are reflected on each result page.

Sampling Pressures:

N/A Bulk samples submitted for off gas analysis.

Holding Times:

All holding times were met.

Sample Dilutions:

Ethanol and Isopropanol are not diluted for and may be reported with an "E" qualifier on the final result.

Initial Calibration:

All acceptance criteria were met.

Initial Calibration Verification Standard (ICVS)- Second Source:

All acceptance criteria were met.

Laboratory Control Samples (LCS):

All acceptance criteria were met.

Continuing Calibration Verification Standard (CCVS):

All acceptance criteria were met.

Method Blanks (MB):

All acceptance criteria were met.

Reporting Limit Laboratory Control Samples (MRL):

All acceptance criteria were met.

Duplicates (DUP):

All acceptance criteria were met.

Sample Internal Standards:

All acceptance criteria were met.

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Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 10/07/2024 11:40
Reported: 10/21/2024 14:48

Ogg Gas Conditions:

35g of each sample were off gassed for 24 hours at 49°C.

EMSL Analytical, Inc. certifies that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer ---readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature

Owen McKenna Laboratory Manager or other approved signatory

**EMSL Analytical, Inc.**

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Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
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EMSL Sample ID: AC33250-01**Customer Sample ID:** 1-1643 241002-01**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:21**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 14:42	BCJ2206	y16718.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	48	0.20	1	110	0.48	10/18/24 14:42	E
Acetonitrile	75-05-8	41.0	ND	0.20	1	ND	0.34	10/18/24 14:42	
Acrylonitrile	107-13-1	53.0	ND	0.20	1	ND	0.43	10/18/24 14:42	
Benzene	71-43-2	78.1	ND	0.20	1	ND	0.64	10/18/24 14:42	
Benzyl chloride	100-44-7	126.0	ND	0.20	1	ND	1.0	10/18/24 14:42	
Bromodichloromethane	75-27-4	163.8	ND	0.20	1	ND	1.3	10/18/24 14:42	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.20	1	ND	0.89	10/18/24 14:42	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.20	1	ND	0.88	10/18/24 14:42	
Bromoform	75-25-2	252.8	ND	0.20	1	ND	2.1	10/18/24 14:42	
Bromomethane	74-83-9	94.9	0.21	0.20	1	0.82	0.78	10/18/24 14:42	
1,3-Butadiene	106-99-0	54.1	ND	0.20	1	ND	0.44	10/18/24 14:42	
n-Butane	106-97-8	58.1	ND	0.20	1	ND	0.48	10/18/24 14:42	
2-Butanone(MEK)	78-93-3	72.1	9.2	0.20	1	27	0.59	10/18/24 14:42	
Carbon disulfide	75-15-0	76.1	0.31	0.20	1	0.96	0.62	10/18/24 14:42	
Carbon tetrachloride	56-23-5	153.8	ND	0.20	1	ND	1.3	10/18/24 14:42	
Chlorobenzene	108-90-7	112.6	ND	0.20	1	ND	0.92	10/18/24 14:42	
Chloroethane	75-00-3	64.5	ND	0.20	1	ND	0.53	10/18/24 14:42	
Chloroform	67-66-3	119.4	ND	0.20	1	ND	0.98	10/18/24 14:42	
Chloromethane	74-87-3	50.5	0.50	0.20	1	1.0	0.41	10/18/24 14:42	
3-Chloropropene(Allyl chloride)	107-05-1	76.5	ND	0.20	1	ND	0.63	10/18/24 14:42	
2-Chlorotoluene	95-49-8	126.6	ND	0.20	1	ND	1.0	10/18/24 14:42	
Cyclohexane	110-82-7	84.2	ND	0.20	1	ND	0.69	10/18/24 14:42	
Dibromochloromethane	124-48-1	208.3	ND	0.20	1	ND	1.7	10/18/24 14:42	
1,2-Dibromoethane	106-93-4	187.8	ND	0.20	1	ND	1.5	10/18/24 14:42	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.20	1	ND	1.2	10/18/24 14:42	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.20	1	ND	1.2	10/18/24 14:42	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.20	1	ND	1.2	10/18/24 14:42	
1,1-Dichloroethane	75-34-3	99.0	ND	0.20	1	ND	0.81	10/18/24 14:42	
1,2-Dichloroethane	107-06-2	99.0	ND	0.20	1	ND	0.81	10/18/24 14:42	
1,1-Dichloroethene	75-35-4	96.9	ND	0.20	1	ND	0.79	10/18/24 14:42	
cis-1,2-Dichloroethene	156-59-2	96.9	ND	0.20	1	ND	0.79	10/18/24 14:42	
trans-1,2-Dichloroethene	156-60-5	96.9	ND	0.20	1	ND	0.79	10/18/24 14:42	
1,2-Dichloropropane	78-87-5	113.0	ND	0.20	1	ND	0.92	10/18/24 14:42	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.20	1	ND	0.91	10/18/24 14:42	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.20	1	ND	0.91	10/18/24 14:42	
1,4-Dioxane	123-91-1	88.1	ND	0.20	1	ND	0.72	10/18/24 14:42	
Ethanol	64-17-5	46.1	46	1.0	1	87	1.9	10/18/24 14:42	E
Ethyl acetate	141-78-6	88.1	ND	0.20	1	ND	0.72	10/18/24 14:42	
Ethylbenzene	100-41-4	106.2	ND	0.20	1	ND	0.87	10/18/24 14:42	
4-Ethyltoluene	622-96-8	120.2	ND	0.20	1	ND	0.98	10/18/24 14:42	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.20	1	ND	0.99	10/18/24 14:42	
Freon 114(1,2-Dichlorotetrafluoroethane)	76-14-2	170.9	ND	0.20	1	ND	1.4	10/18/24 14:42	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.20	1	ND	1.1	10/18/24 14:42	

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EMSL-CIN-01

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Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 14:42	BCJ2206	y16718.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Freon 113(1,1,2-Trichlorotrifluoroethane)	76-13-1	187.4	ND	0.20	1	ND	1.5	10/18/24 14:42	
n-Heptane	142-82-5	100.2	ND	0.20	1	ND	0.82	10/18/24 14:42	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.20	1	ND	2.1	10/18/24 14:42	
n-Hexane	110-54-3	86.2	ND	0.20	1	ND	0.71	10/18/24 14:42	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.20	1	ND	0.82	10/18/24 14:42	
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	12	0.20	1	29	0.49	10/18/24 14:42	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.20	1	ND	0.98	10/18/24 14:42	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.2	ND	0.20	1	ND	0.72	10/18/24 14:42	
Methylene chloride	75-09-2	84.9	ND	0.20	1	ND	0.69	10/18/24 14:42	
Methyl Methacrylate	80-62-6	100.1	ND	0.20	1	ND	0.82	10/18/24 14:42	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	6.1	0.20	1	25	0.82	10/18/24 14:42	
Naphthalene	91-20-3	128.2	ND	0.20	1	ND	1.0	10/18/24 14:42	
Propylene	115-07-1	42.1	2.1	0.20	1	3.7	0.34	10/18/24 14:42	
Styrene	100-42-5	104.1	ND	0.20	1	ND	0.85	10/18/24 14:42	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	1.2	0.20	1	3.7	0.61	10/18/24 14:42	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.20	1	ND	1.4	10/18/24 14:42	
Tetrachloroethene	127-18-4	165.8	ND	0.20	1	ND	1.4	10/18/24 14:42	
Tetrahydrofuran	109-99-9	72.1	ND	0.20	1	ND	0.59	10/18/24 14:42	
Toluene	108-88-3	92.1	ND	0.20	1	ND	0.75	10/18/24 14:42	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.20	1	ND	1.5	10/18/24 14:42	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.20	1	ND	1.1	10/18/24 14:42	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.20	1	ND	1.1	10/18/24 14:42	
Trichloroethene	79-01-6	131.4	ND	0.20	1	ND	1.1	10/18/24 14:42	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.20	1	ND	0.98	10/18/24 14:42	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.20	1	ND	0.98	10/18/24 14:42	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.20	1	ND	0.93	10/18/24 14:42	
Vinyl acetate	108-05-4	86.0	ND	0.20	1	ND	0.70	10/18/24 14:42	
Vinyl chloride	75-01-4	62.5	ND	0.20	1	ND	0.51	10/18/24 14:42	
Xylene (Ortho)	95-47-6	106.2	ND	0.20	1	ND	0.87	10/18/24 14:42	
Xylene (p,m)	179601-23-1	106.2	ND	0.40	1	ND	1.7	10/18/24 14:42	
Xylenes, Total	1330-20-7	106.2	ND	0.20	1	ND	0.87	10/18/24 14:42	
Total Target Compound Concentrations:			140			340			

Surrogate

4-Bromofluorobenzene

Result

9.64

Spike

10.00

Recovery

96

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-01**Customer Sample ID:** 1-1643 241002-01**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:21**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 14:42	BCJ2206	y16718.D	JAR	250 cc	1	TP

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
2-Butene	000107-01-7	56.0	8.8		1	20		10/18/24 14:42	N
Carbonyl Sulfide	463-58-1	60.1	2.8		1	6.9		10/18/24 14:42	N
Furan, 2-methyl-	000534-22-5	92.0	7.4		1	28		10/18/24 14:42	N
Total Target Compound Concentrations:			140			340			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J = Estimated value based on a 1:1 response to internal standard.

N = Presumptive evidence of compound based on library match.

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Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
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Hartford, CT 06103
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EMSL Sample ID: AC33250-01**Customer Sample ID:** 1-1643 241002-01**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:21**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 14:42	BCJ2206	y16718.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	48	0.20	1	110	0.48	10/18/24 14:42	E
Bromomethane	74-83-9	94.9	0.21	0.20	1	0.82	0.78	10/18/24 14:42	
2-Butanone(MEK)	78-93-3	72.1	9.2	0.20	1	27	0.59	10/18/24 14:42	
Carbon disulfide	75-15-0	76.1	0.31	0.20	1	0.96	0.62	10/18/24 14:42	
Chloromethane	74-87-3	50.5	0.50	0.20	1	1.0	0.41	10/18/24 14:42	
Ethanol	64-17-5	46.1	46	1.0	1	87	1.9	10/18/24 14:42	E
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	12	0.20	1	29	0.49	10/18/24 14:42	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	6.1	0.20	1	25	0.82	10/18/24 14:42	
Propylene	115-07-1	42.1	2.1	0.20	1	3.7	0.34	10/18/24 14:42	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	1.2	0.20	1	3.7	0.61	10/18/24 14:42	
Total Target Compound Concentrations:			140			340			

Surrogate

4-Bromofluorobenzene

Result

9.64

Spike

10.00

Recovery

96

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
2-Butene	000107-01-7	56.0	8.8		1	20		10/18/24 14:42	N
Carbonyl Sulfide	463-58-1	60.1	2.8		1	6.9		10/18/24 14:42	N
Furan, 2-methyl-	000534-22-5	92.0	7.4		1	28		10/18/24 14:42	N
Total Target Compound Concentrations:			140			340			
Total Volatile Organic Compounds (TVOCs):			140.00			340.00			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J = Estimated value based on a 1:1 response to internal standard.

N = Presumptive evidence of compound based on library match.

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Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-02**Customer Sample ID:** 2-1643 241002-02**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:47**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 15:38	BCJ2206	y16719.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	39	0.20	1	93	0.48	10/18/24 15:38	
Acetonitrile	75-05-8	41.0	ND	0.20	1	ND	0.34	10/18/24 15:38	
Acrylonitrile	107-13-1	53.0	ND	0.20	1	ND	0.43	10/18/24 15:38	
Benzene	71-43-2	78.1	ND	0.20	1	ND	0.64	10/18/24 15:38	
Benzyl chloride	100-44-7	126.0	ND	0.20	1	ND	1.0	10/18/24 15:38	
Bromodichloromethane	75-27-4	163.8	ND	0.20	1	ND	1.3	10/18/24 15:38	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.20	1	ND	0.89	10/18/24 15:38	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.20	1	ND	0.88	10/18/24 15:38	
Bromoform	75-25-2	252.8	ND	0.20	1	ND	2.1	10/18/24 15:38	
Bromomethane	74-83-9	94.9	ND	0.20	1	ND	0.78	10/18/24 15:38	
1,3-Butadiene	106-99-0	54.1	ND	0.20	1	ND	0.44	10/18/24 15:38	
n-Butane	106-97-8	58.1	ND	0.20	1	ND	0.48	10/18/24 15:38	
2-Butanone(MEK)	78-93-3	72.1	6.0	0.20	1	18	0.59	10/18/24 15:38	
Carbon disulfide	75-15-0	76.1	0.25	0.20	1	0.78	0.62	10/18/24 15:38	
Carbon tetrachloride	56-23-5	153.8	ND	0.20	1	ND	1.3	10/18/24 15:38	
Chlorobenzene	108-90-7	112.6	ND	0.20	1	ND	0.92	10/18/24 15:38	
Chloroethane	75-00-3	64.5	ND	0.20	1	ND	0.53	10/18/24 15:38	
Chloroform	67-66-3	119.4	ND	0.20	1	ND	0.98	10/18/24 15:38	
Chloromethane	74-87-3	50.5	0.40	0.20	1	0.83	0.41	10/18/24 15:38	
3-Chloropropene(Allyl chloride)	107-05-1	76.5	ND	0.20	1	ND	0.63	10/18/24 15:38	
2-Chlorotoluene	95-49-8	126.6	ND	0.20	1	ND	1.0	10/18/24 15:38	
Cyclohexane	110-82-7	84.2	ND	0.20	1	ND	0.69	10/18/24 15:38	
Dibromochloromethane	124-48-1	208.3	ND	0.20	1	ND	1.7	10/18/24 15:38	
1,2-Dibromoethane	106-93-4	187.8	ND	0.20	1	ND	1.5	10/18/24 15:38	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.20	1	ND	1.2	10/18/24 15:38	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.20	1	ND	1.2	10/18/24 15:38	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.20	1	ND	1.2	10/18/24 15:38	
1,1-Dichloroethane	75-34-3	99.0	ND	0.20	1	ND	0.81	10/18/24 15:38	
1,2-Dichloroethane	107-06-2	99.0	ND	0.20	1	ND	0.81	10/18/24 15:38	
1,1-Dichloroethene	75-35-4	96.9	ND	0.20	1	ND	0.79	10/18/24 15:38	
cis-1,2-Dichloroethene	156-59-2	96.9	ND	0.20	1	ND	0.79	10/18/24 15:38	
trans-1,2-Dichloroethene	156-60-5	96.9	ND	0.20	1	ND	0.79	10/18/24 15:38	
1,2-Dichloropropane	78-87-5	113.0	ND	0.20	1	ND	0.92	10/18/24 15:38	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.20	1	ND	0.91	10/18/24 15:38	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.20	1	ND	0.91	10/18/24 15:38	
1,4-Dioxane	123-91-1	88.1	ND	0.20	1	ND	0.72	10/18/24 15:38	
Ethanol	64-17-5	46.1	53	1.0	1	99	1.9	10/18/24 15:38	E
Ethyl acetate	141-78-6	88.1	ND	0.20	1	ND	0.72	10/18/24 15:38	
Ethylbenzene	100-41-4	106.2	ND	0.20	1	ND	0.87	10/18/24 15:38	
4-Ethyltoluene	622-96-8	120.2	ND	0.20	1	ND	0.98	10/18/24 15:38	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.20	1	ND	0.99	10/18/24 15:38	
Freon 114(1,2-Dichlorotetrafluoroethane)	76-14-2	170.9	ND	0.20	1	ND	1.4	10/18/24 15:38	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.20	1	ND	1.1	10/18/24 15:38	

**EMSL Analytical, Inc.**

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-02**Customer Sample ID:** 2-1643 241002-02**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:47**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 15:38	BCJ2206	y16719.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Freon 113(1,1,2-Trichlorotrifluoroethane)	76-13-1	187.4	ND	0.20	1	ND	1.5	10/18/24 15:38	
n-Heptane	142-82-5	100.2	ND	0.20	1	ND	0.82	10/18/24 15:38	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.20	1	ND	2.1	10/18/24 15:38	
n-Hexane	110-54-3	86.2	ND	0.20	1	ND	0.71	10/18/24 15:38	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.20	1	ND	0.82	10/18/24 15:38	
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	7.6	0.20	1	19	0.49	10/18/24 15:38	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.20	1	ND	0.98	10/18/24 15:38	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.2	ND	0.20	1	ND	0.72	10/18/24 15:38	
Methylene chloride	75-09-2	84.9	ND	0.20	1	ND	0.69	10/18/24 15:38	
Methyl Methacrylate	80-62-6	100.1	ND	0.20	1	ND	0.82	10/18/24 15:38	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	5.7	0.20	1	23	0.82	10/18/24 15:38	
Naphthalene	91-20-3	128.2	ND	0.20	1	ND	1.0	10/18/24 15:38	
Propylene	115-07-1	42.1	1.9	0.20	1	3.2	0.34	10/18/24 15:38	
Styrene	100-42-5	104.1	ND	0.20	1	ND	0.85	10/18/24 15:38	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	0.96	0.20	1	2.9	0.61	10/18/24 15:38	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.20	1	ND	1.4	10/18/24 15:38	
Tetrachloroethene	127-18-4	165.8	ND	0.20	1	ND	1.4	10/18/24 15:38	
Tetrahydrofuran	109-99-9	72.1	ND	0.20	1	ND	0.59	10/18/24 15:38	
Toluene	108-88-3	92.1	ND	0.20	1	ND	0.75	10/18/24 15:38	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.20	1	ND	1.5	10/18/24 15:38	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.20	1	ND	1.1	10/18/24 15:38	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.20	1	ND	1.1	10/18/24 15:38	
Trichloroethene	79-01-6	131.4	ND	0.20	1	ND	1.1	10/18/24 15:38	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.20	1	ND	0.98	10/18/24 15:38	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.20	1	ND	0.98	10/18/24 15:38	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.20	1	ND	0.93	10/18/24 15:38	
Vinyl acetate	108-05-4	86.0	ND	0.20	1	ND	0.70	10/18/24 15:38	
Vinyl chloride	75-01-4	62.5	ND	0.20	1	ND	0.51	10/18/24 15:38	
Xylene (Ortho)	95-47-6	106.2	ND	0.20	1	ND	0.87	10/18/24 15:38	
Xylene (p,m)	179601-23-1	106.2	ND	0.40	1	ND	1.7	10/18/24 15:38	
Xylenes, Total	1330-20-7	106.2	ND	0.20	1	ND	0.87	10/18/24 15:38	
Total Target Compound Concentrations:			130			310			

Surrogate

4-Bromofluorobenzene

Result

9.66

Spike

10.00

Recovery

97

**EMSL Analytical, Inc.**

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EMSL-CIN-01

Attention: Results

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One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-02**Customer Sample ID:** 2-1643 241002-02**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:47**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 15:38	BCJ2206	y16719.D	JAR	250 cc	1	TP

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
2-Butene	000107-01-7	56.0	8.1		1	19		10/18/24 15:38	N
Carbonyl Sulfide	463-58-1	60.1	2.2		1	5.5		10/18/24 15:38	N
Furan, 2-methyl-	000534-22-5	92.0	7.1		1	27		10/18/24 15:38	N
Total Target Compound Concentrations:			130			310			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J = Estimated value based on a 1:1 response to internal standard.

N = Presumptive evidence of compound based on library match.

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EMSL Sample ID: AC33250-02**Customer Sample ID:** 2-1643 241002-02**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 11:47**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 15:38	BCJ2206	y16719.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	39	0.20	1	93	0.48	10/18/24 15:38	
2-Butanone(MEK)	78-93-3	72.1	6.0	0.20	1	18	0.59	10/18/24 15:38	
Carbon disulfide	75-15-0	76.1	0.25	0.20	1	0.78	0.62	10/18/24 15:38	
Chloromethane	74-87-3	50.5	0.40	0.20	1	0.83	0.41	10/18/24 15:38	
Ethanol	64-17-5	46.1	53	1.0	1	99	1.9	10/18/24 15:38	E
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	7.6	0.20	1	19	0.49	10/18/24 15:38	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	5.7	0.20	1	23	0.82	10/18/24 15:38	
Propylene	115-07-1	42.1	1.9	0.20	1	3.2	0.34	10/18/24 15:38	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	0.96	0.20	1	2.9	0.61	10/18/24 15:38	
Total Target Compound Concentrations:			130			310			

Surrogate

4-Bromofluorobenzene

Result

9.66

Spike

10.00

Recovery

97

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
2-Butene	000107-01-7	56.0	8.1		1	19		10/18/24 15:38	N
Carbonyl Sulfide	463-58-1	60.1	2.2		1	5.5		10/18/24 15:38	N
Furan, 2-methyl-	000534-22-5	92.0	7.1		1	27		10/18/24 15:38	N
Total Target Compound Concentrations:			130			310			
Total Volatile Organic Compounds (TVOCs):			130.00			310.00			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

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Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-03**Customer Sample ID:** 4-1643 241002-04**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 12:20**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 16:34	BCJ2206	y16720.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	33	0.20	1	78	0.48	10/18/24 16:34	
Acetonitrile	75-05-8	41.0	ND	0.20	1	ND	0.34	10/18/24 16:34	
Acrylonitrile	107-13-1	53.0	ND	0.20	1	ND	0.43	10/18/24 16:34	
Benzene	71-43-2	78.1	ND	0.20	1	ND	0.64	10/18/24 16:34	
Benzyl chloride	100-44-7	126.0	ND	0.20	1	ND	1.0	10/18/24 16:34	
Bromodichloromethane	75-27-4	163.8	ND	0.20	1	ND	1.3	10/18/24 16:34	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.20	1	ND	0.89	10/18/24 16:34	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.20	1	ND	0.88	10/18/24 16:34	
Bromoform	75-25-2	252.8	ND	0.20	1	ND	2.1	10/18/24 16:34	
Bromomethane	74-83-9	94.9	ND	0.20	1	ND	0.78	10/18/24 16:34	
1,3-Butadiene	106-99-0	54.1	ND	0.20	1	ND	0.44	10/18/24 16:34	
n-Butane	106-97-8	58.1	ND	0.20	1	ND	0.48	10/18/24 16:34	
2-Butanone(MEK)	78-93-3	72.1	4.5	0.20	1	13	0.59	10/18/24 16:34	
Carbon disulfide	75-15-0	76.1	0.25	0.20	1	0.78	0.62	10/18/24 16:34	
Carbon tetrachloride	56-23-5	153.8	ND	0.20	1	ND	1.3	10/18/24 16:34	
Chlorobenzene	108-90-7	112.6	ND	0.20	1	ND	0.92	10/18/24 16:34	
Chloroethane	75-00-3	64.5	ND	0.20	1	ND	0.53	10/18/24 16:34	
Chloroform	67-66-3	119.4	ND	0.20	1	ND	0.98	10/18/24 16:34	
Chloromethane	74-87-3	50.5	0.26	0.20	1	0.54	0.41	10/18/24 16:34	
3-Chloropropene(Allyl chloride)	107-05-1	76.5	ND	0.20	1	ND	0.63	10/18/24 16:34	
2-Chlorotoluene	95-49-8	126.6	ND	0.20	1	ND	1.0	10/18/24 16:34	
Cyclohexane	110-82-7	84.2	ND	0.20	1	ND	0.69	10/18/24 16:34	
Dibromochloromethane	124-48-1	208.3	ND	0.20	1	ND	1.7	10/18/24 16:34	
1,2-Dibromoethane	106-93-4	187.8	ND	0.20	1	ND	1.5	10/18/24 16:34	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.20	1	ND	1.2	10/18/24 16:34	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.20	1	ND	1.2	10/18/24 16:34	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.20	1	ND	1.2	10/18/24 16:34	
1,1-Dichloroethane	75-34-3	99.0	ND	0.20	1	ND	0.81	10/18/24 16:34	
1,2-Dichloroethane	107-06-2	99.0	ND	0.20	1	ND	0.81	10/18/24 16:34	
1,1-Dichloroethene	75-35-4	96.9	ND	0.20	1	ND	0.79	10/18/24 16:34	
cis-1,2-Dichloroethene	156-59-2	96.9	ND	0.20	1	ND	0.79	10/18/24 16:34	
trans-1,2-Dichloroethene	156-60-5	96.9	ND	0.20	1	ND	0.79	10/18/24 16:34	
1,2-Dichloropropane	78-87-5	113.0	ND	0.20	1	ND	0.92	10/18/24 16:34	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.20	1	ND	0.91	10/18/24 16:34	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.20	1	ND	0.91	10/18/24 16:34	
1,4-Dioxane	123-91-1	88.1	ND	0.20	1	ND	0.72	10/18/24 16:34	
Ethanol	64-17-5	46.1	34	1.0	1	64	1.9	10/18/24 16:34	
Ethyl acetate	141-78-6	88.1	ND	0.20	1	ND	0.72	10/18/24 16:34	
Ethylbenzene	100-41-4	106.2	ND	0.20	1	ND	0.87	10/18/24 16:34	
4-Ethyltoluene	622-96-8	120.2	ND	0.20	1	ND	0.98	10/18/24 16:34	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.20	1	ND	0.99	10/18/24 16:34	
Freon 114(1,2-Dichlorotetrafluoroethane)	76-14-2	170.9	ND	0.20	1	ND	1.4	10/18/24 16:34	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.20	1	ND	1.1	10/18/24 16:34	

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Order ID: 012433250

LIMS Reference ID: AC33250

EMSL Customer ID: ENVI54

Project Name: 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**EMSL Sample ID:** AC33250-03**Collected:** 10/02/2024 12:20**Customer Sample ID:** 4-1643 241002-04**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 16:34	BCJ2206	y16720.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Freon 113(1,1,2-Trichlorotrifluoroethane)	76-13-1	187.4	ND	0.20	1	ND	1.5	10/18/24 16:34	
n-Heptane	142-82-5	100.2	ND	0.20	1	ND	0.82	10/18/24 16:34	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.20	1	ND	2.1	10/18/24 16:34	
n-Hexane	110-54-3	86.2	ND	0.20	1	ND	0.71	10/18/24 16:34	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.20	1	ND	0.82	10/18/24 16:34	
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	7.6	0.20	1	19	0.49	10/18/24 16:34	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.20	1	ND	0.98	10/18/24 16:34	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.2	ND	0.20	1	ND	0.72	10/18/24 16:34	
Methylene chloride	75-09-2	84.9	ND	0.20	1	ND	0.69	10/18/24 16:34	
Methyl Methacrylate	80-62-6	100.1	ND	0.20	1	ND	0.82	10/18/24 16:34	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	5.8	0.20	1	24	0.82	10/18/24 16:34	
Naphthalene	91-20-3	128.2	ND	0.20	1	ND	1.0	10/18/24 16:34	
Propylene	115-07-1	42.1	1.1	0.20	1	1.9	0.34	10/18/24 16:34	
Styrene	100-42-5	104.1	ND	0.20	1	ND	0.85	10/18/24 16:34	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	0.87	0.20	1	2.6	0.61	10/18/24 16:34	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.20	1	ND	1.4	10/18/24 16:34	
Tetrachloroethene	127-18-4	165.8	ND	0.20	1	ND	1.4	10/18/24 16:34	
Tetrahydrofuran	109-99-9	72.1	ND	0.20	1	ND	0.59	10/18/24 16:34	
Toluene	108-88-3	92.1	ND	0.20	1	ND	0.75	10/18/24 16:34	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.20	1	ND	1.5	10/18/24 16:34	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.20	1	ND	1.1	10/18/24 16:34	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.20	1	ND	1.1	10/18/24 16:34	
Trichloroethene	79-01-6	131.4	ND	0.20	1	ND	1.1	10/18/24 16:34	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.20	1	ND	0.98	10/18/24 16:34	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.20	1	ND	0.98	10/18/24 16:34	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.20	1	ND	0.93	10/18/24 16:34	
Vinyl acetate	108-05-4	86.0	ND	0.20	1	ND	0.70	10/18/24 16:34	
Vinyl chloride	75-01-4	62.5	ND	0.20	1	ND	0.51	10/18/24 16:34	
Xylene (Ortho)	95-47-6	106.2	ND	0.20	1	ND	0.87	10/18/24 16:34	
Xylene (p,m)	179601-23-1	106.2	ND	0.40	1	ND	1.7	10/18/24 16:34	
Xylenes, Total	1330-20-7	106.2	ND	0.20	1	ND	0.87	10/18/24 16:34	
Total Target Compound Concentrations:			100			240			

Surrogate

4-Bromofluorobenzene

Result

9.61

Spike

10.00

Recovery

96

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-03**Customer Sample ID:** 4-1643 241002-04**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 12:20**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 16:34	BCJ2206	y16720.D	JAR	250 cc	1	TP

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
2-Butene	000107-01-7	56.0	7.7		1	18		10/18/24 16:34	N
Carbonyl Sulfide	463-58-1	60.1	2.0		1	4.8		10/18/24 16:34	N
Furan, 2-methyl-	000534-22-5	92.0	4.4		1	16		10/18/24 16:34	N
Total Target Compound Concentrations:			100			240			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J = Estimated value based on a 1:1 response to internal standard.

N = Presumptive evidence of compound based on library match.

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EMSL Sample ID: AC33250-03**Customer Sample ID:** 4-1643 241002-04**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 12:20**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 16:34	BCJ2206	y16720.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	33	0.20	1	78	0.48	10/18/24 16:34	
2-Butanone(MEK)	78-93-3	72.1	4.5	0.20	1	13	0.59	10/18/24 16:34	
Carbon disulfide	75-15-0	76.1	0.25	0.20	1	0.78	0.62	10/18/24 16:34	
Chloromethane	74-87-3	50.5	0.26	0.20	1	0.54	0.41	10/18/24 16:34	
Ethanol	64-17-5	46.1	34	1.0	1	64	1.9	10/18/24 16:34	
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	7.6	0.20	1	19	0.49	10/18/24 16:34	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	5.8	0.20	1	24	0.82	10/18/24 16:34	
Propylene	115-07-1	42.1	1.1	0.20	1	1.9	0.34	10/18/24 16:34	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	0.87	0.20	1	2.6	0.61	10/18/24 16:34	
Total Target Compound Concentrations:			100			240			

Surrogate

4-Bromofluorobenzene

Result

9.61

Spike

10.00

Recovery

96

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
2-Butene	000107-01-7	56.0	7.7		1	18		10/18/24 16:34	N
Carbonyl Sulfide	463-58-1	60.1	2.0		1	4.8		10/18/24 16:34	N
Furan, 2-methyl-	000534-22-5	92.0	4.4		1	16		10/18/24 16:34	N
Total Target Compound Concentrations:			100			240			
Total Volatile Organic Compounds (TVOCs):			100.00			240.00			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

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EMSL Sample ID: AC33250-04**Customer Sample ID:** Lab Background**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 00:00**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 17:30	BCJ2206	y16721.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	2.8	0.20	1	6.7	0.48	10/18/24 17:30	
Acetonitrile	75-05-8	41.0	ND	0.20	1	ND	0.34	10/18/24 17:30	
Acrylonitrile	107-13-1	53.0	ND	0.20	1	ND	0.43	10/18/24 17:30	
Benzene	71-43-2	78.1	ND	0.20	1	ND	0.64	10/18/24 17:30	
Benzyl chloride	100-44-7	126.0	ND	0.20	1	ND	1.0	10/18/24 17:30	
Bromodichloromethane	75-27-4	163.8	ND	0.20	1	ND	1.3	10/18/24 17:30	
Bromoethane(Ethyl bromide)	74-96-4	109.0	ND	0.20	1	ND	0.89	10/18/24 17:30	
Bromoethene(Vinyl bromide)	593-60-2	106.9	ND	0.20	1	ND	0.88	10/18/24 17:30	
Bromoform	75-25-2	252.8	ND	0.20	1	ND	2.1	10/18/24 17:30	
Bromomethane	74-83-9	94.9	ND	0.20	1	ND	0.78	10/18/24 17:30	
1,3-Butadiene	106-99-0	54.1	ND	0.20	1	ND	0.44	10/18/24 17:30	
n-Butane	106-97-8	58.1	ND	0.20	1	ND	0.48	10/18/24 17:30	
2-Butanone(MEK)	78-93-3	72.1	ND	0.20	1	ND	0.59	10/18/24 17:30	
Carbon disulfide	75-15-0	76.1	ND	0.20	1	ND	0.62	10/18/24 17:30	
Carbon tetrachloride	56-23-5	153.8	ND	0.20	1	ND	1.3	10/18/24 17:30	
Chlorobenzene	108-90-7	112.6	ND	0.20	1	ND	0.92	10/18/24 17:30	
Chloroethane	75-00-3	64.5	ND	0.20	1	ND	0.53	10/18/24 17:30	
Chloroform	67-66-3	119.4	ND	0.20	1	ND	0.98	10/18/24 17:30	
Chloromethane	74-87-3	50.5	ND	0.20	1	ND	0.41	10/18/24 17:30	
3-Chloropropene(Allyl chloride)	107-05-1	76.5	ND	0.20	1	ND	0.63	10/18/24 17:30	
2-Chlorotoluene	95-49-8	126.6	ND	0.20	1	ND	1.0	10/18/24 17:30	
Cyclohexane	110-82-7	84.2	ND	0.20	1	ND	0.69	10/18/24 17:30	
Dibromochloromethane	124-48-1	208.3	ND	0.20	1	ND	1.7	10/18/24 17:30	
1,2-Dibromoethane	106-93-4	187.8	ND	0.20	1	ND	1.5	10/18/24 17:30	
1,2-Dichlorobenzene	95-50-1	147.0	ND	0.20	1	ND	1.2	10/18/24 17:30	
1,3-Dichlorobenzene	541-73-1	147.0	ND	0.20	1	ND	1.2	10/18/24 17:30	
1,4-Dichlorobenzene	106-46-7	147.0	ND	0.20	1	ND	1.2	10/18/24 17:30	
1,1-Dichloroethane	75-34-3	99.0	ND	0.20	1	ND	0.81	10/18/24 17:30	
1,2-Dichloroethane	107-06-2	99.0	ND	0.20	1	ND	0.81	10/18/24 17:30	
1,1-Dichloroethene	75-35-4	96.9	ND	0.20	1	ND	0.79	10/18/24 17:30	
cis-1,2-Dichloroethene	156-59-2	96.9	ND	0.20	1	ND	0.79	10/18/24 17:30	
trans-1,2-Dichloroethene	156-60-5	96.9	ND	0.20	1	ND	0.79	10/18/24 17:30	
1,2-Dichloropropane	78-87-5	113.0	ND	0.20	1	ND	0.92	10/18/24 17:30	
cis-1,3-Dichloropropene	10061-01-5	111.0	ND	0.20	1	ND	0.91	10/18/24 17:30	
trans-1,3-Dichloropropene	10061-02-6	111.0	ND	0.20	1	ND	0.91	10/18/24 17:30	
1,4-Dioxane	123-91-1	88.1	ND	0.20	1	ND	0.72	10/18/24 17:30	
Ethanol	64-17-5	46.1	27	1.0	1	51	1.9	10/18/24 17:30	
Ethyl acetate	141-78-6	88.1	ND	0.20	1	ND	0.72	10/18/24 17:30	
Ethylbenzene	100-41-4	106.2	ND	0.20	1	ND	0.87	10/18/24 17:30	
4-Ethyltoluene	622-96-8	120.2	ND	0.20	1	ND	0.98	10/18/24 17:30	
Freon 12(Dichlorodifluoromethane)	75-71-8	120.9	ND	0.20	1	ND	0.99	10/18/24 17:30	
Freon 114(1,2-Dichlorotetrafluoroethane)	76-14-2	170.9	ND	0.20	1	ND	1.4	10/18/24 17:30	
Freon 11(Trichlorofluoromethane)	75-69-4	137.4	ND	0.20	1	ND	1.1	10/18/24 17:30	

**EMSL Analytical, Inc.**

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EMSL Sample ID: AC33250-04**Customer Sample ID:** Lab Background**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 00:00**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 17:30	BCJ2206	y16721.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Freon 113(1,1,2-Trichlorotrifluoroethane)	76-13-1	187.4	ND	0.20	1	ND	1.5	10/18/24 17:30	
n-Heptane	142-82-5	100.2	ND	0.20	1	ND	0.82	10/18/24 17:30	
Hexachloro-1,3-butadiene	87-68-3	260.8	ND	0.20	1	ND	2.1	10/18/24 17:30	
n-Hexane	110-54-3	86.2	ND	0.20	1	ND	0.71	10/18/24 17:30	
2-Hexanone(MBK)	591-78-6	100.2	ND	0.20	1	ND	0.82	10/18/24 17:30	
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	2.3	0.20	1	5.8	0.49	10/18/24 17:30	
Isopropylbenzene (cumene)	98-82-8	120.2	ND	0.20	1	ND	0.98	10/18/24 17:30	
Methyl-tert-butyl ether(MTBE)	1634-04-4	88.2	ND	0.20	1	ND	0.72	10/18/24 17:30	
Methylene chloride	75-09-2	84.9	0.21	0.20	1	0.73	0.69	10/18/24 17:30	
Methyl Methacrylate	80-62-6	100.1	ND	0.20	1	ND	0.82	10/18/24 17:30	
4-Methyl-2-pentanone(MIBK)	108-10-1	100.2	ND	0.20	1	ND	0.82	10/18/24 17:30	
Naphthalene	91-20-3	128.2	ND	0.20	1	ND	1.0	10/18/24 17:30	
Propylene	115-07-1	42.1	ND	0.20	1	ND	0.34	10/18/24 17:30	
Styrene	100-42-5	104.1	ND	0.20	1	ND	0.85	10/18/24 17:30	
Tertiary butyl alcohol(TBA)	75-65-0	74.1	ND	0.20	1	ND	0.61	10/18/24 17:30	
1,1,2,2-Tetrachloroethane	79-34-5	167.9	ND	0.20	1	ND	1.4	10/18/24 17:30	
Tetrachloroethene	127-18-4	165.8	ND	0.20	1	ND	1.4	10/18/24 17:30	
Tetrahydrofuran	109-99-9	72.1	ND	0.20	1	ND	0.59	10/18/24 17:30	
Toluene	108-88-3	92.1	ND	0.20	1	ND	0.75	10/18/24 17:30	
1,2,4-Trichlorobenzene	120-82-1	181.5	ND	0.20	1	ND	1.5	10/18/24 17:30	
1,1,1-Trichloroethane	71-55-6	133.4	ND	0.20	1	ND	1.1	10/18/24 17:30	
1,1,2-Trichloroethane	79-00-5	133.4	ND	0.20	1	ND	1.1	10/18/24 17:30	
Trichloroethene	79-01-6	131.4	ND	0.20	1	ND	1.1	10/18/24 17:30	
1,3,5-Trimethylbenzene	108-67-8	120.2	ND	0.20	1	ND	0.98	10/18/24 17:30	
1,2,4-Trimethylbenzene	95-63-6	120.2	ND	0.20	1	ND	0.98	10/18/24 17:30	
2,2,4-Trimethylpentane(Isooctane)	540-84-1	114.2	ND	0.20	1	ND	0.93	10/18/24 17:30	
Vinyl acetate	108-05-4	86.0	ND	0.20	1	ND	0.70	10/18/24 17:30	
Vinyl chloride	75-01-4	62.5	ND	0.20	1	ND	0.51	10/18/24 17:30	
Xylene (Ortho)	95-47-6	106.2	ND	0.20	1	ND	0.87	10/18/24 17:30	
Xylene (p,m)	179601-23-1	106.2	ND	0.40	1	ND	1.7	10/18/24 17:30	
Xylenes, Total	1330-20-7	106.2	ND	0.20	1	ND	0.87	10/18/24 17:30	

Total Target Compound Concentrations:**32****64****Surrogate**

4-Bromofluorobenzene

Result

9.68

Spike

10.00

Recovery

97

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

Attention: Results

Fuss & O'Neill, Inc. [ENVI54]
One Financial Plaza, 15th Floor
Hartford, CT 06103
(860) 646-2469
LabResults@fando.com

EMSL Sample ID: AC33250-04**Customer Sample ID:** Lab Background**EMSL Order ID:** 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54**Project Name:** 0000-5465.10E**Customer PO:****EMSL Sales Rep:** Jeromy Bish**Received:** 10/07/2024 11:40**Reported:** 10/21/2024 14:48**Collected:** 10/02/2024 00:00**Received:** 10/07/2024 11:40

Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 17:30	BCJ2206	y16721.D	JAR	250 cc	1	TP

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Tentatively Identified Compounds		92.0	0.0		1	0		10/18/24 17:30	
Total Target Compound Concentrations:			32			64			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

**EMSL Analytical, Inc.**

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Analysis	Prep Batch	Lab File ID	Canister ID	Sample Vol.	Dil. Factor	Analyst Init.
10/18/24 17:30	BCJ2206	y16721.D	JAR	250 cc	1	TP

Target Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Acetone	67-64-1	58.1	2.8	0.20	1	6.7	0.48	10/18/24 17:30	
Ethanol	64-17-5	46.1	27	1.0	1	51	1.9	10/18/24 17:30	
Isopropyl alcohol(2-Propanol)	67-63-0	60.1	2.3	0.20	1	5.8	0.49	10/18/24 17:30	
Methylene chloride	75-09-2	84.9	0.21	0.20	1	0.73	0.69	10/18/24 17:30	
Total Target Compound Concentrations:			32			64			

Surrogate

4-Bromofluorobenzene

Result

9.68

Spike

10.00

Recovery

97

TICS Compound Results Summary

Target Compounds	Cas#	MW	Result ppbv	RL ppbv	DF	Result ug/m3	RL ug/m3	Analyzed	Q
Tentatively Identified Compounds		92.0	0.0		1	0		10/18/24 17:30	
Total Target Compound Concentrations:			32			64			
Total Volatile Organic Compounds (TVOCs):			32.00			64.00			

Qualifier Definitions

(1) = If unknown, MW is assigned as equivalent Toluene (92) for mg/m3 conversion purposes.

B = Compound also found in method blank.

J= Estimated value based on a 1:1 response to internal standard.

N= Presumptive evidence of compound based on library match.

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EMSL Order ID: 012433250**LIMS Reference ID:** AC33250**EMSL Customer ID:** ENVI54

Project Name: 0000-5465.10E
Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 10/07/2024 11:40
Reported: 10/21/2024 14:48

Notes and Definitions

Item	Definition
E	Result is beyond calibration range. This value is estimated.
ND	Non Detect. This notation would be used in the results column in lieu of a "U" qualifier.
U	Compound was analyzed for but not detected at a listed and appropriately adjusted reporting level.
J(Target)	Concentration estimated between Reporting Limit and MDL.
J	Estimated value reported below adjusted reporting limit for target compounds or estimating a concentration for TICs where a 1:1 response is assumed
B	Compound found in associated method blank as well as in the sample.
E	Estimated value exceeding upper calibration range of instrument. Ethanol and isopropyl alcohol are not specifically targeted to dilute within calibration range.
D	Compound reported from additional diluted analysis.
N	indicates presumptive evidence of a compound based on library search match.

AC 33250



FUSS & O'NEILL-ENVIROSCIENCE, LLC
Disciplines to Deliver
(860) 646-2469 • www.FandO.com

- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☐ 1419 Richland Street, Columbia, SC 29201
- ☐ 78 Interstate Drive, West Springfield, MA 01089

- ☒ 108 Myrtle Street, #502, North Quincy, MA 02174
- ☐ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD

4517

☐ 1 Day* ☐ 3 Days* ☐ Other _____ (days)
☐ 2 Days* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME Needham Crumb Rubber		PROJECT LOCATION Needham MA		PROJECT NUMBER 20081266.850		LABORATORY EMSL (NJ)	
REPORT TO: Neal Kelly		neal.kelly@fandO.com		Analysis Request Full Vol list and TICs by TO-15 Metals list by 8270 Lead, iron, manganese, mercury, selenium by 6061/7470 Soil VOA Vial, 1 methanol Soil VOA Vial, 1 water Glass Soil Container () oz Glass Soil Container () oz Water VOA Vial, 1 As is Glass Amber () ml Plastic As is, 1250 ml Plastic - H ₂ SO ₄ , 1250 ml Plastic - HNO ₃ , 250 ml Plastic - NaOH, 250 ml Containers Unfiltered			
INVOICE TO:							
P.O. No.:							
Sampler's Signature: <i>Chris</i>		Date: 10/2/24					
Source Codes: MW=Monitoring Well PW=Potable Water S=Soil W=Waste SW=Surface Water T=Treatment Facility B=Sediment A=Air X=Other AQ = Airflow CR = Crumb Rubber							
Item No.	Transfer Check 1 2 3 4	Sample Number	Source Code	Date Sampled	Time Sampled	Comments	
1		1643241002-01	CR	10/2/24	1121	X	X
2		1643241002-02	CR	10/2/24	1147	X	X
3		1643241002-03	AQ	10/2/24	1200		
4		1643241002-04	CR	10/2/24	1220	X	X

Transfer Number	Relinquished By	Accepted By	Date	Time	Reporting and Detection Limit Requirements: MCP CAM Cert.
1	<i>Chris</i>	<i>John</i>	10/7/24	11:40	Additional Comments: Split TO15/chem
2			10/7/24	11:40am	
3					
4					

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

October 25, 2024

Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/10/2024. The results are tabulated on the attached pages for the following client designated project:

Needham Crumb Rubber

The reference number for these samples is EMSL Order #: AC33101 . Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact the lab at 856-858-4800.

Owen McKenna Laboratory Manager or other approved signatory

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**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Sample Condition on Receipt**Cooler ID: Default Cooler****Temperature:****°C**

Custody Seals

Y

Containers Intact

Y

COC/Labels Agree

Y

Preservation Confirmed

Y

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
AC33101-03	1643241002-03	Waste Water	10/2/24 12:00 pm	10/10/2024

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Positive Hits Summary

Lab ID	Client ID				Sampled
AC33101-03	1643241002-03				10/02/24 12:00
Method	Analyte	Result	Qualifier	Unit	Analyzed
EPA 624.1	No TICs found	0.0		µg/L	10/14/2024 18:26

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Sample Results**Sample:** 1643241002-03**AC33101-03 (Waste Water)**

Analyte	Result	Q	DF	MDL	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GCMS-VOA											
No TICs found	0.0		1			µg/L	10/14/24 18:26	10/14/24 18:26	OPM/WRF	EPA 624.1	EPA 624.1
Acetone	ND		1	15		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Acrolein	ND	C	1	10		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Benzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromodichloromethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromoform	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromomethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Butanone	ND		1	2.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
tert-Butyl Alcohol	ND		1	10		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Sec-butylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Tert-butylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
N-butylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Carbon Disulfide	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Carbon Tetrachloride	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chloroethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Chloroethyl Vinyl Ether	ND		1	2.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chloroform	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chloromethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Chlorotoluene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
4-Chlorotoluene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dibromo-3-chloropropane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Dibromochloromethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dibromoethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Dibromomethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trans-1,4-dichloro-2-butene	ND		1	2.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,3-Dichlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,4-Dichlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dichlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Dichlorodifluoromethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1-Dichloroethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dichloroethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1-Dichloroethene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trans-1,2-dichloroethene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Cis-1,2-dichloroethene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dichloropropane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2,2-Dichloropropane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,3-Dichloropropane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Cis-1,3-dichloropropene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trans-1,3-dichloropropene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1-Dichloropropene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Ethylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Hexachlorobutadiene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Hexanone	ND		1	4.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
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(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 10/25/2024 15:39

Sample Results**(Continued)****Sample: 1643241002-03 (Continued)****AC33101-03 (Waste Water)**

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GCMS-VOA (Continued)										
Isopropylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
4-Isopropyltoluene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Methylene Chloride	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
4-Methyl-2-pentanone	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Methyl-tert butyl ether	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Naphthalene	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
N-propylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Styrene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,2,2-Tetrachloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,1,2-Tetrachloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Tetrachloroethene	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Toluene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,3-Trichlorobenzene	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,4-Trichlorobenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,2-Trichloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,1-Trichloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trichloroethene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trichlorofluoromethane	ND		1	5.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,3-Trichloropropane	ND		1	4.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,4-Trimethylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,3,5-Trimethylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Vinyl Acetate	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Vinyl Chloride	ND		1	5.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
o-xylene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
m&p-xylenes	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Xylenes, Total	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Surrogate(s)	Recovery	Q	Limits							
<i>Surrogate: 4-Bromofluorobenzene</i>	102%		70-130			10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
<i>Surrogate: Dibromofluoromethane</i>	115%		70-130			10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
<i>Surrogate: 1,2-Dichloroethane-d4</i>	104%		70-130			10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
<i>Surrogate: Toluene-d8</i>	101%		70-130			10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control**GCMS-VOA**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1**Blank (BCJ1488-BLK1)**

Prepared & Analyzed: 10/14/2024

Acetone	ND	15	µg/L
Acrolein	ND	10	µg/L
Benzene	ND	1.0	µg/L
Bromobenzene	ND	1.0	µg/L
Bromodichloromethane	ND	1.0	µg/L
Bromoform	ND	1.0	µg/L
Bromomethane	ND	5.0	µg/L
2-Butanone	ND	2.0	µg/L
tert-Butyl Alcohol	ND	10	µg/L
Sec-butylbenzene	ND	1.0	µg/L
Tert-butylbenzene	ND	1.0	µg/L
N-butylbenzene	ND	1.0	µg/L
Carbon Disulfide	ND	1.0	µg/L
Carbon Tetrachloride	ND	1.0	µg/L
Chlorobenzene	ND	1.0	µg/L
Chloroethane	ND	5.0	µg/L
2-Chloroethyl Vinyl Ether	ND	2.0	µg/L
Chloroform	ND	1.0	µg/L
Chloromethane	ND	5.0	µg/L
2-Chlorotoluene	ND	1.0	µg/L
4-Chlorotoluene	ND	1.0	µg/L
1,2-Dibromo-3-chloropropane	ND	5.0	µg/L
Dibromochloromethane	ND	1.0	µg/L
1,2-Dibromoethane	ND	1.0	µg/L
Dibromomethane	ND	1.0	µg/L
Trans-1,4-dichloro-2-butene	ND	2.0	µg/L
1,3-Dichlorobenzene	ND	1.0	µg/L
1,4-Dichlorobenzene	ND	1.0	µg/L
1,2-Dichlorobenzene	ND	1.0	µg/L
Dichlorodifluoromethane	ND	5.0	µg/L
1,1-Dichloroethane	ND	1.0	µg/L
1,2-Dichloroethane	ND	1.0	µg/L
1,1-Dichloroethene	ND	1.0	µg/L
Trans-1,2-dichloroethene	ND	1.0	µg/L
Cis-1,2-dichloroethene	ND	1.0	µg/L
1,2-Dichloropropane	ND	1.0	µg/L
2,2-Dichloropropane	ND	1.0	µg/L
1,3-Dichloropropane	ND	1.0	µg/L
Cis-1,3-dichloropropene	ND	1.0	µg/L
Trans-1,3-dichloropropene	ND	1.0	µg/L
1,1-Dichloropropene	ND	1.0	µg/L
Ethylbenzene	ND	1.0	µg/L

**EMSL Analytical, Inc.**

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Blank (BCJ1488-BLK1)**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	ND	1.0	µg/L
2-Hexanone	ND	4.0	µg/L
Isopropylbenzene	ND	1.0	µg/L
4-Isopropyltoluene	ND	1.0	µg/L
Methylene Chloride	ND	1.0	µg/L
4-Methyl-2-pentanone	ND	2.0	µg/L
Methyl-tert butyl ether	ND	1.0	µg/L
Naphthalene	ND	2.0	µg/L
N-propylbenzene	ND	1.0	µg/L
Styrene	ND	1.0	µg/L
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L
Tetrachloroethene	ND	2.0	µg/L
Toluene	ND	1.0	µg/L
1,2,3-Trichlorobenzene	ND	2.0	µg/L
1,2,4-Trichlorobenzene	ND	1.0	µg/L
1,1,2-Trichloroethane	ND	1.0	µg/L
1,1,1-Trichloroethane	ND	1.0	µg/L
Trichloroethene	ND	1.0	µg/L
Trichlorofluoromethane	ND	5.0	µg/L
1,2,3-Trichloropropane	ND	4.0	µg/L
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	µg/L
1,2,4-Trimethylbenzene	ND	1.0	µg/L
1,3,5-Trimethylbenzene	ND	1.0	µg/L
Vinyl Acetate	ND	2.0	µg/L
Vinyl Chloride	ND	5.0	µg/L
o-xylene	ND	1.0	µg/L
m&p-xylenes	ND	2.0	µg/L
Xylenes, Total	ND	1.0	µg/L

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	103	70-130
Surrogate: Dibromofluoromethane	50.00	115	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	104	70-130
Surrogate: Toluene-d8	50.00	100	70-130

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**LCS (BCJ1488-BS1)**

Prepared & Analyzed: 10/14/2024

Acetone	69.4	15	µg/L	100.0		69	67-134		
Acrolein	181	10	µg/L	200.0		91	60-140		
Benzene	50.3	1.0	µg/L	50.00		101	65-135		
Bromobenzene	46.5	1.0	µg/L	50.00		93	87-121		
Bromodichloromethane	50.8	1.0	µg/L	50.00		102	65-135		
Bromoform	48.0	1.0	µg/L	50.00		96	70-130		
Bromomethane	51.4	5.0	µg/L	50.00		103	15-185		
2-Butanone	90.5	2.0	µg/L	100.0		91	72-129		
tert-Butyl Alcohol	139	10	µg/L	200.0		69	67-143		
Sec-butylbenzene	50.1	1.0	µg/L	50.00		100	86-121		
Tert-butylbenzene	50.0	1.0	µg/L	50.00		100	89-119		
N-butylbenzene	47.9	1.0	µg/L	50.00		96	76-130		
Carbon Disulfide	62.5	1.0	µg/L	50.00		125	82-228		
Carbon Tetrachloride	56.1	1.0	µg/L	50.00		112	70-130		
Chlorobenzene	45.9	1.0	µg/L	50.00		92	65-135		
Chloroethane	51.1	5.0	µg/L	50.00		102	40-160		
2-Chloroethyl Vinyl Ether	93.0	2.0	µg/L	100.0		93	0-225		
Chloroform	50.2	1.0	µg/L	50.00		100	70-135		
Chloromethane	53.1	5.0	µg/L	50.00		106	0-205		
2-Chlorotoluene	47.3	1.0	µg/L	50.00		95	89-116		
4-Chlorotoluene	45.8	1.0	µg/L	50.00		92	78-131		
1,2-Dibromo-3-chloropropane	43.2	5.0	µg/L	50.00		86	56-142		
Dibromochloromethane	52.8	1.0	µg/L	50.00		106	70-135		
1,2-Dibromoethane	48.4	1.0	µg/L	50.00		97	88-121		
Dibromomethane	46.7	1.0	µg/L	50.00		93	85-125		
Trans-1,4-dichloro-2-butene	91.2	2.0	µg/L	100.0		91	10-161		
1,3-Dichlorobenzene	47.8	1.0	µg/L	50.00		96	70-130		
1,4-Dichlorobenzene	46.1	1.0	µg/L	50.00		92	65-135		
1,2-Dichlorobenzene	43.8	1.0	µg/L	50.00		88	65-135		
Dichlorodifluoromethane	65.2 R4	5.0	µg/L	50.00		130	37-119		
1,1-Dichloroethane	50.6	1.0	µg/L	50.00		101	70-130		
1,2-Dichloroethane	46.6	1.0	µg/L	50.00		93	70-130		
1,1-Dichloroethene	54.8	1.0	µg/L	50.00		110	50-150		
Trans-1,2-dichloroethene	52.4	1.0	µg/L	50.00		105	70-130		
Cis-1,2-dichloroethene	50.9	1.0	µg/L	50.00		102	88-142		
1,2-Dichloropropane	49.9	1.0	µg/L	50.00		100	35-165		
2,2-Dichloropropane	60.8	1.0	µg/L	50.00		122	75-134		
1,3-Dichloropropane	48.4	1.0	µg/L	50.00		97	85-116		
Cis-1,3-dichloropropene	55.7	1.0	µg/L	50.00		111	25-175		
Trans-1,3-dichloropropene	56.3	1.0	µg/L	50.00		113	50-150		
1,1-Dichloropropene	52.0	1.0	µg/L	50.00		104	88-116		
Ethylbenzene	47.7	1.0	µg/L	50.00		95	60-140		

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control

(Continued)

GCMS-VOA (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**LCS (BCJ1488-BS1)**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	48.0	1.0	µg/L	50.00		96	76-114
2-Hexanone	96.8	4.0	µg/L	100.0		97	72-131
Isopropylbenzene	49.6	1.0	µg/L	50.00		99	89-136
4-Isopropyltoluene	51.0	1.0	µg/L	50.00		102	85-125
Methylene Chloride	49.3	1.0	µg/L	50.00		99	60-140
4-Methyl-2-pentanone	97.5	2.0	µg/L	100.0		98	72-126
Methyl-tert butyl ether	51.9	1.0	µg/L				79-120
Naphthalene	48.6	2.0	µg/L	50.00		97	73-133
N-propylbenzene	48.8	1.0	µg/L	50.00		98	77-131
Styrene	48.3	1.0	µg/L	50.00		97	90-122
1,1,2,2-Tetrachloroethane	43.0	1.0	µg/L	50.00		86	60-140
1,1,1,2-Tetrachloroethane	49.7	1.0	µg/L	50.00		99	89-118
Tetrachloroethene	50.8	2.0	µg/L	50.00		102	70-130
Toluene	49.7	1.0	µg/L	50.00		99	70-130
1,2,3-Trichlorobenzene	47.8	2.0	µg/L	50.00		96	79-128
1,2,4-Trichlorobenzene	49.7	1.0	µg/L	50.00		99	70-130
1,1,2-Trichloroethane	46.7	1.0	µg/L	50.00		93	70-130
1,1,1-Trichloroethane	54.3	1.0	µg/L	50.00		109	70-130
Trichloroethene	49.7	1.0	µg/L	50.00		99	65-135
Trichlorofluoromethane	55.0	5.0	µg/L	50.00		110	50-150
1,2,3-Trichloropropane	42.9	4.0	µg/L	50.00		86	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	54.0	2.0	µg/L	50.00		108	70-130
1,2,4-Trimethylbenzene	48.8	1.0	µg/L	50.00		98	86-122
1,3,5-Trimethylbenzene	49.2	1.0	µg/L	50.00		98	88-121
Vinyl Acetate	49.4	2.0	µg/L	50.00		99	70-130
Vinyl Chloride	56.5	5.0	µg/L	50.00		113	5-195
o-xylene	48.3	1.0	µg/L	50.00		97	89-118
m&p-xylenes	95.6	2.0	µg/L	100.0		96	70-130
Xylenes, Total	144	1.0	µg/L	150.0		96	70-130

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	105	70-130
Surrogate: Dibromofluoromethane	50.00	114	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	103	70-130
Surrogate: Toluene-d8	50.00	102	70-130

**EMSL Analytical, Inc.**

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Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike (BCJ1488-MS1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Acetone	128	15	µg/L	100.0	54.5	73	56-168
Acrolein	230	10	µg/L	200.0	ND	115	40-160
Benzene	50.7	1.0	µg/L	50.00	ND	101	37-151
Bromobenzene	46.2	1.0	µg/L	50.00	ND	92	85-114
Bromodichloromethane	50.9	1.0	µg/L	50.00	ND	102	35-155
Bromoform	46.8	1.0	µg/L	50.00	ND	94	45-169
Bromomethane	51.1	5.0	µg/L	50.00	ND	102	10-242
2-Butanone	93.9	2.0	µg/L	100.0	ND	94	60-155
tert-Butyl Alcohol	166	10	µg/L	200.0	ND	83	57-181
Sec-butylbenzene	49.7	1.0	µg/L	50.00	ND	99	84-113
Tert-butylbenzene	49.6	1.0	µg/L	50.00	ND	99	85-114
N-butylbenzene	46.8	1.0	µg/L	50.00	ND	94	79-117
Carbon Disulfide	61.9 R4	1.0	µg/L	50.00	ND	124	72-122
Carbon Tetrachloride	56.0	1.0	µg/L	50.00	ND	112	70-140
Chlorobenzene	45.4	1.0	µg/L	50.00	ND	91	37-160
Chloroethane	52.9	5.0	µg/L	50.00	ND	106	14-230
2-Chloroethyl Vinyl Ether	ND	2.0	µg/L	100.0	ND		0-305
Chloroform	49.3	1.0	µg/L	50.00	ND	99	51-138
Chloromethane	55.9	5.0	µg/L	50.00	ND	112	0-273
2-Chlorotoluene	47.5	1.0	µg/L	50.00	ND	95	82-112
4-Chlorotoluene	46.2	1.0	µg/L	50.00	ND	92	78-114
1,2-Dibromo-3-chloropropane	43.8	5.0	µg/L	50.00	ND	88	57-166
Dibromochloromethane	52.8	1.0	µg/L	50.00	ND	106	53-149
1,2-Dibromoethane	48.3	1.0	µg/L	50.00	ND	97	86-125
Dibromomethane	47.7	1.0	µg/L	50.00	ND	95	76-136
Trans-1,4-dichloro-2-butene	89.7	2.0	µg/L	100.0	ND	90	74-136
1,3-Dichlorobenzene	47.3	1.0	µg/L	50.00	ND	95	59-156
1,4-Dichlorobenzene	46.1	1.0	µg/L	50.00	ND	92	18-190
1,2-Dichlorobenzene	43.4	1.0	µg/L	50.00	ND	87	18-190
Dichlorodifluoromethane	68.1	5.0	µg/L	50.00	ND	136	65-145
1,1-Dichloroethane	51.2	1.0	µg/L	50.00	ND	102	59-155
1,2-Dichloroethane	48.1	1.0	µg/L	50.00	ND	96	49-155
1,1-Dichloroethene	54.5	1.0	µg/L	50.00	ND	109	0-234
Trans-1,2-dichloroethene	52.1	1.0	µg/L	50.00	ND	104	54-156
Cis-1,2-dichloroethene	50.8	1.0	µg/L	50.00	ND	102	91-116
1,2-Dichloropropane	49.6	1.0	µg/L	50.00	ND	99	0-210
2,2-Dichloropropane	54.2	1.0	µg/L	50.00	ND	108	73-126
1,3-Dichloropropane	48.6	1.0	µg/L	50.00	ND	97	85-121
Cis-1,3-dichloropropene	52.9	1.0	µg/L	50.00	ND	106	0-227
Trans-1,3-dichloropropene	53.8	1.0	µg/L	50.00	ND	108	17-183
1,1-Dichloropropene	53.2	1.0	µg/L	50.00	ND	106	85-112
Ethylbenzene	47.6	1.0	µg/L	50.00	ND	95	37-162

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 10/25/2024 15:39

Quality Control (Continued)

GCMS-VOA (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike (BCJ1488-MS1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	43.8	1.0	µg/L	50.00	ND	88	78-118
2-Hexanone	102	4.0	µg/L	100.0	ND	102	31-155
Isopropylbenzene	49.2	1.0	µg/L	50.00	ND	98	78-114
4-Isopropyltoluene	50.5	1.0	µg/L	50.00	ND	101	81-112
Methylene Chloride	49.6	1.0	µg/L	50.00	ND	99	10-221
4-Methyl-2-pentanone	104	2.0	µg/L	100.0	ND	104	78-138
Methyl-tert butyl ether	50.3	1.0	µg/L		ND		84-127
Naphthalene	51.1	2.0	µg/L	50.00	ND	102	40-140
N-propylbenzene	49.0	1.0	µg/L	50.00	ND	98	74-123
Styrene	47.4	1.0	µg/L	50.00	ND	95	87-112
1,1,2,2-Tetrachloroethane	43.7	1.0	µg/L	50.00	ND	87	46-157
1,1,1,2-Tetrachloroethane	49.0	1.0	µg/L	50.00	ND	98	81-125
Tetrachloroethene	50.9	2.0	µg/L	50.00	ND	102	64-148
Toluene	50.6	1.0	µg/L	50.00	ND	101	47-150
1,2,3-Trichlorobenzene	49.5	2.0	µg/L	50.00	ND	99	80-118
1,2,4-Trichlorobenzene	49.0	1.0	µg/L	50.00	ND	98	70-130
1,1,2-Trichloroethane	47.2	1.0	µg/L	50.00	ND	94	52-150
1,1,1-Trichloroethane	54.6	1.0	µg/L	50.00	ND	109	52-162
Trichloroethene	49.8	1.0	µg/L	50.00	ND	100	70-157
Trichlorofluoromethane	58.0	5.0	µg/L	50.00	ND	116	17-181
1,2,3-Trichloropropane	43.7	4.0	µg/L	50.00	ND	87	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	55.6	2.0	µg/L	50.00	ND	111	70-130
1,2,4-Trimethylbenzene	53.5	1.0	µg/L	50.00	4.03	99	67-129
1,3,5-Trimethylbenzene	50.2	1.0	µg/L	50.00	1.20	98	79-115
Vinyl Acetate	48.5	2.0	µg/L	50.00	ND	97	70-130
Vinyl Chloride	58.0	5.0	µg/L	50.00	ND	116	0-251
o-xylene	49.3	1.0	µg/L	50.00	1.13	96	85-112
m&p-xylenes	94.4	2.0	µg/L	100.0	ND	94	70-130
Xylenes, Total	144	1.0	µg/L		1.13		70-130

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	104	70-130
Surrogate: Dibromofluoromethane	50.00	114	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	105	70-130
Surrogate: Toluene-d8	50.00	106	70-130

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control

(Continued)

GCMS-VOA (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike Dup (BCJ1488-MSD1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Acetone	152	15	µg/L	100.0	54.5	98	56-168	18	24
Acrolein	267	10	µg/L	200.0	ND	134	40-160	15	60
Benzene	53.1	1.0	µg/L	50.00	ND	106	37-151	5	61
Bromobenzene	47.9	1.0	µg/L	50.00	ND	96	85-114	4	7
Bromodichloromethane	52.2	1.0	µg/L	50.00	ND	104	35-155	3	56
Bromoform	50.6	1.0	µg/L	50.00	ND	101	45-169	8	42
Bromomethane	54.4	5.0	µg/L	50.00	ND	109	10-242	6	61
2-Butanone	109	2.0	µg/L	100.0	ND	109	60-155	15	20
tert-Butyl Alcohol	248 R4	10	µg/L	200.0	ND	124	57-181	40	21
Sec-butylbenzene	52.4	1.0	µg/L	50.00	ND	105	84-113	5	11
Tert-butylbenzene	51.9	1.0	µg/L	50.00	ND	104	85-114	4	10
N-butylbenzene	51.0	1.0	µg/L	50.00	ND	102	79-117	9	12
Carbon Disulfide	67.2 R4	1.0	µg/L	50.00	ND	134	72-122	8	17
Carbon Tetrachloride	59.3	1.0	µg/L	50.00	ND	119	70-140	6	41
Chlorobenzene	47.7	1.0	µg/L	50.00	ND	95	37-160	5	53
Chloroethane	54.8	5.0	µg/L	50.00	ND	110	14-230	3	78
2-Chloroethyl Vinyl Ether	ND	2.0	µg/L	100.0	ND		0-305		71
Chloroform	50.8	1.0	µg/L	50.00	ND	102	51-138	3	54
Chloromethane	60.1	5.0	µg/L	50.00	ND	120	0-273	7	60
2-Chlorotoluene	49.4	1.0	µg/L	50.00	ND	99	82-112	4	10
4-Chlorotoluene	48.5	1.0	µg/L	50.00	ND	97	78-114	5	11
1,2-Dibromo-3-chloropropane	52.0	5.0	µg/L	50.00	ND	104	57-166	17	19
Dibromochloromethane	55.9	1.0	µg/L	50.00	ND	112	53-149	6	50
1,2-Dibromoethane	51.5	1.0	µg/L	50.00	ND	103	86-125	6	13
Dibromomethane	50.1	1.0	µg/L	50.00	ND	100	76-136	5	15
Trans-1,4-dichloro-2-butene	100	2.0	µg/L	100.0	ND	100	74-136	11	15
1,3-Dichlorobenzene	49.7	1.0	µg/L	50.00	ND	99	59-156	5	43
1,4-Dichlorobenzene	48.5	1.0	µg/L	50.00	ND	97	18-190	5	57
1,2-Dichlorobenzene	47.3	1.0	µg/L	50.00	ND	95	18-190	9	57
Dichlorodifluoromethane	72.5	5.0	µg/L	50.00	ND	145	65-145	6	15
1,1-Dichloroethane	53.2	1.0	µg/L	50.00	ND	106	59-155	4	40
1,2-Dichloroethane	49.3	1.0	µg/L	50.00	ND	99	49-155	2	49
1,1-Dichloroethene	58.6	1.0	µg/L	50.00	ND	117	0-234	7	32
Trans-1,2-dichloroethene	55.5	1.0	µg/L	50.00	ND	111	54-156	6	45
Cis-1,2-dichloroethene	52.9	1.0	µg/L	50.00	ND	106	91-116	4	9
1,2-Dichloropropane	52.5	1.0	µg/L	50.00	ND	105	0-210	6	55
2,2-Dichloropropane	59.4	1.0	µg/L	50.00	ND	119	73-126	9	12
1,3-Dichloropropane	51.5	1.0	µg/L	50.00	ND	103	85-121	6	13
Cis-1,3-dichloropropene	56.1	1.0	µg/L	50.00	ND	112	0-227	6	58
Trans-1,3-dichloropropene	58.1	1.0	µg/L	50.00	ND	116	17-183	8	86
1,1-Dichloropropene	55.8	1.0	µg/L	50.00	ND	112	85-112	5	8
Ethylbenzene	50.2	1.0	µg/L	50.00	ND	100	37-162	5	63

**EMSL Analytical, Inc.**

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike Dup (BCJ1488-MSD1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	50.9	1.0	µg/L	50.00	ND	102	78-118	15	17
2-Hexanone	115	4.0	µg/L	100.0	ND	115	31-155	12	19
Isopropylbenzene	51.8	1.0	µg/L	50.00	ND	104	78-114	5	10
4-Isopropyltoluene	52.6	1.0	µg/L	50.00	ND	105	81-112	4	12
Methylene Chloride	51.6	1.0	µg/L	50.00	ND	103	10-221	4	28
4-Methyl-2-pentanone	116	2.0	µg/L	100.0	ND	116	78-138	10	16
Methyl-tert butyl ether	55.1	1.0	µg/L		ND		84-127	9	13
Naphthalene	63.3	2.0	µg/L	50.00	ND	127	40-140	21	25
N-propylbenzene	51.4	1.0	µg/L	50.00	ND	103	74-123	5	11
Styrene	49.4	1.0	µg/L	50.00	ND	99	87-112	4	9
1,1,2,2-Tetrachloroethane	47.4	1.0	µg/L	50.00	ND	95	46-157	8	61
1,1,1,2-Tetrachloroethane	51.2	1.0	µg/L	50.00	ND	102	81-125	4	11
Tetrachloroethene	54.5	2.0	µg/L	50.00	ND	109	64-148	7	39
Toluene	53.4	1.0	µg/L	50.00	ND	107	47-150	5	41
1,2,3-Trichlorobenzene	60.5 R4	2.0	µg/L	50.00	ND	121	80-118	20	11
1,2,4-Trichlorobenzene	56.3	1.0	µg/L	50.00	ND	113	70-130	14	25
1,1,2-Trichloroethane	49.8	1.0	µg/L	50.00	ND	100	52-150	5	45
1,1,1-Trichloroethane	57.2	1.0	µg/L	50.00	ND	114	52-162	5	36
Trichloroethene	52.4	1.0	µg/L	50.00	ND	105	70-157	5	48
Trichlorofluoromethane	59.7	5.0	µg/L	50.00	ND	119	17-181	3	84
1,2,3-Trichloropropane	47.6	4.0	µg/L	50.00	ND	95	70-130	9	11
1,1,2-Trichloro-1,2,2-trifluoroethane	58.4	2.0	µg/L	50.00	ND	117	70-130	5	25
1,2,4-Trimethylbenzene	55.6	1.0	µg/L	50.00	4.03	103	67-129	4	13
1,3,5-Trimethylbenzene	52.6	1.0	µg/L	50.00	1.20	103	79-115	5	10
Vinyl Acetate	54.5	2.0	µg/L	50.00	ND	109	70-130	12	25
Vinyl Chloride	62.7	5.0	µg/L	50.00	ND	125	0-251	8	66
o-xylene	51.6	1.0	µg/L	50.00	1.13	101	85-112	4	7
m&p-xylenes	99.7	2.0	µg/L	100.0	ND	100	70-130	5	25
Xylenes, Total	151	1.0	µg/L		1.13		70-130	5	25

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	100	70-130
Surrogate: Dibromofluoromethane	50.00	111	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	99	70-130
Surrogate: Toluene-d8	50.00	106	70-130

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

10/25/2024 15:39

Certified Analyses included in this Report

Analyte	CAS #	Certifications
<i>EPA 624.1 in Waste Water</i>		
Acetone	67-64-1	NJDEP,PADEP
Acrolein	107-02-8	NJDEP,PADEP
Benzene	71-43-2	NJDEP,PADEP
Bromobenzene	108-86-1	NJDEP,PADEP
Bromodichloromethane	75-27-4	NJDEP,PADEP
Bromoform	75-25-2	NJDEP,PADEP
Bromomethane	74-83-9	NJDEP,PADEP
2-Butanone	78-93-3	NJDEP,PADEP
tert-Butyl Alcohol	75-65-0	NJDEP,PADEP
Sec-butylbenzene	135-98-8	NJDEP,PADEP
Tert-butylbenzene	98-06-6	NJDEP,PADEP
N-butylbenzene	104-51-8	NJDEP,PADEP
Carbon Disulfide	75-15-0	NJDEP,PADEP
Carbon Tetrachloride	56-23-5	NJDEP,PADEP
Chlorobenzene	108-90-7	NJDEP,PADEP
Chloroethane	75-00-3	NJDEP,PADEP
2-Chloroethyl Vinyl Ether	110-75-8	NJDEP,PADEP
Chloroform	67-66-3	NJDEP,PADEP
Chloromethane	74-87-3	NJDEP,PADEP
2-Chlorotoluene	95-49-8	NJDEP,PADEP
4-Chlorotoluene	106-43-4	NJDEP,PADEP
1,2-Dibromo-3-chloropropane	96-12-8	NJDEP,PADEP
Dibromochloromethane	124-48-1	NJDEP,PADEP
1,2-Dibromoethane	106-93-4	NJDEP,PADEP
Dibromomethane	74-95-3	NJDEP,PADEP
Trans-1,4-dichloro-2-butene	110-57-6	NJDEP,PADEP
1,3-Dichlorobenzene	541-73-1	NJDEP,PADEP
1,4-Dichlorobenzene	106-46-7	NJDEP,PADEP
1,2-Dichlorobenzene	95-50-1	NJDEP,PADEP
Dichlorodifluoromethane	75-71-8	NJDEP,PADEP
1,1-Dichloroethane	75-34-3	NJDEP,PADEP
1,2-Dichloroethane	107-06-2	NJDEP,PADEP
1,1-Dichloroethene	75-35-4	NJDEP,PADEP
Trans-1,2-dichloroethene	156-60-5	NJDEP,PADEP
Cis-1,2-dichloroethene	156-59-2	NJDEP,PADEP
1,2-Dichloropropane	78-87-5	NJDEP,PADEP
2,2-Dichloropropane	594-20-7	NJDEP,PADEP
1,3-Dichloropropane	142-28-9	NJDEP,PADEP
Cis-1,3-dichloropropene	10061-01-5	NJDEP,PADEP

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

**EMSL Analytical, Inc.**

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EMSL-CIN-01

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EMSL Sales Rep:

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Received:

10/10/2024 09:00

Reported:

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Certified Analyses included in this Report
(Continued)

Analyte	CAS #	Certifications
<i>EPA 624.1 in Waste Water (Continued)</i>		
Trans-1,3-dichloropropene	10061-02-6	NJDEP,PADEP
1,1-Dichloropropene	563-58-6	NJDEP,PADEP
Ethylbenzene	100-41-4	NJDEP,PADEP
Hexachlorobutadiene	87-68-3	NJDEP,PADEP
2-Hexanone	591-78-6	NJDEP,PADEP
Isopropylbenzene	98-82-8	NJDEP,PADEP
4-Isopropyltoluene	99-87-6	NJDEP,PADEP
Methylene Chloride	75-09-2	NJDEP,PADEP
4-Methyl-2-pentanone	108-10-1	NJDEP,PADEP
Methyl-tert butyl ether	1634-04-4	NJDEP,PADEP
Naphthalene	91-20-3	NJDEP,PADEP
N-propylbenzene	103-65-1	NJDEP,PADEP
Styrene	100-42-5	NJDEP,PADEP
1,1,2,2-Tetrachloroethane	79-34-5	NJDEP,PADEP
1,1,1,2-Tetrachloroethane	630-20-6	NJDEP,PADEP
Tetrachloroethene	127-18-4	NJDEP,PADEP
Toluene	108-88-3	NJDEP,PADEP
1,2,3-Trichlorobenzene	87-61-6	NJDEP,PADEP
1,2,4-Trichlorobenzene	120-82-1	NJDEP,PADEP
1,1,2-Trichloroethane	79-00-5	NJDEP,PADEP
1,1,1-Trichloroethane	71-55-6	NJDEP,PADEP
Trichloroethene	79-01-6	NJDEP,PADEP
Trichlorofluoromethane	75-69-4	NJDEP,PADEP
1,2,3-Trichloropropane	96-18-4	NJDEP,PADEP
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NJDEP,PADEP
1,2,4-Trimethylbenzene	95-63-6	NJDEP,PADEP
1,3,5-Trimethylbenzene	108-67-8	NJDEP,PADEP
Vinyl Acetate	108-05-4	NJDEP,PADEP
Vinyl Chloride	75-01-4	NJDEP,PADEP
o-xylene	95-47-6	NJDEP,PADEP
m&p-xylenes	179601-23-1	NJDEP,PADEP
Xylenes, Total	1330-20-7	NJDEP,PADEP

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EMSL-CIN-01

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EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

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List of Certifications

Code	Description	Number	Expires
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
NYSDOH	New York State Department of Health	10872	04/01/2025
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2025
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2025
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2026
California ELAP	California Water Boards	1877	06/30/2025
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2026

Please see the specific Field of Testing (FOT) on www.emsl.com <<http://www.emsl.com>> for a complete listing of parameters for which EMSL is certified.

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 10/25/2024 15:39

Notes and Definitions

Item	Definition
C	The sample was preserved to a PH of less than 2. Acrolein requires an unpreserved aliquot. Results for Acrolein may be biased.
R4	High percent recovery and no associated postive found in the batch.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit
Wet	Sample is not dry weight corrected.
%REC	Percent Recovery
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 | Fax: 717-944-1430 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

EMSL Inc.

Project AC33101
Workorder 3382844
Report ID 362618 on 10/24/2024

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Oct 11, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Kaleb Brown (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):
Reports - EMSL Inc.
Travis Albert - EMSL Analytical Inc.

Kaleb Brown

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Kaleb Brown
Project Coordinator

(ALS Digital Signature)



Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3382844001	AC33101-01	Oil/Other	10/02/2024 11:21	10/11/2024 09:24	CBC	Collected By Client
3382844002	AC33101-02	Oil/Other	10/02/2024 11:47	10/11/2024 09:24	CBC	Collected By Client
3382844003	AC33101-04	Oil/Other	10/02/2024 00:20	10/11/2024 09:24	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
EPA 300.1 Rev. 1.0-1997
EPA 300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA 420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA 200.7 Rev. 4.4-1994
EPA 200.8 Rev. 5.4-1994
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

P1 Project was received at a temperature greater than six degrees Celsius.

Sample Notations

Lab ID	Sample ID		
3382844001	AC33101-01	S1	Sample was re-extracted past the holding time for EPA method 8270E.
3382844002	AC33101-02	S2	Sample was re-extracted past the holding time for EPA method 8270E.
3382844003	AC33101-04	S3	Sample was re-extracted past the holding time for EPA method 8270E.

Result Notations

Notation Ref.



Detected Results Summary

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

Compound	Result	Units	RDL	Method	Flag
METALS					
Iron, Total	762	mg/kg	193	SW846 6010C	#
Zinc, Total	12600	mg/kg	38.6	SW846 6010C	#
SEMIVOLATILES					
Acenaphthylene	54.5	ug/kg	44.6	SW846 8270E	#
Acetophenone	112	ug/kg	89.3	SW846 8270E	#
Anthracene	78.4	ug/kg	44.6	SW846 8270E	#
bis(2-Ethylhexyl)phthalate	4410	ug/kg	89.3	SW846 8270E	#
Chrysene	2110	ug/kg	44.6	SW846 8270E	#
Fluoranthene	3050	ug/kg	44.6	SW846 8270E	#
Hexachlorobutadiene	524	ug/kg	89.3	SW846 8270E	#
Hexachloroethane	221	ug/kg	89.3	SW846 8270E	#
Naphthalene	172	ug/kg	44.6	SW846 8270E	#
N-Nitrosodiphenylamine	115	ug/kg	89.3	SW846 8270E	#
Phenanthrene	426	ug/kg	44.6	SW846 8270E	#
Pyrene	7070	ug/kg	223	SW846 8270E	#



Detected Results Summary

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

Compound	Result	Units	RDL	Method	Flag
METALS					
Iron, Total	889	mg/kg	198	SW846 6010C	#
Zinc, Total	13200	mg/kg	39.7	SW846 6010C	#
SEMIVOLATILES					
Acenaphthylene	50.8	ug/kg	48.1	SW846 8270E	#
Acetophenone	181	ug/kg	96.2	SW846 8270E	#
Anthracene	79.6	ug/kg	48.1	SW846 8270E	#
bis(2-Ethylhexyl)phthalate	5170	ug/kg	96.2	SW846 8270E	#
Chrysene	1860	ug/kg	48.1	SW846 8270E	#
Fluoranthene	2680	ug/kg	48.1	SW846 8270E	#
Hexachlorobutadiene	486	ug/kg	96.2	SW846 8270E	#
Hexachloroethane	169	ug/kg	96.2	SW846 8270E	#
Naphthalene	111	ug/kg	48.1	SW846 8270E	#
Phenanthrene	453	ug/kg	48.1	SW846 8270E	#
Pyrene	6890	ug/kg	48.1	SW846 8270E	#



Detected Results Summary

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

Compound	Result	Units	RDL	Method	Flag
METALS					
Iron, Total	640	mg/kg	198	SW846 6010C	#
Zinc, Total	15200	mg/kg	39.5	SW846 6010C	#
SEMIVOLATILES					
Acenaphthylene	59.8	ug/kg	44.6	SW846 8270E	#
Acetophenone	152	ug/kg	89.3	SW846 8270E	#
Anthracene	82.3	ug/kg	44.6	SW846 8270E	#
bis(2-Ethylhexyl)phthalate	5100	ug/kg	89.3	SW846 8270E	#
Chrysene	2450	ug/kg	44.6	SW846 8270E	#
Fluoranthene	3760	ug/kg	44.6	SW846 8270E	#
Hexachlorobutadiene	426	ug/kg	89.3	SW846 8270E	#
Hexachloroethane	205	ug/kg	89.3	SW846 8270E	#
Naphthalene	131	ug/kg	44.6	SW846 8270E	#
N-Nitrosodiphenylamine	168	ug/kg	89.3	SW846 8270E	#
Phenanthrene	541	ug/kg	44.6	SW846 8270E	#
Pyrene	8320	ug/kg	223	SW846 8270E	#



Results

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	ND	ND,P1,S1	mg/kg	38.6	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Cadmium, Total	ND	ND,P1,S1	mg/kg	9.7	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Chromium, Total	ND	ND,P1,S1	mg/kg	19.3	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Iron, Total	762	P1,S1	mg/kg	193	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Lead, Total	ND	ND,P1,S1	mg/kg	38.6	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Manganese, Total	ND	ND,P1,S1	mg/kg	19.3	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Mercury, Total	ND	ND,P1,S1	mg/kg	0.047	SW846 7471B	1	10/24/2024 11:12	JMS	A
Selenium, Total	ND	ND,P1,S1	mg/kg	96.5	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Zinc, Total	12600	P1,S1	mg/kg	38.6	SW846 6010C	10	10/18/2024 10:21	MSY	A1

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,2,4,5-Tetrachlorobenzene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
1,4-Dioxane	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,3,4,6-Tetrachlorophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4,5-Trichlorophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4,6-Trichlorophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dichlorophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dimethylphenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dinitrophenol	ND	ND,P1,S1	ug/kg	357	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dinitrotoluene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,6-Dinitrotoluene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Chloronaphthalene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Chlorophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Methyl-4,6-dinitrophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Methylnaphthalene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Nitroaniline	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Nitrophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
3,3-Dichlorobenzidine	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
3-Nitroaniline	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Bromophenyl-phenylether	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Chloro-3-methylphenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Chloroaniline	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Chlorophenyl-phenylether	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Nitroaniline	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Nitrophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A



Results

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Acenaphthylene	54.5	P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Acetophenone	112	P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Anthracene	78.4	P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Atrazine	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzaldehyde	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(a)anthracene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(a)pyrene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(b)fluoranthene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(g,h,i)perylene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(k)fluoranthene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Biphenyl	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Chloroethoxy)methane	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Chloroethyl)ether	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Chloroisopropyl)ether	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Ethylhexyl)phthalate	4410	P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Butylbenzylphthalate	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Caprolactam	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Carbazole	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Chrysene	2110	P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Dibenzo(a,h)anthracene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Dibenzofuran	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Diethylphthalate	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Dimethylphthalate	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Di-n-Butylphthalate	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Di-n-Octylphthalate	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Fluoranthene	3050	P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Fluorene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachlorobenzene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachlorobutadiene	524	P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachlorocyclopentadiene	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachloroethane	221	P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Isophorone	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
mp-Cresol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Naphthalene	172	P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Nitrobenzene	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
N-Nitroso-di-n-propylamine	ND	ND,P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A



Results

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
N-Nitrosodiphenylamine	115	P1,S1	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
o-Cresol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Pentachlorophenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Phenanthrene	426	P1,S1	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Phenol	ND	ND,P1,S1	ug/kg	179	SW846 8270E	1	10/21/2024 19:49	S7M	A
Pyrene	7070	P1,S1	ug/kg	223	SW846 8270E	5	10/22/2024 20:36	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	60.5%	19 – 132	10/21/2024 19:49	
2-Fluorobiphenyl	321-60-8	67.8%	40 – 110	10/21/2024 19:49	
2-Fluorophenol	367-12-4	40.3%	26 – 116	10/21/2024 19:49	
Nitrobenzene-d5	4165-60-0	66%	38 – 112	10/21/2024 19:49	
Phenol-d5	4165-62-2	55.6%	35 – 111	10/21/2024 19:49	
Terphenyl-d14	98904-43-9	93.3%	45 – 126	10/21/2024 19:49	



Results

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	ND	ND,P1,S2	mg/kg	39.7	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Cadmium, Total	ND	ND,P1,S2	mg/kg	9.9	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Chromium, Total	ND	ND,P1,S2	mg/kg	19.8	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Iron, Total	889	P1,S2	mg/kg	198	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Lead, Total	ND	ND,P1,S2	mg/kg	39.7	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Manganese, Total	ND	ND,P1,S2	mg/kg	19.8	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Mercury, Total	ND	ND,P1,S2	mg/kg	0.047	SW846 7471B	1	10/24/2024 11:13	JMS	A
Selenium, Total	ND	ND,P1,S2	mg/kg	99.2	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Zinc, Total	13200	P1,S2	mg/kg	39.7	SW846 6010C	10	10/18/2024 10:22	MSY	A1

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,2,4,5-Tetrachlorobenzene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
1,4-Dioxane	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,3,4,6-Tetrachlorophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4,5-Trichlorophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4,6-Trichlorophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dichlorophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dimethylphenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dinitrophenol	ND	ND,P1,S2	ug/kg	385	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dinitrotoluene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,6-Dinitrotoluene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Chloronaphthalene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Chlorophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Methyl-4,6-dinitrophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Methylnaphthalene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Nitroaniline	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Nitrophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
3,3-Dichlorobenzidine	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
3-Nitroaniline	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Bromophenyl-phenylether	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Chloro-3-methylphenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Chloroaniline	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Chlorophenyl-phenylether	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Nitroaniline	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Nitrophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A



Results

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Acenaphthylene	50.8	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Acetophenone	181	P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Anthracene	79.6	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Atrazine	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzaldehyde	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(a)anthracene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(a)pyrene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(b)fluoranthene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(g,h,i)perylene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(k)fluoranthene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Biphenyl	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Chloroethoxy)methane	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Chloroethyl)ether	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Chloroisopropyl)ether	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Ethylhexyl)phthalate	5170	P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Butylbenzylphthalate	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Caprolactam	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Carbazole	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Chrysene	1860	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Dibenzo(a,h)anthracene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Dibenzofuran	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Diethylphthalate	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Dimethylphthalate	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Di-n-Butylphthalate	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Di-n-Octylphthalate	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Fluoranthene	2680	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Fluorene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachlorobenzene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachlorobutadiene	486	P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachlorocyclopentadiene	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachloroethane	169	P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Isophorone	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
mp-Cresol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Naphthalene	111	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Nitrobenzene	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
N-Nitroso-di-n-propylamine	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A



Results

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
N-Nitrosodiphenylamine	ND	ND,P1,S2	ug/kg	96.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
o-Cresol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Pentachlorophenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Phenanthrene	453	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Phenol	ND	ND,P1,S2	ug/kg	192	SW846 8270E	1	10/21/2024 20:14	S7M	A
Pyrene	6890	P1,S2	ug/kg	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	59%	19 – 132	10/21/2024 20:14	
2-Fluorobiphenyl	321-60-8	65%	40 – 110	10/21/2024 20:14	
2-Fluorophenol	367-12-4	46.6%	26 – 116	10/21/2024 20:14	
Nitrobenzene-d5	4165-60-0	66.3%	38 – 112	10/21/2024 20:14	
Phenol-d5	4165-62-2	60.9%	35 – 111	10/21/2024 20:14	
Terphenyl-d14	98904-43-9	88.4%	45 – 126	10/21/2024 20:14	



Results

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

METALS

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	ND	ND,P1,S3	mg/kg	39.5	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Cadmium, Total	ND	ND,P1,S3	mg/kg	9.9	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Chromium, Total	ND	ND,P1,S3	mg/kg	19.8	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Iron, Total	640	P1,S3	mg/kg	198	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Lead, Total	ND	ND,P1,S3	mg/kg	39.5	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Manganese, Total	ND	ND,P1,S3	mg/kg	19.8	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Mercury, Total	ND	ND,P1,S3	mg/kg	0.049	SW846 7471B	1	10/24/2024 11:08	JMS	A
Selenium, Total	ND	ND,P1,S3	mg/kg	98.8	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Zinc, Total	15200	P1,S3	mg/kg	39.5	SW846 6010C	10	10/18/2024 10:23	MSY	A1

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,2,4,5-Tetrachlorobenzene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
1,4-Dioxane	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,3,4,6-Tetrachlorophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4,5-Trichlorophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4,6-Trichlorophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dichlorophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dimethylphenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dinitrophenol	ND	ND,P1,S3	ug/kg	357	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dinitrotoluene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,6-Dinitrotoluene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Chloronaphthalene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Chlorophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Methyl-4,6-dinitrophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Methylnaphthalene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Nitroaniline	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Nitrophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
3,3-Dichlorobenzidine	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
3-Nitroaniline	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Bromophenyl-phenylether	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Chloro-3-methylphenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Chloroaniline	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Chlorophenyl-phenylether	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Nitroaniline	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Nitrophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A



Results

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Acenaphthylene	59.8	P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Acetophenone	152	P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Anthracene	82.3	P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Atrazine	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzaldehyde	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(a)anthracene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(a)pyrene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(b)fluoranthene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(g,h,i)perylene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(k)fluoranthene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Biphenyl	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Chloroethoxy)methane	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Chloroethyl)ether	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Chloroisopropyl)ether	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Ethylhexyl)phthalate	5100	P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Butylbenzylphthalate	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Caprolactam	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Carbazole	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Chrysene	2450	P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Dibenzo(a,h)anthracene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Dibenzofuran	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Diethylphthalate	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Dimethylphthalate	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Di-n-Butylphthalate	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Di-n-Octylphthalate	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Fluoranthene	3760	P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Fluorene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachlorobenzene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachlorobutadiene	426	P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachlorocyclopentadiene	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachloroethane	205	P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Indeno(1,2,3-cd)pyrene	ND	ND,P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Isophorone	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
mp-Cresol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Naphthalene	131	P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Nitrobenzene	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
N-Nitroso-di-n-propylamine	ND	ND,P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A



Results

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	Method	Dilution	Analysis Date/Time	By	Cntr
N-Nitrosodiphenylamine	168	P1,S3	ug/kg	89.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
o-Cresol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Pentachlorophenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Phenanthrene	541	P1,S3	ug/kg	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Phenol	ND	ND,P1,S3	ug/kg	179	SW846 8270E	1	10/21/2024 19:25	S7M	A
Pyrene	8320	P1,S3	ug/kg	223	SW846 8270E	5	10/22/2024 20:12	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	62.9%	19 – 132	10/21/2024 19:25	
2-Fluorobiphenyl	321-60-8	70.7%	40 – 110	10/21/2024 19:25	
2-Fluorophenol	367-12-4	42.5%	26 – 116	10/21/2024 19:25	
Nitrobenzene-d5	4165-60-0	60.3%	38 – 112	10/21/2024 19:25	
Phenol-d5	4165-62-2	58.2%	35 – 111	10/21/2024 19:25	
Terphenyl-d14	98904-43-9	80.7%	45 – 126	10/21/2024 19:25	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3382844001	AC33101-01	SW846 6010C	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8270E	SW846 3546	
3382844002	AC33101-02	SW846 6010C	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8270E	SW846 3546	
3382844003	AC33101-04	SW846 6010C	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8270E	SW846 3546	

METALS

QUALITY CONTROL SAMPLES

QC Batch				Associated Samples		
<u>QC Batch</u>	1317128	<u>Prep Method</u>	SW846 3051A	3382844001	3382844002	3382844003
<u>Date</u>	10/17/2024 10:05	<u>Analysis Method</u>	SW846 6010C			
<u>Tech.</u>	MEM					

Matrix Spike	3893223	(MS1)	3383018001 (non-Project Sample)	For QC Batch	<u>1317128</u>
****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.					
Matrix Spike Duplicate	3893224	(MSD1)	3383018001 (non-Project Sample)	For QC Batch	<u>1317128</u>

Method Blank	3893221	(MB)	Created on <u>10/17/2024 09:37</u>	For QC Batch	<u>1317128</u>

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Arsenic, Total	7440-38-2	BLK	ND	mg/kg	2.0	ND
Cadmium, Total	7440-43-9	BLK	ND	mg/kg	0.50	ND
Chromium, Total	7440-47-3	BLK	ND	mg/kg	1.0	ND
Iron, Total	7439-89-6	BLK	ND	mg/kg	10.0	ND
Lead, Total	7439-92-1	BLK	ND	mg/kg	2.0	ND
Manganese, Total	7439-96-5	BLK	ND	mg/kg	1.0	ND
Selenium, Total	7782-49-2	BLK	ND	mg/kg	5.0	ND
Zinc, Total	7440-66-6	BLK	ND	mg/kg	2.0	ND

Lab Control Standard	3893222	(LCS1)	Created on 10/17/2024 09:37	For QC Batch	1317128	

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Arsenic, Total	7440-38-2	LCS	40.60		40	102	80 - 120		
Cadmium, Total	7440-43-9	LCS	21		20	105	80 - 120		
Chromium, Total	7440-47-3	LCS	21.10		20	106	80 - 120		
Iron, Total	7439-89-6	LCS	1080		1000	108	80 - 120		
Lead, Total	7439-92-1	LCS	108		100	108	80 - 120		
Manganese, Total	7439-96-5	LCS	22.40		20	112	80 - 120		
Selenium, Total	7782-49-2	LCS	103		100	103	80 - 120		
Zinc, Total	7440-66-6	LCS	106		100	106	80 - 120		

QC Batch				Associated Samples		
<u>QC Batch</u>	1320490	<u>Prep Method</u>	SW846 7471B	3382844001	3382844002	3382844003
<u>Date</u>	10/24/2024 08:01	<u>Analysis Method</u>	SW846 7471B			
<u>Tech.</u>	JMS					



QUALITY CONTROL SAMPLES

METALS (cont.)

Matrix Spike 3895659 (MS) 3383382001 (non-Project Sample) For QC Batch 1320490

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3895660 (MSD) 3383382001 (non-Project Sample) For QC Batch 1320490

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	MS	0.92	0.0037	0.95	96.4	80 - 120		
Mercury, Total	7439-97-6	MSD	0.80	0.0037	0.84	95.6	80 - 120	RPD 13.10 (Max-20)	

Matrix Spike 3895661 (MS) 3383385001 (non-Project Sample) For QC Batch 1320490

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3895662 (MSD) 3383385001 (non-Project Sample) For QC Batch 1320490

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	MS	1.10	0.0011	0.95	121*	80 - 120		
Mercury, Total	7439-97-6	MSD	0.83	0.0011	0.89	92.7	80 - 120	RPD 32.30* (Max-20)	

Method Blank 3895657 (MB) Created on 10/23/2024 09:48 For QC Batch 1320490

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Mercury, Total	7439-97-6	BLK	ND	mg/kg	0.050	ND

Lab Control Standard 3895658 (LCS) Created on 10/23/2024 09:48 For QC Batch 1320490

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	LCS	0.39		0.40	98.5	80 - 120		

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

Associated Samples

QC Batch	1318932	Prep Method	SW846 3546
Date	10/20/2024 13:30	Analysis Method	SW846 8270E
Tech.	GED		

338284400133828440023382844003

Matrix Spike3894048 (MS)3382843001 (non-Project Sample)For QC Batch 1318932

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate3894049 (MSD)3382843001 (non-Project Sample)For QC Batch 1318932

RESULTS

Compound	CAS No		Result (ug/kg)	Orig. Result (ug/kg)	Spk Added (ug/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
2-Methylnaphthalene	91-57-6	MS	1600	0	2160	74.1	59 - 108		
2-Methylnaphthalene	91-57-6	MSD	1830	0	2360	77.8	59 - 108	RPD 13.80 (Max-21)	
Acenaphthene	83-32-9	MS	1690	0	2160	78.4	61 - 105		
Acenaphthene	83-32-9	MSD	1900	0	2360	80.5	61 - 105	RPD 11.70 (Max-17)	
Acenaphthylene	208-96-8	MS	1440	0	2160	66.6	63 - 106		
Acenaphthylene	208-96-8	MSD	1650	0	2360	70.1	63 - 106	RPD 14.20 (Max-17)	
Anthracene	120-12-7	MS	1790	0	2160	83.3	60 - 107		
Anthracene	120-12-7	MSD	1870	0	2360	79.3	60 - 107	RPD 4.12 (Max-20)	
Benzo(a)anthracene	56-55-3	MS	1870	0	2160	86.8	61 - 113		
Benzo(a)anthracene	56-55-3	MSD	2060	0	2360	87.5	61 - 113	RPD 9.89 (Max-22)	
Benzo(a)pyrene	50-32-8	MS	1880	0	2160	87.2	68 - 121		
Benzo(a)pyrene	50-32-8	MSD	2060	0	2360	87.2	68 - 121	RPD 9.08 (Max-24)	
Benzo(b)fluoranthene	205-99-2	MS	1840	0	2160	85.3	64 - 115		
Benzo(b)fluoranthene	205-99-2	MSD	2080	0	2360	88	64 - 115	RPD 12.20 (Max-28)	
Benzo(g,h,i)perylene	191-24-2	MS	1980	0	2160	91.7	57 - 119		
Benzo(g,h,i)perylene	191-24-2	MSD	2230	0	2360	94.4	57 - 119	RPD 12 (Max-30)	
Benzo(k)fluoranthene	207-08-9	MS	1890	0	2160	87.8	63 - 116		
Benzo(k)fluoranthene	207-08-9	MSD	2020	0	2360	85.7	63 - 116	RPD 6.53 (Max-22)	
Chrysene	218-01-9	MS	1930	0	2160	89.7	65 - 113		
Chrysene	218-01-9	MSD	2100	0	2360	88.9	65 - 113	RPD 8.17 (Max-20)	
Dibenzo(a,h)anthracene	53-70-3	MS	1980	0	2160	91.7	59 - 116		
Dibenzo(a,h)anthracene	53-70-3	MSD	2190	0	2360	93	59 - 116	RPD 10.40 (Max-28)	
Fluoranthene	206-44-0	MS	2000	0	2160	92.7	61 - 114		
Fluoranthene	206-44-0	MSD	1990	0	2360	84.5	61 - 114	RPD 0.19 (Max-21)	
Fluorene	86-73-7	MS	1670	0	2160	77.6	62 - 107		
Fluorene	86-73-7	MSD	1890	0	2360	80	62 - 107	RPD 12 (Max-16)	
Indeno(1,2,3-cd)pyrene	193-39-5	MS	1900	0	2160	88	53 - 118		
Indeno(1,2,3-cd)pyrene	193-39-5	MSD	2140	0	2360	90.8	53 - 118	RPD 12.10 (Max-30)	
Naphthalene	91-20-3	MS	1650	0	2160	76.6	60 - 102		
Naphthalene	91-20-3	MSD	1900	0	2360	80.6	60 - 102	RPD 14.10 (Max-21)	
Phenanthrene	85-01-8	MS	1780	0	2160	82.7	61 - 106		
Phenanthrene	85-01-8	MSD	1770	0	2360	74.9	61 - 106	RPD 0.90 (Max-20)	
Pyrene	129-00-0	MS	1810	0	2160	83.8	62 - 117		
Pyrene	129-00-0	MSD	1940	0	2360	82.3	62 - 117	RPD 7.12 (Max-20)	



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Fluorobiphenyl	321-60-8	MS	1920	2160	89.1	40 - 110	
2-Fluorobiphenyl	321-60-8	MSD	2140	2360	90.9	40 - 110	
Nitrobenzene-d5	4165-60-0	MS	2060	2160	95.4	38 - 112	
Nitrobenzene-d5	4165-60-0	MSD	2170	2360	91.8	38 - 112	
Terphenyl-d14	98904-43-9	MS	2340	2160	109	45 - 126	
Terphenyl-d14	98904-43-9	MSD	2520	2360	107	45 - 126	

Method Blank 3894046 (MB) Created on 10/19/2024 08:06 For QC Batch 1318932

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,2,4,5-Tetrachlorobenzene	95-94-3	BLK	ND	ug/kg	100	ND
1,4-Dioxane	123-91-1	BLK	ND	ug/kg	100	ND
2,3,4,6-Tetrachlorophenol	58-90-2	BLK	ND	ug/kg	200	ND
2,4,5-Trichlorophenol	95-95-4	BLK	ND	ug/kg	200	ND
2,4,6-Trichlorophenol	88-06-2	BLK	ND	ug/kg	200	ND
2,4-Dichlorophenol	120-83-2	BLK	ND	ug/kg	200	ND
2,4-Dimethylphenol	105-67-9	BLK	ND	ug/kg	200	ND
2,4-Dinitrophenol	51-28-5	BLK	ND	ug/kg	400	ND
2,4-Dinitrotoluene	121-14-2	BLK	ND	ug/kg	100	ND
2,6-Dinitrotoluene	606-20-2	BLK	ND	ug/kg	100	ND
2-Chloronaphthalene	91-58-7	BLK	ND	ug/kg	100	ND
2-Chlorophenol	95-57-8	BLK	ND	ug/kg	200	ND
2-Methyl-4,6-dinitrophenol	534-52-1	BLK	ND	ug/kg	200	ND
2-Methylnaphthalene	91-57-6	BLK	ND	ug/kg	100	ND
2-Nitroaniline	88-74-4	BLK	ND	ug/kg	200	ND
2-Nitrophenol	88-75-5	BLK	ND	ug/kg	200	ND
3,3-Dichlorobenzidine	91-94-1	BLK	ND	ug/kg	200	ND
3-Nitroaniline	99-09-2	BLK	ND	ug/kg	200	ND
4-Bromophenyl-phenylether	101-55-3	BLK	ND	ug/kg	100	ND
4-Chloro-3-methylphenol	59-50-7	BLK	ND	ug/kg	200	ND
4-Chloroaniline	106-47-8	BLK	ND	ug/kg	200	ND
4-Chlorophenyl-phenylether	7005-72-3	BLK	ND	ug/kg	100	ND
4-Nitroaniline	100-01-6	BLK	ND	ug/kg	200	ND
4-Nitrophenol	100-02-7	BLK	ND	ug/kg	200	ND
Acenaphthene	83-32-9	BLK	ND	ug/kg	50.0	ND
Acenaphthylene	208-96-8	BLK	ND	ug/kg	50.0	ND
Acetophenone	98-86-2	BLK	ND	ug/kg	100	ND
Anthracene	120-12-7	BLK	ND	ug/kg	50.0	ND
Atrazine	1912-24-9	BLK	ND	ug/kg	100	ND
Benzaldehyde	100-52-7	BLK	ND	ug/kg	200	ND
Benzo(a)anthracene	56-55-3	BLK	ND	ug/kg	50.0	ND
Benzo(a)pyrene	50-32-8	BLK	ND	ug/kg	50.0	ND
Benzo(b)fluoranthene	205-99-2	BLK	ND	ug/kg	50.0	ND
Benzo(g,h,i)perylene	191-24-2	BLK	ND	ug/kg	50.0	ND



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Benzo(k)fluoranthene	207-08-9	BLK	ND	ug/kg	50.0	ND
Biphenyl	92-52-4	BLK	ND	ug/kg	100	ND
bis(2-Chloroethoxy)methane	111-91-1	BLK	ND	ug/kg	100	ND
bis(2-Chloroethyl)ether	111-44-4	BLK	ND	ug/kg	100	ND
bis(2-Chloroisopropyl)ether	108-60-1	BLK	ND	ug/kg	100	ND
bis(2-Ethylhexyl)phthalate	117-81-7	BLK	ND	ug/kg	100	ND
Butylbenzylphthalate	85-68-7	BLK	ND	ug/kg	100	ND
Caprolactam	105-60-2	BLK	ND	ug/kg	200	ND
Carbazole	86-74-8	BLK	ND	ug/kg	100	ND
Chrysene	218-01-9	BLK	ND	ug/kg	50.0	ND
Dibenzo(a,h)anthracene	53-70-3	BLK	ND	ug/kg	50.0	ND
Dibenzofuran	132-64-9	BLK	ND	ug/kg	100	ND
Diethylphthalate	84-66-2	BLK	ND	ug/kg	100	ND
Dimethylphthalate	131-11-3	BLK	ND	ug/kg	100	ND
Di-n-Butylphthalate	84-74-2	BLK	ND	ug/kg	100	ND
Di-n-Octylphthalate	117-84-0	BLK	ND	ug/kg	100	ND
Fluoranthene	206-44-0	BLK	ND	ug/kg	50.0	ND
Fluorene	86-73-7	BLK	ND	ug/kg	50.0	ND
Hexachlorobenzene	118-74-1	BLK	ND	ug/kg	100	ND
Hexachlorobutadiene	87-68-3	BLK	ND	ug/kg	100	ND
Hexachlorocyclopentadiene	77-47-4	BLK	ND	ug/kg	200	ND
Hexachloroethane	67-72-1	BLK	ND	ug/kg	100	ND
Indeno(1,2,3-cd)pyrene	193-39-5	BLK	ND	ug/kg	50.0	ND
Isophorone	78-59-1	BLK	ND	ug/kg	100	ND
mp-Cresol	108394/106445	BLK	ND	ug/kg	200	ND
Naphthalene	91-20-3	BLK	ND	ug/kg	50.0	ND
Nitrobenzene	98-95-3	BLK	ND	ug/kg	100	ND
N-Nitroso-di-n-propylamine	621-64-7	BLK	ND	ug/kg	100	ND
N-Nitrosodiphenylamine	86-30-6	BLK	ND	ug/kg	100	ND
o-Cresol	95-48-7	BLK	ND	ug/kg	200	ND
Pentachlorophenol	87-86-5	BLK	ND	ug/kg	200	ND
Phenanthrene	85-01-8	BLK	ND	ug/kg	50.0	ND
Phenol	108-95-2	BLK	ND	ug/kg	200	ND
Pyrene	129-00-0	BLK	ND	ug/kg	50.0	ND

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	BLK	4460	5000	89.2	19 - 132	
2-Fluorobiphenyl	321-60-8	BLK	2230	2500	89.1	40 - 110	
2-Fluorophenol	367-12-4	BLK	4470	5000	89.3	26 - 116	
Nitrobenzene-d5	4165-60-0	BLK	2310	2500	92.2	38 - 112	
Phenol-d5	4165-62-2	BLK	5190	5000	104	35 - 111	
Terphenyl-d14	98904-43-9	BLK	3060	2500	122	45 - 126	



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

Lab Control Standard			3894047 (LCS)		Created on 10/19/2024 08:06		For QC Batch 1318932		
RESULTS									
Compound	CAS No		Result (ug/kg)	Orig. Result (ug/kg)	Spk Added (ug/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,2,4,5-Tetrachlorobenzene	95-94-3	LCS	1930		2500	77.1	51 - 102		
1,4-Dioxane	123-91-1	LCS	1610		2500	64.6	24 - 104		
2,3,4,6-Tetrachlorophenol	58-90-2	LCS	4430		5000	88.5	55 - 111		
2,4,5-Trichlorophenol	95-95-4	LCS	4760		5000	95.2	60 - 108		
2,4,6-Trichlorophenol	88-06-2	LCS	4540		5000	90.8	59 - 111		
2,4-Dichlorophenol	120-83-2	LCS	4860		5000	97.1	61 - 109		
2,4-Dimethylphenol	105-67-9	LCS	5270		5000	105	59 - 133		
2,4-Dinitrophenol	51-28-5	LCS	5060		5000	101	28 - 135		
2,4-Dinitrotoluene	121-14-2	LCS	1870		2500	74.7	62 - 115		
2,6-Dinitrotoluene	606-20-2	LCS	1910		2500	76.3	61 - 114		
2-Chloronaphthalene	91-58-7	LCS	1810		2500	72.5	59 - 104		
2-Chlorophenol	95-57-8	LCS	5070		5000	101	61 - 106		
2-Methyl-4,6-dinitrophenol	534-52-1	LCS	5530		5000	111	39 - 113		
2-Methylnaphthalene	91-57-6	LCS	1930		2500	77.2	59 - 108		
2-Nitroaniline	88-74-4	LCS	1900		2500	76.2	60 - 115		
2-Nitrophenol	88-75-5	LCS	4820		5000	96.5	60 - 114		
3,3-Dichlorobenzidine	91-94-1	LCS	2960		5000	59.3	25 - 104		
3-Nitroaniline	99-09-2	LCS	2010		2500	80.5	52 - 119		
4-Bromophenyl-phenylether	101-55-3	LCS	1860		2500	74.5	60 - 110		
4-Chloro-3-methylphenol	59-50-7	LCS	5090		5000	102	59 - 115		
4-Chloroaniline	106-47-8	LCS	1910		2500	76.4	42 - 111		
4-Chlorophenyl-phenylether	7005-72-3	LCS	2010		2500	80.4	59 - 107		
4-Nitroaniline	100-01-6	LCS	1820		2500	72.9	49 - 121		
4-Nitrophenol	100-02-7	LCS	5120		5000	102	53 - 124		
Acenaphthene	83-32-9	LCS	1940		2500	77.7	61 - 105		
Acenaphthylene	208-96-8	LCS	1610		2500	64.6	63 - 106		
Acetophenone	98-86-2	LCS	1890		2500	75.5	33 - 98		
Anthracene	120-12-7	LCS	1960		2500	78.5	60 - 107		
Atrazine	1912-24-9	LCS	1920		2500	76.7	62 - 116		
Benzaldehyde	100-52-7	LCS	2140		2500	85.4	46 - 115		
Benzo(a)anthracene	56-55-3	LCS	1970		2500	78.7	61 - 113		
Benzo(a)pyrene	50-32-8	LCS	1950		2500	77.9	68 - 121		
Benzo(b)fluoranthene	205-99-2	LCS	2010		2500	80.2	64 - 115		
Benzo(g,h,i)perylene	191-24-2	LCS	2000		2500	80.1	57 - 119		
Benzo(k)fluoranthene	207-08-9	LCS	2100		2500	83.8	63 - 116		
Biphenyl	92-52-4	LCS	1940		2500	77.5	56 - 100		
bis(2-Chloroethoxy)methane	111-91-1	LCS	2250		2500	89.9	56 - 112		
bis(2-Chloroethyl)ether	111-44-4	LCS	2030		2500	81.3	51 - 109		
bis(2-Chloroisopropyl)ether	108-60-1	LCS	2150		2500	86	38 - 120		
bis(2-Ethylhexyl)phthalate	117-81-7	LCS	2140		2500	85.4	51 - 130		
Butylbenzylphthalate	85-68-7	LCS	2180		2500	87.2	58 - 125		
Caprolactam	105-60-2	LCS	2070		2500	82.7	51 - 119		
Carbazole	86-74-8	LCS	1850		2500	73.9	66 - 117		
Chrysene	218-01-9	LCS	2060		2500	82.3	65 - 113		



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

RESULTS

Compound	CAS No		Result (ug/kg)	Orig. Result (ug/kg)	Spk Added (ug/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Dibenzo(a,h)anthracene	53-70-3	LCS	1900		2500	75.9	59 - 116		
Dibenzofuran	132-64-9	LCS	1820		2500	72.9	62 - 106		
Diethylphthalate	84-66-2	LCS	2010		2500	80.4	59 - 112		
Dimethylphthalate	131-11-3	LCS	1990		2500	79.5	60 - 111		
Di-n-Butylphthalate	84-74-2	LCS	2100		2500	83.9	62 - 125		
Di-n-Octylphthalate	117-84-0	LCS	2210		2500	88.3	47 - 134		
Fluoranthene	206-44-0	LCS	1890		2500	75.7	61 - 114		
Fluorene	86-73-7	LCS	1900		2500	76.2	62 - 107		
Hexachlorobenzene	118-74-1	LCS	1860		2500	74.2	56 - 111		
Hexachlorobutadiene	87-68-3	LCS	2210		2500	88.2	56 - 127		
Hexachlorocyclopentadiene	77-47-4	LCS	1480		2500	59	20 - 124		
Hexachloroethane	67-72-1	LCS	2010		2500	80.3	57 - 101		
Indeno(1,2,3-cd)pyrene	193-39-5	LCS	1810		2500	72.2	53 - 118		
Isophorone	78-59-1	LCS	2070		2500	83	41 - 101		
mp-Cresol	108394/106445	LCS	5460		5000	109	60 - 109		
Naphthalene	91-20-3	LCS	1920		2500	76.6	60 - 102		
Nitrobenzene	98-95-3	LCS	2040		2500	81.4	52 - 113		
N-Nitroso-di-n-propylamine	621-64-7	LCS	2210		2500	88.3	50 - 121		
N-Nitrosodiphenylamine	86-30-6	LCS	2380		2500	95.1	73 - 129		
o-Cresol	95-48-7	LCS	5030		5000	101	61 - 108		
Pentachlorophenol	87-86-5	LCS	5770		5000	115	46 - 138		
Phenanthrene	85-01-8	LCS	1920		2500	76.9	61 - 106		
Phenol	108-95-2	LCS	5010		5000	100	57 - 110		
Pyrene	129-00-0	LCS	2100		2500	83.8	62 - 117		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4260	5000	85.2	19 - 132	
2-Fluorobiphenyl	321-60-8	LCS	2110	2500	84.2	40 - 110	
2-Fluorophenol	367-12-4	LCS	4190	5000	83.8	26 - 116	
Nitrobenzene-d5	4165-60-0	LCS	2210	2500	88.3	38 - 112	
Phenol-d5	4165-62-2	LCS	4730	5000	94.7	35 - 111	
Terphenyl-d14	98904-43-9	LCS	2760	2500	110	45 - 126	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3382844001	AC33101-01	SW846 3051A	1317128	10/17/2024 10:05	MEM	SW846 6010C	1318062
		SW846 7471B	1320490	10/24/2024 08:01	JMS	SW846 7471B	1321252
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1319871
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1320102
3382844002	AC33101-02	SW846 3051A	1317128	10/17/2024 10:05	MEM	SW846 6010C	1318062
		SW846 7471B	1320490	10/24/2024 08:01	JMS	SW846 7471B	1321252
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1319871
3382844003	AC33101-04	SW846 3051A	1317128	10/17/2024 10:05	MEM	SW846 6010C	1318062
		SW846 7471B	1320490	10/24/2024 08:01	JMS	SW846 7471B	1321252
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1319871
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1320102

Environmental Chemistry Lab Service
200 Route 130 North, Cinnaminson, NJ 08077
TEL: (856) 858-4800 FAX: (856) 786-5974

Chain of Custody / Analysis Request Form
Print ALL Information. Incomplete chain of custody could result in the delay of analysis.

EMSL Project # AC33101
Account Rep: ENVI54
Indicate State where samples were collected: MA

REPORT RESULTS TO:

Name: Travis Albert PO#:

Company
EMSL Analytical, Inc.

Address: 200 Route 130 North

City: Cinnaminson

State: NJ Zip: 08077

Tel: 856-303-2548 ext. 2548 Fax: 856-854-2362

Email: sublab@emsl.com

SEND INVOICE TO:

Name: PO#:

Company

EMSL Analytical, Inc.

Address: 200 Route 130 North

City: Cinnaminson

State: NJ

Zip: 08077

Tel: 800-220-3675 Fax: 856-854-2362

of Samples in Shipment: 3

Turnaround Time

Due 1

Analytical Laboratory
301 Fulling Mill Rd
Middletown, PA 17057
717-944-5541



3382844

Logged By: CKW
PM: KSB



PROJECT NAME:

Date of Sample Shipment: 10/10/24

Lab Sample Number	Client Sample ID	Comp	Grab	Matrix						Preservative			Sampling		List Method and Test Needed					
				Waste WATER	SOIL	AIR	SLUDGE	OTHER	HCl	HNO3	Na2S2O3	ICE	DATE	TIME	SVOC	Metals 6010/7470				
1. AC33101-01								X					10/02	11:21am	2X	X				
2. AC33101-02								X					10/02	11:47am	2X	X				
3. AC33101-04								X					10/02	12:20m	2X	X				
1.																				
.																				
.																				

leased By
nature

Date & Time Released

Delivery Method

Received By Signature

Agency

Date & Time Received

Please indicate reporting requirements: ☐ 1. Results Only ☒ 2. Results and QC ☐ 3. Reduced Deliverables ☐ 4. Disk Deliverable ☐ 5. Other

Comments: Please analyze for metals (As, Cd, Cr, Pb, Fe, Mn, Hg, Se, Zn) and SVOC 8270

Temp By: MJE WO Temp (°C) 17°

Therm ID 569

- Receipt Info Completed By: MJE
- Cooler Custody Seal Intact Y
- Sample Custody Seal Intact N
- Received on Ice Y
- Cooler & Samples Intact Y
- Correct Containers Provided Y
- Sample Label/COC Agree Y
- Adequate Sample Volumes Y
- CR6 Samples Filtered Y
- OP Samples Filtered Y
- VOA Trip Blank Y
- NIS 4 Days? Y
- Rad Screen (uCi) Y
- Courier/Tracking #: 280508572397

MJE
Y N
Y N
Y N
Y N
Y N
Y N
Y N
Y N
Y N

Appendix B

Sampling Equipment

Sampling Equipment

Analyte	Description	Calibration
Volatile Organic Compounds (VOCs)	Ion Science Tiger Photoionization Detector	Calibrated by Rental Company Verified Prior to Use
Surface Temperature & Relative Humidity	TSI Q-Trak Air Quality Monitor	Verified Prior to Use

Appendix C

Field Logs

edham Rubber Crows Sampling

12/24

008/266 B50

CJuliano

005 Overcut

Description

CJuliano ~~meets~~ meets Tam from the Town of Needham at Needham Memorial Field & Needham High School.

Address Class is on the Field

So CJuliano/Tam go to Defazio Park. Collects Samples from Fountains and Brook Field.

CJuliano and Tam return to Memorial Field. Samples are collected.

CJuliano offsite.

Samples collected by scraping Jars against turf. FB Collects in center of Brook's Field. ~~Turf extractor to be completed by lab.~~

10/3/2024- CJuliano composites jars by their field (not separate sections of each field within each jar). Samples delivered to FedEx for shipment to ESML NJ

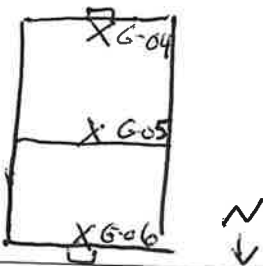
Sample ID	Time	Location	Location ID
1643241002-01	1121	Fountains Field	G-04
↓	↓	↓	G-05
1643241002-02	1147	Brook Field	G-06
↓	↓	↓	G-01
1643241002-03	1200	Field blank	G-02
1643241002-04	1220	Memorial Field	G-03
↓	↓	↓	G-02
			G-07
			G-08
			G-09

CAS

Crumb Rubber Sampling Field Data

Client/Project Name: Needham Crumb Rubber		 FUSS & O'NEILL
Project Location: Needham, MA	PROJECT #: 20081266.B50	
Sample #: 1643241002- 01	Sample Location ID G-044 G-025 G-046 Foundry / field	

Sample Location Description (include sketch map with location of sample)



Sample Data

Date: 10/02/2024 Time: 1121 Sampler: CJ Weather: Ambient Temperature: 69.8 Relative Humidity: 57.4 Barometric Pressure: NA Sampling Device: Auger / Core Sampler / Shovel / Trowel / Other: <u>Dedicated glass jars</u> Field decon: Yes / No / <u>Dedicated</u> Type of Sample: Grab / <u>Composite</u> / Other: PID Reading (ppm): 0.1	<table border="1"> <thead> <tr> <th>Container</th> <th>Quantity</th> <th>Preservative</th> </tr> </thead> <tbody> <tr> <td>4oz Amber</td> <td>3</td> <td>---</td> </tr> </tbody> </table>	Container	Quantity	Preservative	4oz Amber	3	---
Container	Quantity	Preservative					
4oz Amber	3	---					

Description Data

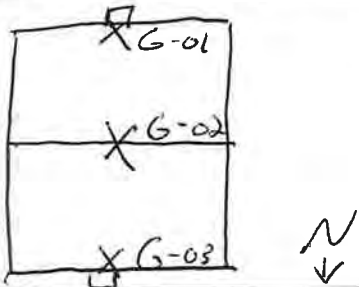
Generic Sample Description: Crumb rubber

Comments:

Crumb Rubber Sampling Field Data

Client/Project Name: Needham Crumb Rubber		 FUSS & O'NEILL
Project Location: Needham, MA	PROJECT #: 20081266.B50	
Sample#: 1643241002-02	<u>Sample Location ID</u> Basic Field G-01, G-02, G-03	

Sample Location Description (include sketch map with location of sample)



Sample Data

Sample Data	Container	Quantity	Preservative
Date: 10/02/2024 Time: 1147 Sampler: CJ Weather: Ambient Temperature: 77.4 Relative Humidity: 45.1 Barometric Pressure: NA Sampling Device: Auger / Core Sampler / Shovel / Trowel / Other: <u>Dedicated Jar</u> Field decon: Yes / No / <u>Dedicated</u> Type of Sample: Grab / <u>Composite</u> / Other: PID Reading (ppm): 0.1	4oz Amber	3	---

Description Data

Generic Sample Description: Crumb rubber

Comments:

Field Blank Field Data

Client/Project Name: <i>Needham Rubber Crums</i>	PROJECT #: 20081622.B50	
Project Location: <i>Needham MA</i>	Sample ID Field Blank	
Sample#: 1643241002-03		

Sample Data

Container	Quantity	Preservative
<i>V09</i>	<i>3</i>	<i>HCl</i>
Date: <u>10/2/2024</u> Time: <u>1200</u> Sampler: <u>CJ</u> Weather: <u>Overcast 60's</u> Blank Water Supplied By: <u>Lab</u> / F&O / Other _____ Comments: <i>Collected in center of Brook's Field (G-032)</i>		

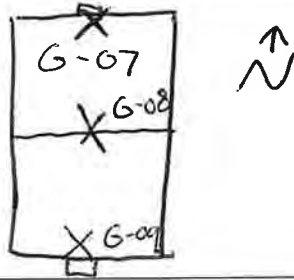
* - Organic-free DI water used in these containers.

Comments:

Crumb Rubber Sampling Field Data

Client/Project Name: Needham Crumb Rubber		 FUSS & O'NEILL
Project Location: Needham, MA	PROJECT #: 20081266.B50	
Sample#: 1643241002- 04	<u>Sample Location ID</u> <i>Memoria Field</i> G7, G08, G09	

Sample Location Description (include sketch map with location of sample)



Sample Data

Date: 10/02/2024 Time: 1220
 Sampler: CJ
 Weather: Ambient Temperature: 78.5
 Relative Humidity: 41.1
 Barometric Pressure:
 Sampling Device: Auger / Core Sampler / Shovel / Trowel /
 Other: Dedicated Jar
 Field decon: Yes / No / Dedicated
 Type of Sample: Grab / Composite /
 Other:
 PID Reading (ppm): 0.0

Container	Quantity	Preservative
4oz Amber	3	---

Description Data

Generic Sample Description: Crumb rubber

Comments:



MAP REFERENCE

THIS MAP WAS PREPARED FROM USGS ORTHOPHOTOGRAPHY, (c) 2013 MASSGIS.

SOURCE: OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS.

FIELD BOUNDARIES APPROXIMATE BASED ON SITE OBSERVATIONS

LEGEND

- FOUNDERS FIELD BOUNDARY
- BROCK FIELD BOUNDARY
- SAMPLE LOCATIONS TO FORM COMPOSITE

SCALE:	
HORZ :	1" = 150'
VERT :	
DATUM:	
HORZ :	
VERT :	
0 75' 150'	
GRAPHIC SCALE	



FUSS & O'NEILL

108 MYRTLE STREET, SUITE 502
 QUINCY, MA 02171
 617.283.4675
 www.fando.com

NEEDHAM HEALTH DEPARTMENT

SITE PLAN
 DEFAZIO PARK
 380 DEDHAM ROAD

NEEDHAM

MASSACHUSETTS

PROJ. No.: 20081266 B10
 DATE: JUNE 2020

FIGURE 2



MAP REFERENCE

THIS MAP WAS PREPARED FROM USGS ORTHOPHOTOGRAPHY, (c) 2013 MASSGIS.

SOURCE: OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS.

MEMORIAL FIELD BOUNDARIES APPROXIMATE BASED ON SITE OBSERVATIONS

LEGEND

PARK BOUNDARY

SAMPLE LOCATIONS TO FORM COMPOSITE

SCALE:	
HORZ.:	1" = 150'
VERT.:	
DATUM:	
HORZ.:	
VERT.:	
0 75' 150'	
GRAPHIC SCALE	



FUSS & O'NEILL

108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
www.fandjo.com

NEEDHAM HEALTH DEPARTMENT

SITE PLAN
MEMORIAL PARK
92 ROSEMARY ROAD

NEEDHAM

MASSACHUSETTS

PROJ. No.: 20081266.B10
DATE: JUNE 2020

FIGURE 1

Appendix D

Method Detection Limit Laboratory Analytical Report

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101
LIMS Reference ID: AC33101
EMSL Customer ID: ENVI54

December 12, 2024

Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 10/10/2024. The results are tabulated on the attached pages for the following client designated project:

Needham Crumb Rubber

The reference number for these samples is EMSL Order #: AC33101 . Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact the lab at 856-858-4800.

Owen McKenna Laboratory Manager or other approved signatory

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**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Sample Condition on Receipt**Cooler ID:** Default Cooler**Temperature:**

°C

Custody Seals

Y

Containers Intact

Y

COC/Labels Agree

Y

Preservation Confirmed

Y

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
AC33101-03	1643241002-03	Waste Water	10/2/24 12:00 pm	10/10/2024

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Positive Hits Summary

Lab ID	Client ID				Sampled
AC33101-03	1643241002-03				10/02/24 12:00
Method	Analyte	Result	Qualifier	Unit	Analyzed
EPA 624.1	No TICs found	0.0		µg/L	10/14/2024 18:26



EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101

LIMS Reference ID: AC33101

EMSL Customer ID: ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 12/12/2024 13:03

Work Order Case Narrative

Revised - MDL request change

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Sample Results**Sample: 1643241002-03****AC33101-03 (Waste Water)**

Analyte	Result	Q	DF	MDL	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GCMS-VOA											
No TICs found	0.0		1			µg/L	10/14/24 18:26	10/14/24 18:26	OPM/WRF	EPA 624.1	EPA 624.1
Acetone	ND		1	15		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Acrolein	ND	C	1	10		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Benzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromodichloromethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromoform	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Bromomethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Butanone	ND		1	2.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
tert-Butyl Alcohol	ND		1	10		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Sec-butylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Tert-butylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
N-butylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Carbon Disulfide	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Carbon Tetrachloride	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chloroethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Chloroethyl Vinyl Ether	ND		1	2.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chloroform	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Chloromethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Chlorotoluene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
4-Chlorotoluene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dibromo-3-chloropropane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Dibromochloromethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dibromoethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Dibromomethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trans-1,4-dichloro-2-butene	ND		1	2.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,3-Dichlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,4-Dichlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dichlorobenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Dichlorodifluoromethane	ND		1	5.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1-Dichloroethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dichloroethane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1-Dichloroethene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trans-1,2-dichloroethene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Cis-1,2-dichloroethene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2-Dichloropropane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2,2-Dichloropropane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,3-Dichloropropane	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Cis-1,3-dichloropropene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trans-1,3-dichloropropene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1-Dichloropropene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Ethylbenzene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Hexachlorobutadiene	ND		1	1.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
2-Hexanone	ND		1	4.0		µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 12/12/2024 13:03

Sample Results**(Continued)****Sample: 1643241002-03 (Continued)****AC33101-03 (Waste Water)**

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GCMS-VOA (Continued)										
Isopropylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
4-Isopropyltoluene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Methylene Chloride	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
4-Methyl-2-pentanone	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Methyl-tert butyl ether	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Naphthalene	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
N-propylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Styrene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,2,2-Tetrachloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,1,2-Tetrachloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Tetrachloroethene	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Toluene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,3-Trichlorobenzene	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,4-Trichlorobenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,2-Trichloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,1-Trichloroethane	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trichloroethene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Trichlorofluoromethane	ND		1	5.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,3-Trichloropropane	ND		1	4.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,2,4-Trimethylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
1,3,5-Trimethylbenzene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Vinyl Acetate	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Vinyl Chloride	ND		1	5.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
o-xylene	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
m&p-xylenes	ND		1	2.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Xylenes, Total	ND		1	1.0	µg/L	10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Surrogate(s) Recovery Q Limits										
Surrogate: 4-Bromofluorobenzene	102%			70-130		10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Surrogate: Dibromofluoromethane	115%			70-130		10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Surrogate: 1,2-Dichloroethane-d4	104%			70-130		10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1
Surrogate: Toluene-d8	101%			70-130		10/14/24 18:26	10/14/24 18:26	WF/WRF	EPA 624.1	EPA 624.1

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 12/12/2024 13:03

Quality Control**GCMS-VOA**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1**Blank (BCJ1488-BLK1)**

Prepared & Analyzed: 10/14/2024

Acetone	ND	15	µg/L
Acrolein	ND	10	µg/L
Benzene	ND	1.0	µg/L
Bromobenzene	ND	1.0	µg/L
Bromodichloromethane	ND	1.0	µg/L
Bromoform	ND	1.0	µg/L
Bromomethane	ND	5.0	µg/L
2-Butanone	ND	2.0	µg/L
tert-Butyl Alcohol	ND	10	µg/L
Sec-butylbenzene	ND	1.0	µg/L
Tert-butylbenzene	ND	1.0	µg/L
N-butylbenzene	ND	1.0	µg/L
Carbon Disulfide	ND	1.0	µg/L
Carbon Tetrachloride	ND	1.0	µg/L
Chlorobenzene	ND	1.0	µg/L
Chloroethane	ND	5.0	µg/L
2-Chloroethyl Vinyl Ether	ND	2.0	µg/L
Chloroform	ND	1.0	µg/L
Chloromethane	ND	5.0	µg/L
2-Chlorotoluene	ND	1.0	µg/L
4-Chlorotoluene	ND	1.0	µg/L
1,2-Dibromo-3-chloropropane	ND	5.0	µg/L
Dibromochloromethane	ND	1.0	µg/L
1,2-Dibromoethane	ND	1.0	µg/L
Dibromomethane	ND	1.0	µg/L
Trans-1,4-dichloro-2-butene	ND	2.0	µg/L
1,3-Dichlorobenzene	ND	1.0	µg/L
1,4-Dichlorobenzene	ND	1.0	µg/L
1,2-Dichlorobenzene	ND	1.0	µg/L
Dichlorodifluoromethane	ND	5.0	µg/L
1,1-Dichloroethane	ND	1.0	µg/L
1,2-Dichloroethane	ND	1.0	µg/L
1,1-Dichloroethene	ND	1.0	µg/L
Trans-1,2-dichloroethene	ND	1.0	µg/L
Cis-1,2-dichloroethene	ND	1.0	µg/L
1,2-Dichloropropane	ND	1.0	µg/L
2,2-Dichloropropane	ND	1.0	µg/L
1,3-Dichloropropane	ND	1.0	µg/L
Cis-1,3-dichloropropene	ND	1.0	µg/L
Trans-1,3-dichloropropene	ND	1.0	µg/L
1,1-Dichloropropene	ND	1.0	µg/L
Ethylbenzene	ND	1.0	µg/L

**EMSL Analytical, Inc.**

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Blank (BCJ1488-BLK1)**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	ND	1.0	µg/L
2-Hexanone	ND	4.0	µg/L
Isopropylbenzene	ND	1.0	µg/L
4-Isopropyltoluene	ND	1.0	µg/L
Methylene Chloride	ND	1.0	µg/L
4-Methyl-2-pentanone	ND	2.0	µg/L
Methyl-tert butyl ether	ND	1.0	µg/L
Naphthalene	ND	2.0	µg/L
N-propylbenzene	ND	1.0	µg/L
Styrene	ND	1.0	µg/L
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L
Tetrachloroethene	ND	2.0	µg/L
Toluene	ND	1.0	µg/L
1,2,3-Trichlorobenzene	ND	2.0	µg/L
1,2,4-Trichlorobenzene	ND	1.0	µg/L
1,1,2-Trichloroethane	ND	1.0	µg/L
1,1,1-Trichloroethane	ND	1.0	µg/L
Trichloroethene	ND	1.0	µg/L
Trichlorofluoromethane	ND	5.0	µg/L
1,2,3-Trichloropropane	ND	4.0	µg/L
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.0	µg/L
1,2,4-Trimethylbenzene	ND	1.0	µg/L
1,3,5-Trimethylbenzene	ND	1.0	µg/L
Vinyl Acetate	ND	2.0	µg/L
Vinyl Chloride	ND	5.0	µg/L
o-xylene	ND	1.0	µg/L
m&p-xylenes	ND	2.0	µg/L
Xylenes, Total	ND	1.0	µg/L

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	103	70-130
Surrogate: Dibromofluoromethane	50.00	115	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	104	70-130
Surrogate: Toluene-d8	50.00	100	70-130

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**LCS (BCJ1488-BS1)**

Prepared & Analyzed: 10/14/2024

Acetone	69.4	15	µg/L	100.0		69	67-134		
Acrolein	181	10	µg/L	200.0		91	60-140		
Benzene	50.3	1.0	µg/L	50.00		101	65-135		
Bromobenzene	46.5	1.0	µg/L	50.00		93	87-121		
Bromodichloromethane	50.8	1.0	µg/L	50.00		102	65-135		
Bromoform	48.0	1.0	µg/L	50.00		96	70-130		
Bromomethane	51.4	5.0	µg/L	50.00		103	15-185		
2-Butanone	90.5	2.0	µg/L	100.0		91	72-129		
tert-Butyl Alcohol	139	10	µg/L	200.0		69	67-143		
Sec-butylbenzene	50.1	1.0	µg/L	50.00		100	86-121		
Tert-butylbenzene	50.0	1.0	µg/L	50.00		100	89-119		
N-butylbenzene	47.9	1.0	µg/L	50.00		96	76-130		
Carbon Disulfide	62.5	1.0	µg/L	50.00		125	82-228		
Carbon Tetrachloride	56.1	1.0	µg/L	50.00		112	70-130		
Chlorobenzene	45.9	1.0	µg/L	50.00		92	65-135		
Chloroethane	51.1	5.0	µg/L	50.00		102	40-160		
2-Chloroethyl Vinyl Ether	93.0	2.0	µg/L	100.0		93	0-225		
Chloroform	50.2	1.0	µg/L	50.00		100	70-135		
Chloromethane	53.1	5.0	µg/L	50.00		106	0-205		
2-Chlorotoluene	47.3	1.0	µg/L	50.00		95	89-116		
4-Chlorotoluene	45.8	1.0	µg/L	50.00		92	78-131		
1,2-Dibromo-3-chloropropane	43.2	5.0	µg/L	50.00		86	56-142		
Dibromochloromethane	52.8	1.0	µg/L	50.00		106	70-135		
1,2-Dibromoethane	48.4	1.0	µg/L	50.00		97	88-121		
Dibromomethane	46.7	1.0	µg/L	50.00		93	85-125		
Trans-1,4-dichloro-2-butene	91.2	2.0	µg/L	100.0		91	10-161		
1,3-Dichlorobenzene	47.8	1.0	µg/L	50.00		96	70-130		
1,4-Dichlorobenzene	46.1	1.0	µg/L	50.00		92	65-135		
1,2-Dichlorobenzene	43.8	1.0	µg/L	50.00		88	65-135		
Dichlorodifluoromethane	65.2 R4	5.0	µg/L	50.00		130	37-119		
1,1-Dichloroethane	50.6	1.0	µg/L	50.00		101	70-130		
1,2-Dichloroethane	46.6	1.0	µg/L	50.00		93	70-130		
1,1-Dichloroethene	54.8	1.0	µg/L	50.00		110	50-150		
Trans-1,2-dichloroethene	52.4	1.0	µg/L	50.00		105	70-130		
Cis-1,2-dichloroethene	50.9	1.0	µg/L	50.00		102	88-142		
1,2-Dichloropropane	49.9	1.0	µg/L	50.00		100	35-165		
2,2-Dichloropropane	60.8	1.0	µg/L	50.00		122	75-134		
1,3-Dichloropropane	48.4	1.0	µg/L	50.00		97	85-116		
Cis-1,3-dichloropropene	55.7	1.0	µg/L	50.00		111	25-175		
Trans-1,3-dichloropropene	56.3	1.0	µg/L	50.00		113	50-150		
1,1-Dichloropropene	52.0	1.0	µg/L	50.00		104	88-116		
Ethylbenzene	47.7	1.0	µg/L	50.00		95	60-140		

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EMSL-CIN-01

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108 Myrtle St

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Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**LCS (BCJ1488-BS1)**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	48.0	1.0	µg/L	50.00		96	76-114
2-Hexanone	96.8	4.0	µg/L	100.0		97	72-131
Isopropylbenzene	49.6	1.0	µg/L	50.00		99	89-136
4-Isopropyltoluene	51.0	1.0	µg/L	50.00		102	85-125
Methylene Chloride	49.3	1.0	µg/L	50.00		99	60-140
4-Methyl-2-pentanone	97.5	2.0	µg/L	100.0		98	72-126
Methyl-tert butyl ether	51.9	1.0	µg/L	50.00		104	79-120
Naphthalene	48.6	2.0	µg/L	50.00		97	73-133
N-propylbenzene	48.8	1.0	µg/L	50.00		98	77-131
Styrene	48.3	1.0	µg/L	50.00		97	90-122
1,1,2,2-Tetrachloroethane	43.0	1.0	µg/L	50.00		86	60-140
1,1,1,2-Tetrachloroethane	49.7	1.0	µg/L	50.00		99	89-118
Tetrachloroethene	50.8	2.0	µg/L	50.00		102	70-130
Toluene	49.7	1.0	µg/L	50.00		99	70-130
1,2,3-Trichlorobenzene	47.8	2.0	µg/L	50.00		96	79-128
1,2,4-Trichlorobenzene	49.7	1.0	µg/L	50.00		99	70-130
1,1,2-Trichloroethane	46.7	1.0	µg/L	50.00		93	70-130
1,1,1-Trichloroethane	54.3	1.0	µg/L	50.00		109	70-130
Trichloroethene	49.7	1.0	µg/L	50.00		99	65-135
Trichlorofluoromethane	55.0	5.0	µg/L	50.00		110	50-150
1,2,3-Trichloropropane	42.9	4.0	µg/L	50.00		86	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	54.0	2.0	µg/L	50.00		108	70-130
1,2,4-Trimethylbenzene	48.8	1.0	µg/L	50.00		98	86-122
1,3,5-Trimethylbenzene	49.2	1.0	µg/L	50.00		98	88-121
Vinyl Acetate	49.4	2.0	µg/L	50.00		99	70-130
Vinyl Chloride	56.5	5.0	µg/L	50.00		113	5-195
o-xylene	48.3	1.0	µg/L	50.00		97	89-118
m&p-xylenes	95.6	2.0	µg/L	100.0		96	70-130
Xylenes, Total	144	1.0	µg/L	150.0		96	70-130

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	105	70-130
Surrogate: Dibromofluoromethane	50.00	114	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	103	70-130
Surrogate: Toluene-d8	50.00	102	70-130

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike (BCJ1488-MS1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Acetone	128	15	µg/L	100.0	54.5	73	56-168
Acrolein	230	10	µg/L	200.0	ND	115	40-160
Benzene	50.7	1.0	µg/L	50.00	ND	101	37-151
Bromobenzene	46.2	1.0	µg/L	50.00	ND	92	85-114
Bromodichloromethane	50.9	1.0	µg/L	50.00	ND	102	35-155
Bromoform	46.8	1.0	µg/L	50.00	ND	94	45-169
Bromomethane	51.1	5.0	µg/L	50.00	ND	102	10-242
2-Butanone	93.9	2.0	µg/L	100.0	ND	94	60-155
tert-Butyl Alcohol	166	10	µg/L	200.0	ND	83	57-181
Sec-butylbenzene	49.7	1.0	µg/L	50.00	ND	99	84-113
Tert-butylbenzene	49.6	1.0	µg/L	50.00	ND	99	85-114
N-butylbenzene	46.8	1.0	µg/L	50.00	ND	94	79-117
Carbon Disulfide	61.9 R4	1.0	µg/L	50.00	ND	124	72-122
Carbon Tetrachloride	56.0	1.0	µg/L	50.00	ND	112	70-140
Chlorobenzene	45.4	1.0	µg/L	50.00	ND	91	37-160
Chloroethane	52.9	5.0	µg/L	50.00	ND	106	14-230
2-Chloroethyl Vinyl Ether	ND	2.0	µg/L	100.0	ND		0-305
Chloroform	49.3	1.0	µg/L	50.00	ND	99	51-138
Chloromethane	55.9	5.0	µg/L	50.00	ND	112	0-273
2-Chlorotoluene	47.5	1.0	µg/L	50.00	ND	95	82-112
4-Chlorotoluene	46.2	1.0	µg/L	50.00	ND	92	78-114
1,2-Dibromo-3-chloropropane	43.8	5.0	µg/L	50.00	ND	88	57-166
Dibromochloromethane	52.8	1.0	µg/L	50.00	ND	106	53-149
1,2-Dibromoethane	48.3	1.0	µg/L	50.00	ND	97	86-125
Dibromomethane	47.7	1.0	µg/L	50.00	ND	95	76-136
Trans-1,4-dichloro-2-butene	89.7	2.0	µg/L	100.0	ND	90	74-136
1,3-Dichlorobenzene	47.3	1.0	µg/L	50.00	ND	95	59-156
1,4-Dichlorobenzene	46.1	1.0	µg/L	50.00	ND	92	18-190
1,2-Dichlorobenzene	43.4	1.0	µg/L	50.00	ND	87	18-190
Dichlorodifluoromethane	68.1	5.0	µg/L	50.00	ND	136	65-145
1,1-Dichloroethane	51.2	1.0	µg/L	50.00	ND	102	59-155
1,2-Dichloroethane	48.1	1.0	µg/L	50.00	ND	96	49-155
1,1-Dichloroethene	54.5	1.0	µg/L	50.00	ND	109	0-234
Trans-1,2-dichloroethene	52.1	1.0	µg/L	50.00	ND	104	54-156
Cis-1,2-dichloroethene	50.8	1.0	µg/L	50.00	ND	102	91-116
1,2-Dichloropropane	49.6	1.0	µg/L	50.00	ND	99	0-210
2,2-Dichloropropane	54.2	1.0	µg/L	50.00	ND	108	73-126
1,3-Dichloropropane	48.6	1.0	µg/L	50.00	ND	97	85-121
Cis-1,3-dichloropropene	52.9	1.0	µg/L	50.00	ND	106	0-227
Trans-1,3-dichloropropene	53.8	1.0	µg/L	50.00	ND	108	17-183
1,1-Dichloropropene	53.2	1.0	µg/L	50.00	ND	106	85-112
Ethylbenzene	47.6	1.0	µg/L	50.00	ND	95	37-162

**EMSL Analytical, Inc.**

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Quality Control**(Continued)****GCMS-VOA (Continued)**

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike (BCJ1488-MS1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	43.8	1.0	µg/L	50.00	ND	88	78-118
2-Hexanone	102	4.0	µg/L	100.0	ND	102	31-155
Isopropylbenzene	49.2	1.0	µg/L	50.00	ND	98	78-114
4-Isopropyltoluene	50.5	1.0	µg/L	50.00	ND	101	81-112
Methylene Chloride	49.6	1.0	µg/L	50.00	ND	99	10-221
4-Methyl-2-pentanone	104	2.0	µg/L	100.0	ND	104	78-138
Methyl-tert butyl ether	50.3	1.0	µg/L		ND		84-127
Naphthalene	51.1	2.0	µg/L	50.00	ND	102	40-140
N-propylbenzene	49.0	1.0	µg/L	50.00	ND	98	74-123
Styrene	47.4	1.0	µg/L	50.00	ND	95	87-112
1,1,2,2-Tetrachloroethane	43.7	1.0	µg/L	50.00	ND	87	46-157
1,1,1,2-Tetrachloroethane	49.0	1.0	µg/L	50.00	ND	98	81-125
Tetrachloroethene	50.9	2.0	µg/L	50.00	ND	102	64-148
Toluene	50.6	1.0	µg/L	50.00	ND	101	47-150
1,2,3-Trichlorobenzene	49.5	2.0	µg/L	50.00	ND	99	80-118
1,2,4-Trichlorobenzene	49.0	1.0	µg/L	50.00	ND	98	70-130
1,1,2-Trichloroethane	47.2	1.0	µg/L	50.00	ND	94	52-150
1,1,1-Trichloroethane	54.6	1.0	µg/L	50.00	ND	109	52-162
Trichloroethene	49.8	1.0	µg/L	50.00	ND	100	70-157
Trichlorofluoromethane	58.0	5.0	µg/L	50.00	ND	116	17-181
1,2,3-Trichloropropane	43.7	4.0	µg/L	50.00	ND	87	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	55.6	2.0	µg/L	50.00	ND	111	70-130
1,2,4-Trimethylbenzene	53.5	1.0	µg/L	50.00	4.03	99	67-129
1,3,5-Trimethylbenzene	50.2	1.0	µg/L	50.00	1.20	98	79-115
Vinyl Acetate	48.5	2.0	µg/L	50.00	ND	97	70-130
Vinyl Chloride	58.0	5.0	µg/L	50.00	ND	116	0-251
o-xylene	49.3	1.0	µg/L	50.00	1.13	96	85-112
m&p-xylenes	94.4	2.0	µg/L	100.0	ND	94	70-130
Xylenes, Total	144	1.0	µg/L		1.13		70-130

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	104	70-130
Surrogate: Dibromofluoromethane	50.00	114	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	105	70-130
Surrogate: Toluene-d8	50.00	106	70-130

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50
EMSL Sales Rep: Jeromy Bish
Received: 10/10/2024 09:00
Reported: 12/12/2024 13:03

Quality Control
(Continued)

GCMS-VOA (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike Dup (BCJ1488-MSD1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Acetone	152	15	µg/L	100.0	54.5	98	56-168	18	24
Acrolein	267	10	µg/L	200.0	ND	134	40-160	15	60
Benzene	53.1	1.0	µg/L	50.00	ND	106	37-151	5	61
Bromobenzene	47.9	1.0	µg/L	50.00	ND	96	85-114	4	7
Bromodichloromethane	52.2	1.0	µg/L	50.00	ND	104	35-155	3	56
Bromoform	50.6	1.0	µg/L	50.00	ND	101	45-169	8	42
Bromomethane	54.4	5.0	µg/L	50.00	ND	109	10-242	6	61
2-Butanone	109	2.0	µg/L	100.0	ND	109	60-155	15	20
tert-Butyl Alcohol	248 R4	10	µg/L	200.0	ND	124	57-181	40	21
Sec-butylbenzene	52.4	1.0	µg/L	50.00	ND	105	84-113	5	11
Tert-butylbenzene	51.9	1.0	µg/L	50.00	ND	104	85-114	4	10
N-butylbenzene	51.0	1.0	µg/L	50.00	ND	102	79-117	9	12
Carbon Disulfide	67.2 R4	1.0	µg/L	50.00	ND	134	72-122	8	17
Carbon Tetrachloride	59.3	1.0	µg/L	50.00	ND	119	70-140	6	41
Chlorobenzene	47.7	1.0	µg/L	50.00	ND	95	37-160	5	53
Chloroethane	54.8	5.0	µg/L	50.00	ND	110	14-230	3	78
2-Chloroethyl Vinyl Ether	ND	2.0	µg/L	100.0	ND		0-305		71
Chloroform	50.8	1.0	µg/L	50.00	ND	102	51-138	3	54
Chloromethane	60.1	5.0	µg/L	50.00	ND	120	0-273	7	60
2-Chlorotoluene	49.4	1.0	µg/L	50.00	ND	99	82-112	4	10
4-Chlorotoluene	48.5	1.0	µg/L	50.00	ND	97	78-114	5	11
1,2-Dibromo-3-chloropropane	52.0	5.0	µg/L	50.00	ND	104	57-166	17	19
Dibromochloromethane	55.9	1.0	µg/L	50.00	ND	112	53-149	6	50
1,2-Dibromoethane	51.5	1.0	µg/L	50.00	ND	103	86-125	6	13
Dibromomethane	50.1	1.0	µg/L	50.00	ND	100	76-136	5	15
Trans-1,4-dichloro-2-butene	100	2.0	µg/L	100.0	ND	100	74-136	11	15
1,3-Dichlorobenzene	49.7	1.0	µg/L	50.00	ND	99	59-156	5	43
1,4-Dichlorobenzene	48.5	1.0	µg/L	50.00	ND	97	18-190	5	57
1,2-Dichlorobenzene	47.3	1.0	µg/L	50.00	ND	95	18-190	9	57
Dichlorodifluoromethane	72.5	5.0	µg/L	50.00	ND	145	65-145	6	15
1,1-Dichloroethane	53.2	1.0	µg/L	50.00	ND	106	59-155	4	40
1,2-Dichloroethane	49.3	1.0	µg/L	50.00	ND	99	49-155	2	49
1,1-Dichloroethene	58.6	1.0	µg/L	50.00	ND	117	0-234	7	32
Trans-1,2-dichloroethene	55.5	1.0	µg/L	50.00	ND	111	54-156	6	45
Cis-1,2-dichloroethene	52.9	1.0	µg/L	50.00	ND	106	91-116	4	9
1,2-Dichloropropane	52.5	1.0	µg/L	50.00	ND	105	0-210	6	55
2,2-Dichloropropane	59.4	1.0	µg/L	50.00	ND	119	73-126	9	12
1,3-Dichloropropane	51.5	1.0	µg/L	50.00	ND	103	85-121	6	13
Cis-1,3-dichloropropene	56.1	1.0	µg/L	50.00	ND	112	0-227	6	58
Trans-1,3-dichloropropene	58.1	1.0	µg/L	50.00	ND	116	17-183	8	86
1,1-Dichloropropene	55.8	1.0	µg/L	50.00	ND	112	85-112	5	8
Ethylbenzene	50.2	1.0	µg/L	50.00	ND	100	37-162	5	63

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Quality Control

(Continued)

GCMS-VOA (Continued)

Analyte	Result Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Batch: BCJ1488 - EPA 624.1 (Continued)**Matrix Spike Dup (BCJ1488-MSD1)****Source: AC32432-01**

Prepared & Analyzed: 10/14/2024

Hexachlorobutadiene	50.9	1.0	µg/L	50.00	ND	102	78-118	15	17
2-Hexanone	115	4.0	µg/L	100.0	ND	115	31-155	12	19
Isopropylbenzene	51.8	1.0	µg/L	50.00	ND	104	78-114	5	10
4-Isopropyltoluene	52.6	1.0	µg/L	50.00	ND	105	81-112	4	12
Methylene Chloride	51.6	1.0	µg/L	50.00	ND	103	10-221	4	28
4-Methyl-2-pentanone	116	2.0	µg/L	100.0	ND	116	78-138	10	16
Methyl-tert butyl ether	55.1	1.0	µg/L		ND		84-127	9	13
Naphthalene	63.3	2.0	µg/L	50.00	ND	127	40-140	21	25
N-propylbenzene	51.4	1.0	µg/L	50.00	ND	103	74-123	5	11
Styrene	49.4	1.0	µg/L	50.00	ND	99	87-112	4	9
1,1,2,2-Tetrachloroethane	47.4	1.0	µg/L	50.00	ND	95	46-157	8	61
1,1,1,2-Tetrachloroethane	51.2	1.0	µg/L	50.00	ND	102	81-125	4	11
Tetrachloroethene	54.5	2.0	µg/L	50.00	ND	109	64-148	7	39
Toluene	53.4	1.0	µg/L	50.00	ND	107	47-150	5	41
1,2,3-Trichlorobenzene	60.5 R4	2.0	µg/L	50.00	ND	121	80-118	20	11
1,2,4-Trichlorobenzene	56.3	1.0	µg/L	50.00	ND	113	70-130	14	25
1,1,2-Trichloroethane	49.8	1.0	µg/L	50.00	ND	100	52-150	5	45
1,1,1-Trichloroethane	57.2	1.0	µg/L	50.00	ND	114	52-162	5	36
Trichloroethene	52.4	1.0	µg/L	50.00	ND	105	70-157	5	48
Trichlorofluoromethane	59.7	5.0	µg/L	50.00	ND	119	17-181	3	84
1,2,3-Trichloropropane	47.6	4.0	µg/L	50.00	ND	95	70-130	9	11
1,1,2-Trichloro-1,2,2-trifluoroethane	58.4	2.0	µg/L	50.00	ND	117	70-130	5	25
1,2,4-Trimethylbenzene	55.6	1.0	µg/L	50.00	4.03	103	67-129	4	13
1,3,5-Trimethylbenzene	52.6	1.0	µg/L	50.00	1.20	103	79-115	5	10
Vinyl Acetate	54.5	2.0	µg/L	50.00	ND	109	70-130	12	25
Vinyl Chloride	62.7	5.0	µg/L	50.00	ND	125	0-251	8	66
o-xylene	51.6	1.0	µg/L	50.00	1.13	101	85-112	4	7
m&p-xylenes	99.7	2.0	µg/L	100.0	ND	100	70-130	5	25
Xylenes, Total	151	1.0	µg/L		1.13		70-130	5	25

Surrogate(s)

Surrogate: 4-Bromofluorobenzene	50.00	100	70-130
Surrogate: Dibromofluoromethane	50.00	111	70-130
Surrogate: 1,2-Dichloroethane-d4	50.00	99	70-130
Surrogate: Toluene-d8	50.00	106	70-130

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EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Certified Analyses included in this Report

Analyte	CAS #	Certifications
<i>EPA 624.1 in Waste Water</i>		
Acetone	67-64-1	NJDEP,PADEP
Acrolein	107-02-8	NJDEP,PADEP
Benzene	71-43-2	NJDEP,PADEP
Bromobenzene	108-86-1	NJDEP,PADEP
Bromodichloromethane	75-27-4	NJDEP,PADEP
Bromoform	75-25-2	NJDEP,PADEP
Bromomethane	74-83-9	NJDEP,PADEP
2-Butanone	78-93-3	NJDEP,PADEP
tert-Butyl Alcohol	75-65-0	NJDEP,PADEP
Sec-butylbenzene	135-98-8	NJDEP,PADEP
Tert-butylbenzene	98-06-6	NJDEP,PADEP
N-butylbenzene	104-51-8	NJDEP,PADEP
Carbon Disulfide	75-15-0	NJDEP,PADEP
Carbon Tetrachloride	56-23-5	NJDEP,PADEP
Chlorobenzene	108-90-7	NJDEP,PADEP
Chloroethane	75-00-3	NJDEP,PADEP
2-Chloroethyl Vinyl Ether	110-75-8	NJDEP,PADEP
Chloroform	67-66-3	NJDEP,PADEP
Chloromethane	74-87-3	NJDEP,PADEP
2-Chlorotoluene	95-49-8	NJDEP,PADEP
4-Chlorotoluene	106-43-4	NJDEP,PADEP
1,2-Dibromo-3-chloropropane	96-12-8	NJDEP,PADEP
Dibromochloromethane	124-48-1	NJDEP,PADEP
1,2-Dibromoethane	106-93-4	NJDEP,PADEP
Dibromomethane	74-95-3	NJDEP,PADEP
Trans-1,4-dichloro-2-butene	110-57-6	NJDEP,PADEP
1,3-Dichlorobenzene	541-73-1	NJDEP,PADEP
1,4-Dichlorobenzene	106-46-7	NJDEP,PADEP
1,2-Dichlorobenzene	95-50-1	NJDEP,PADEP
Dichlorodifluoromethane	75-71-8	NJDEP,PADEP
1,1-Dichloroethane	75-34-3	NJDEP,PADEP
1,2-Dichloroethane	107-06-2	NJDEP,PADEP
1,1-Dichloroethene	75-35-4	NJDEP,PADEP
Trans-1,2-dichloroethene	156-60-5	NJDEP,PADEP
Cis-1,2-dichloroethene	156-59-2	NJDEP,PADEP
1,2-Dichloropropane	78-87-5	NJDEP,PADEP
2,2-Dichloropropane	594-20-7	NJDEP,PADEP
1,3-Dichloropropane	142-28-9	NJDEP,PADEP
Cis-1,3-dichloropropene	10061-01-5	NJDEP,PADEP

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

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108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

Certified Analyses included in this Report
(Continued)

Analyte	CAS #	Certifications
<i>EPA 624.1 in Waste Water (Continued)</i>		
Trans-1,3-dichloropropene	10061-02-6	NJDEP,PADEP
1,1-Dichloropropene	563-58-6	NJDEP,PADEP
Ethylbenzene	100-41-4	NJDEP,PADEP
Hexachlorobutadiene	87-68-3	NJDEP,PADEP
2-Hexanone	591-78-6	NJDEP,PADEP
Isopropylbenzene	98-82-8	NJDEP,PADEP
4-Isopropyltoluene	99-87-6	NJDEP,PADEP
Methylene Chloride	75-09-2	NJDEP,PADEP
4-Methyl-2-pentanone	108-10-1	NJDEP,PADEP
Methyl-tert butyl ether	1634-04-4	NJDEP,PADEP
Naphthalene	91-20-3	NJDEP,PADEP
N-propylbenzene	103-65-1	NJDEP,PADEP
Styrene	100-42-5	NJDEP,PADEP
1,1,2,2-Tetrachloroethane	79-34-5	NJDEP,PADEP
1,1,1,2-Tetrachloroethane	630-20-6	NJDEP,PADEP
Tetrachloroethene	127-18-4	NJDEP,PADEP
Toluene	108-88-3	NJDEP,PADEP
1,2,3-Trichlorobenzene	87-61-6	NJDEP,PADEP
1,2,4-Trichlorobenzene	120-82-1	NJDEP,PADEP
1,1,2-Trichloroethane	79-00-5	NJDEP,PADEP
1,1,1-Trichloroethane	71-55-6	NJDEP,PADEP
Trichloroethene	79-01-6	NJDEP,PADEP
Trichlorofluoromethane	75-69-4	NJDEP,PADEP
1,2,3-Trichloropropane	96-18-4	NJDEP,PADEP
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NJDEP,PADEP
1,2,4-Trimethylbenzene	95-63-6	NJDEP,PADEP
1,3,5-Trimethylbenzene	108-67-8	NJDEP,PADEP
Vinyl Acetate	108-05-4	NJDEP,PADEP
Vinyl Chloride	75-01-4	NJDEP,PADEP
o-xylene	95-47-6	NJDEP,PADEP
m&p-xylenes	179601-23-1	NJDEP,PADEP
Xylenes, Total	1330-20-7	NJDEP,PADEP

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54**Attention:** Neal Kelly

Fuss & O'Neill, Inc. [ENVI54]

108 Myrtle St

North Quincy, Massachusetts 02171

(860) 646-2469

Neal.Kelly@fando.com

Project Name:

Needham Crumb Rubber

Customer PO:

20081266.B50

EMSL Sales Rep:

Jeromy Bish

Received:

10/10/2024 09:00

Reported:

12/12/2024 13:03

List of Certifications

Code	Description	Number	Expires
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2025
NYSDOH	New York State Department of Health	10872	04/01/2025
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2025
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2025
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2026
California ELAP	California Water Boards	1877	06/30/2025
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2026

Please see the specific Field of Testing (FOT) on www.emsl.com <<http://www.emsl.com>> for a complete listing of parameters for which EMSL is certified.

**EMSL Analytical, Inc.**

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax: 856-786-5974
EMSL-CIN-01

EMSL Order ID: 012433101**LIMS Reference ID:** AC33101**EMSL Customer ID:** ENVI54

Attention: Neal Kelly
Fuss & O'Neill, Inc. [ENVI54]
108 Myrtle St
North Quincy, Massachusetts 02171
(860) 646-2469
Neal.Kelly@fando.com

Project Name: Needham Crumb Rubber

Customer PO: 20081266.B50

EMSL Sales Rep: Jeromy Bish

Received: 10/10/2024 09:00

Reported: 12/12/2024 13:03

Notes and Definitions

Item	Definition
C	The sample was preserved to a PH of less than 2. Acrolein requires an unpreserved aliquot. Results for Acrolein may be biased.
R4	High percent recovery and no associated postive found in the batch.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit
Wet	Sample is not dry weight corrected.
%REC	Percent Recovery
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.



FUSS & O'NEILL-ENVIROSCIENCE, LLC

Disciplines to Deliver

(860) 646-2469 • www.FandO.com

AC33101

- ☐ 146 Hartford Road, Manchester, CT 06040
- ☐ 56 Quarry Road, Trumbull, CT 06611
- ☐ 1419 Richland Street, Columbia, SC 29201
- ☐ 78 Interstate Drive, West Springfield, MA 01089

- ☒ 108 Myrtle Street, #502, North Quincy, MA 02171
- ☐ 317 Iron Horse Way, Suite 204, Providence, RI 02908
- ☐ 80 Washington Street, Suite 301, Poughkeepsie, NY 12601

CHAIN-OF-CUSTODY RECORD

4517

Turnaround

- ☐ 1 Day* ☐ 3 Days* ☐ Other _____ (days)
- ☐ 2 Days* ☒ Standard (____ days) *Surcharge Applies

PROJECT NAME

PROJECT LOCATION

PROJECT NUMBER

LABORATORY

Needham Crumb Rubber

Needham MA

20081266, B50

EMSL (NJ)

REPORT TO: Neal Kelly neal.kelly@fandO.com

INVOICE TO:

P.O. No.:

Sampler's Signature:

Date: 10/2/24

Source Codes:

MW=Monitoring Well

PW=Potable Water

S=Soil

W=Waste

SW=Surface Water

T=Treatment Facility

B=Sediment

A=Air

X=Other AQ = Aqueous

CR: crumb rubber

Analysis Request

Containers

Item No.	Transfer Check				Sample Number	Source Code	Date Sampled	Time Sampled	Full Vol by [unclear]				Full Vol by Metals (lead, iron, manganese, & zinc)				Soil VOA Vials				Glass Soil Containers				Other:	Water VOA Vials				Glass Amber				Plastic - As is				Plastic - H2SO4				Plastic - HNO3				Plastic - NaOH				Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Transfer Number	Relinquished By	Accepted By	Date	Time	Reporting and Detection Limit Requirements:
1	Chris Julian	Chloe FX	10/7/24	11:40	MCP CAM Cert.
2		Annex	10/7/24	11:40am	
3					
4					



Main Site: 301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | www.alsglobal.com
Associated Site: 20 Riverside Drive | Spring City, PA 19475 | Phone: 610-948-4903 |

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343, NJ PA101

Analytical Results Report For

EMSL Inc.

Project AC33101

Workorder 3382844

Report ID 373722 on 12/12/2024 (Revised report. See Project Notations Section.)

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Oct 11, 2024.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Kaleb Brown (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

Reports - EMSL Inc.

Travis Albert - EMSL Analytical Inc.

Kaleb Brown

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Kaleb Brown
Project Coordinator

(ALS Digital Signature)



Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3382844001	AC33101-01	Oil/Other	10/02/2024 11:21	10/11/2024 09:24	CBC	Collected By Client
3382844002	AC33101-02	Oil/Other	10/02/2024 11:47	10/11/2024 09:24	CBC	Collected By Client
3382844003	AC33101-04	Oil/Other	10/02/2024 00:20	10/11/2024 09:24	CBC	Collected By Client



Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- Except as qualified, Clean Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 136, including but not limited to the following EPA Method reference revisions:
EPA 300.1 Rev. 1.0-1997
EPA 300.0 Rev. 2.1-1993
EPA 353.2 Rev. 2.0-1993
EPA 410.4 Rev. 1.0-1993
EPA 420.4 Rev. 1.0-1993
EPA 365.1 Rev. 2.0-1993
EPA 200.7 Rev. 4.4-1994
EPA 200.8 Rev. 5.4-1994
EPA 245.1 Rev. 3.0-1994
- Except as qualified, Safe Drinking Water Act sample analyses are consistent with methodology requirements in 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND) above the MDL
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Practical Quantitation Limit for this Project
ND	Not Detected - indicates that the analyte was Not Detected
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits
#	Please reference the result in the Results Section for analyte-level flags.



Project Notations

- P1

Project was received at a temperature greater than six degrees Celsius.
- P2

This Certificate of Analysis has been revised to report to the MDL, data has not been changed. LLB 12/12/24

Sample Notations

Lab ID	Sample ID		
3382844001	AC33101-01	S1	Sample was re-extracted past the holding time for EPA method 8270E.
3382844002	AC33101-02	S2	Sample was re-extracted past the holding time for EPA method 8270E.
3382844003	AC33101-04	S3	Sample was re-extracted past the holding time for EPA method 8270E.

Result Notations

Notation Ref.



Detected Results Summary

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21			
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24			
Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Iron, Total	762	mg/kg	193	64.3	SW846 6010C	#
Manganese, Total	6.6J	mg/kg	19.3	6.4	SW846 6010C	#
Zinc, Total	12600	mg/kg	38.6	12.9	SW846 6010C	#
SEMIVOLATILES						
2-Methylnaphthalene	46.2J	ug/kg	89.3	15.2	SW846 8270E	#
Acenaphthylene	54.5	ug/kg	44.6	15.2	SW846 8270E	#
Acetophenone	112	ug/kg	89.3	15.2	SW846 8270E	#
Anthracene	78.4	ug/kg	44.6	15.2	SW846 8270E	#
Benzaldehyde	151J	ug/kg	179	17.9	SW846 8270E	#
bis(2-Ethylhexyl)phthalate	4410	ug/kg	89.3	19.6	SW846 8270E	#
Chrysene	2110	ug/kg	44.6	15.2	SW846 8270E	#
Fluoranthene	3050	ug/kg	44.6	15.2	SW846 8270E	#
Hexachlorobutadiene	524	ug/kg	89.3	15.2	SW846 8270E	#
Hexachloroethane	221	ug/kg	89.3	20.5	SW846 8270E	#
Naphthalene	172	ug/kg	44.6	15.2	SW846 8270E	#
N-Nitrosodiphenylamine	115	ug/kg	89.3	15.2	SW846 8270E	#
Phenanthrene	426	ug/kg	44.6	15.2	SW846 8270E	#
Pyrene	7070	ug/kg	223	75.9	SW846 8270E	#



Detected Results Summary

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Iron, Total	889	mg/kg	198	66.1	SW846 6010C	#
Manganese, Total	6.7J	mg/kg	19.8	6.6	SW846 6010C	#
Zinc, Total	13200	mg/kg	39.7	13.2	SW846 6010C	#
SEMIVOLATILES						
2-Methylnaphthalene	38.8J	ug/kg	96.2	16.3	SW846 8270E	#
Acenaphthylene	50.8	ug/kg	48.1	16.3	SW846 8270E	#
Acetophenone	181	ug/kg	96.2	16.3	SW846 8270E	#
Anthracene	79.6	ug/kg	48.1	16.3	SW846 8270E	#
bis(2-Ethylhexyl)phthalate	5170	ug/kg	96.2	21.2	SW846 8270E	#
Chrysene	1860	ug/kg	48.1	16.3	SW846 8270E	#
Fluoranthene	2680	ug/kg	48.1	16.3	SW846 8270E	#
Hexachlorobutadiene	486	ug/kg	96.2	16.3	SW846 8270E	#
Hexachloroethane	169	ug/kg	96.2	22.1	SW846 8270E	#
Naphthalene	111	ug/kg	48.1	16.3	SW846 8270E	#
Phenanthrene	453	ug/kg	48.1	16.3	SW846 8270E	#
Pyrene	6890	ug/kg	48.1	16.3	SW846 8270E	#



Detected Results Summary

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

Compound	Result	Units	RDL	MDL	Method	Flag
METALS						
Iron, Total	640	mg/kg	198	65.8	SW846 6010C	#
Manganese, Total	7.5J	mg/kg	19.8	6.6	SW846 6010C	#
Zinc, Total	15200	mg/kg	39.5	13.2	SW846 6010C	#
SEMIVOLATILES						
2-Methylnaphthalene	40.9J	ug/kg	89.3	15.2	SW846 8270E	#
Acenaphthylene	59.8	ug/kg	44.6	15.2	SW846 8270E	#
Acetophenone	152	ug/kg	89.3	15.2	SW846 8270E	#
Anthracene	82.3	ug/kg	44.6	15.2	SW846 8270E	#
bis(2-Ethylhexyl)phthalate	5100	ug/kg	89.3	19.6	SW846 8270E	#
Chrysene	2450	ug/kg	44.6	15.2	SW846 8270E	#
Fluoranthene	3760	ug/kg	44.6	15.2	SW846 8270E	#
Hexachlorobutadiene	426	ug/kg	89.3	15.2	SW846 8270E	#
Hexachloroethane	205	ug/kg	89.3	20.5	SW846 8270E	#
Naphthalene	131	ug/kg	44.6	15.2	SW846 8270E	#
N-Nitrosodiphenylamine	168	ug/kg	89.3	15.2	SW846 8270E	#
Phenanthrene	541	ug/kg	44.6	15.2	SW846 8270E	#
Pyrene	8320	ug/kg	223	75.9	SW846 8270E	#



Results

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	12.9U	U,P1,P2,S1	mg/kg	38.6	12.9	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Cadmium, Total	3.2U	U,P1,P2,S1	mg/kg	9.7	3.2	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Chromium, Total	6.4U	U,P1,P2,S1	mg/kg	19.3	6.4	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Iron, Total	762	P1,P2,S1	mg/kg	193	64.3	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Lead, Total	12.9U	U,P1,P2,S1	mg/kg	38.6	12.9	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Manganese, Total	6.6J	J,P1,P2,S1	mg/kg	19.3	6.4	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Mercury, Total	0.015U	U,P1,P2,S1	mg/kg	0.047	0.015	SW846 7471B	1	10/24/2024 11:12	JMS	A
Selenium, Total	32.2U	U,P1,P2,S1	mg/kg	96.5	32.2	SW846 6010C	10	10/18/2024 10:21	MSY	A1
Zinc, Total	12600	P1,P2,S1	mg/kg	38.6	12.9	SW846 6010C	10	10/18/2024 10:21	MSY	A1

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,2,4,5-Tetrachlorobenzene	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
1,4-Dioxane	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,3,4,6-Tetrachlorophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4,5-Trichlorophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4,6-Trichlorophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dichlorophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dimethylphenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dinitrophenol	177U	U,P1,P2,S1	ug/kg	357	177	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,4-Dinitrotoluene	17.9U	U,P1,P2,S1	ug/kg	89.3	17.9	SW846 8270E	1	10/21/2024 19:49	S7M	A
2,6-Dinitrotoluene	30.4U	U,P1,P2,S1	ug/kg	89.3	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Chloronaphthalene	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Chlorophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Methyl-4,6-dinitrophenol	44.6U	U,P1,P2,S1	ug/kg	179	44.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Methylnaphthalene	46.2J	J,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Nitroaniline	20.5U	U,P1,P2,S1	ug/kg	179	20.5	SW846 8270E	1	10/21/2024 19:49	S7M	A
2-Nitrophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
3,3-Dichlorobenzidine	27.7U	U,P1,P2,S1	ug/kg	179	27.7	SW846 8270E	1	10/21/2024 19:49	S7M	A
3-Nitroaniline	15.2U	U,P1,P2,S1	ug/kg	179	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Bromophenyl-phenylether	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Chloro-3-methylphenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Chloroaniline	15.2U	U,P1,P2,S1	ug/kg	179	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Chlorophenyl-phenylether	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Nitroaniline	25.9U	U,P1,P2,S1	ug/kg	179	25.9	SW846 8270E	1	10/21/2024 19:49	S7M	A
4-Nitrophenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A



Results

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Acenaphthylene	54.5	P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Acetophenone	112	P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Anthracene	78.4	P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Atrazine	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzaldehyde	151J	J,P1,P2,S1	ug/kg	179	17.9	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(a)anthracene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(a)pyrene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(b)fluoranthene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(g,h,i)perylene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Benzo(k)fluoranthene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Biphenyl	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Chloroethoxy)methane	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Chloroethyl)ether	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Chloroisopropyl)ether	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
bis(2-Ethylhexyl)phthalate	4410	P1,P2,S1	ug/kg	89.3	19.6	SW846 8270E	1	10/21/2024 19:49	S7M	A
Butylbenzylphthalate	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Caprolactam	34.8U	U,P1,P2,S1	ug/kg	179	34.8	SW846 8270E	1	10/21/2024 19:49	S7M	A
Carbazole	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Chrysene	2110	P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Dibenzo(a,h)anthracene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Dibenzofuran	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Diethylphthalate	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Dimethylphthalate	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Di-n-Butylphthalate	31.3U	U,P1,P2,S1	ug/kg	89.3	31.3	SW846 8270E	1	10/21/2024 19:49	S7M	A
Di-n-Octylphthalate	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Fluoranthene	3050	P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Fluorene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachlorobenzene	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachlorobutadiene	524	P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachlorocyclopentadiene	26.8U	U,P1,P2,S1	ug/kg	179	26.8	SW846 8270E	1	10/21/2024 19:49	S7M	A
Hexachloroethane	221	P1,P2,S1	ug/kg	89.3	20.5	SW846 8270E	1	10/21/2024 19:49	S7M	A
Indeno(1,2,3-cd)pyrene	15.2U	U,P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Isophorone	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
mp-Cresol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
Naphthalene	172	P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A

Results

Client Sample ID	AC33101-01	Collected	10/02/2024 11:21
Lab Sample ID	3382844001	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Nitrobenzene	30.4U	U,P1,P2,S1	ug/kg	89.3	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
N-Nitroso-di-n-propylamine	15.2U	U,P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
N-Nitrosodiphenylamine	115	P1,P2,S1	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
o-Cresol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
Pentachlorophenol	43.8U	U,P1,P2,S1	ug/kg	179	43.8	SW846 8270E	1	10/21/2024 19:49	S7M	A
Phenanthrene	426	P1,P2,S1	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:49	S7M	A
Phenol	30.4U	U,P1,P2,S1	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:49	S7M	A
Pyrene	7070	P1,P2,S1	ug/kg	223	75.9	SW846 8270E	5	10/22/2024 20:36	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	60.5%	19 – 132	10/21/2024 19:49	
2-Fluorobiphenyl	321-60-8	67.8%	40 – 110	10/21/2024 19:49	
2-Fluorophenol	367-12-4	40.3%	26 – 116	10/21/2024 19:49	
Nitrobenzene-d5	4165-60-0	66%	38 – 112	10/21/2024 19:49	
Phenol-d5	4165-62-2	55.6%	35 – 111	10/21/2024 19:49	
Terphenyl-d14	98904-43-9	93.3%	45 – 126	10/21/2024 19:49	



Results

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	13.2U	U,P1,P2,S2	mg/kg	39.7	13.2	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Cadmium, Total	3.3U	U,P1,P2,S2	mg/kg	9.9	3.3	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Chromium, Total	6.6U	U,P1,P2,S2	mg/kg	19.8	6.6	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Iron, Total	889	P1,P2,S2	mg/kg	198	66.1	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Lead, Total	13.2U	U,P1,P2,S2	mg/kg	39.7	13.2	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Manganese, Total	6.7J	J,P1,P2,S2	mg/kg	19.8	6.6	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Mercury, Total	0.015U	U,P1,P2,S2	mg/kg	0.047	0.015	SW846 7471B	1	10/24/2024 11:13	JMS	A
Selenium, Total	33.1U	U,P1,P2,S2	mg/kg	99.2	33.1	SW846 6010C	10	10/18/2024 10:22	MSY	A1
Zinc, Total	13200	P1,P2,S2	mg/kg	39.7	13.2	SW846 6010C	10	10/18/2024 10:22	MSY	A1

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,2,4,5-Tetrachlorobenzene	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
1,4-Dioxane	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,3,4,6-Tetrachlorophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4,5-Trichlorophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4,6-Trichlorophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dichlorophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dimethylphenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dinitrophenol	190U	U,P1,P2,S2	ug/kg	385	190	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,4-Dinitrotoluene	19.2U	U,P1,P2,S2	ug/kg	96.2	19.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
2,6-Dinitrotoluene	32.7U	U,P1,P2,S2	ug/kg	96.2	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Chloronaphthalene	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Chlorophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Methyl-4,6-dinitrophenol	48.1U	U,P1,P2,S2	ug/kg	192	48.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Methylnaphthalene	38.8J	J,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Nitroaniline	22.1U	U,P1,P2,S2	ug/kg	192	22.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
2-Nitrophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
3,3-Dichlorobenzidine	29.8U	U,P1,P2,S2	ug/kg	192	29.8	SW846 8270E	1	10/21/2024 20:14	S7M	A
3-Nitroaniline	16.3U	U,P1,P2,S2	ug/kg	192	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Bromophenyl-phenylether	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Chloro-3-methylphenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Chloroaniline	16.3U	U,P1,P2,S2	ug/kg	192	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Chlorophenyl-phenylether	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Nitroaniline	27.9U	U,P1,P2,S2	ug/kg	192	27.9	SW846 8270E	1	10/21/2024 20:14	S7M	A
4-Nitrophenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A



Results

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Acenaphthylene	50.8	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Acetophenone	181	P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Anthracene	79.6	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Atrazine	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzaldehyde	19.2U	U,P1,P2,S2	ug/kg	192	19.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(a)anthracene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(a)pyrene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(b)fluoranthene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(g,h,i)perylene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Benzo(k)fluoranthene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Biphenyl	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Chloroethoxy)methane	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Chloroethyl)ether	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Chloroisopropyl)ether	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
bis(2-Ethylhexyl)phthalate	5170	P1,P2,S2	ug/kg	96.2	21.2	SW846 8270E	1	10/21/2024 20:14	S7M	A
Butylbenzylphthalate	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Caprolactam	37.5U	U,P1,P2,S2	ug/kg	192	37.5	SW846 8270E	1	10/21/2024 20:14	S7M	A
Carbazole	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Chrysene	1860	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Dibenzo(a,h)anthracene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Dibenzofuran	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Diethylphthalate	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Dimethylphthalate	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Di-n-Butylphthalate	33.7U	U,P1,P2,S2	ug/kg	96.2	33.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
Di-n-Octylphthalate	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Fluoranthene	2680	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Fluorene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachlorobenzene	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachlorobutadiene	486	P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachlorocyclopentadiene	28.8U	U,P1,P2,S2	ug/kg	192	28.8	SW846 8270E	1	10/21/2024 20:14	S7M	A
Hexachloroethane	169	P1,P2,S2	ug/kg	96.2	22.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Indeno(1,2,3-cd)pyrene	16.3U	U,P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Isophorone	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
mp-Cresol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
Naphthalene	111	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A



Results

Client Sample ID	AC33101-02	Collected	10/02/2024 11:47
Lab Sample ID	3382844002	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Nitrobenzene	32.7U	U,P1,P2,S2	ug/kg	96.2	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
N-Nitroso-di-n-propylamine	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
N-Nitrosodiphenylamine	16.3U	U,P1,P2,S2	ug/kg	96.2	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
o-Cresol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
Pentachlorophenol	47.1U	U,P1,P2,S2	ug/kg	192	47.1	SW846 8270E	1	10/21/2024 20:14	S7M	A
Phenanthrene	453	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A
Phenol	32.7U	U,P1,P2,S2	ug/kg	192	32.7	SW846 8270E	1	10/21/2024 20:14	S7M	A
Pyrene	6890	P1,P2,S2	ug/kg	48.1	16.3	SW846 8270E	1	10/21/2024 20:14	S7M	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	59%	19 – 132	10/21/2024 20:14	
2-Fluorobiphenyl	321-60-8	65%	40 – 110	10/21/2024 20:14	
2-Fluorophenol	367-12-4	46.6%	26 – 116	10/21/2024 20:14	
Nitrobenzene-d5	4165-60-0	66.3%	38 – 112	10/21/2024 20:14	
Phenol-d5	4165-62-2	60.9%	35 – 111	10/21/2024 20:14	
Terphenyl-d14	98904-43-9	88.4%	45 – 126	10/21/2024 20:14	



Results

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

METALS

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Arsenic, Total	13.2U	U,P1,P2,S3	mg/kg	39.5	13.2	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Cadmium, Total	3.3U	U,P1,P2,S3	mg/kg	9.9	3.3	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Chromium, Total	6.6U	U,P1,P2,S3	mg/kg	19.8	6.6	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Iron, Total	640	P1,P2,S3	mg/kg	198	65.8	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Lead, Total	13.2U	U,P1,P2,S3	mg/kg	39.5	13.2	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Manganese, Total	7.5J	J,P1,P2,S3	mg/kg	19.8	6.6	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Mercury, Total	0.016U	U,P1,P2,S3	mg/kg	0.049	0.016	SW846 7471B	1	10/24/2024 11:08	JMS	A
Selenium, Total	33.0U	U,P1,P2,S3	mg/kg	98.8	33.0	SW846 6010C	10	10/18/2024 10:23	MSY	A1
Zinc, Total	15200	P1,P2,S3	mg/kg	39.5	13.2	SW846 6010C	10	10/18/2024 10:23	MSY	A1

SEMIVOLATILES

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
1,2,4,5-Tetrachlorobenzene	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
1,4-Dioxane	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,3,4,6-Tetrachlorophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4,5-Trichlorophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4,6-Trichlorophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dichlorophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dimethylphenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dinitrophenol	177U	U,P1,P2,S3	ug/kg	357	177	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,4-Dinitrotoluene	17.9U	U,P1,P2,S3	ug/kg	89.3	17.9	SW846 8270E	1	10/21/2024 19:25	S7M	A
2,6-Dinitrotoluene	30.4U	U,P1,P2,S3	ug/kg	89.3	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Chloronaphthalene	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Chlorophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Methyl-4,6-dinitrophenol	44.6U	U,P1,P2,S3	ug/kg	179	44.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Methylnaphthalene	40.9J	J,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Nitroaniline	20.5U	U,P1,P2,S3	ug/kg	179	20.5	SW846 8270E	1	10/21/2024 19:25	S7M	A
2-Nitrophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
3,3-Dichlorobenzidine	27.7U	U,P1,P2,S3	ug/kg	179	27.7	SW846 8270E	1	10/21/2024 19:25	S7M	A
3-Nitroaniline	15.2U	U,P1,P2,S3	ug/kg	179	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Bromophenyl-phenylether	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Chloro-3-methylphenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Chloroaniline	15.2U	U,P1,P2,S3	ug/kg	179	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Chlorophenyl-phenylether	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Nitroaniline	25.9U	U,P1,P2,S3	ug/kg	179	25.9	SW846 8270E	1	10/21/2024 19:25	S7M	A
4-Nitrophenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A



Results

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Acenaphthene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Acenaphthylene	59.8	P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Acetophenone	152	P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Anthracene	82.3	P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Atrazine	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzaldehyde	17.9U	U,P1,P2,S3	ug/kg	179	17.9	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(a)anthracene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(a)pyrene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(b)fluoranthene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(g,h,i)perylene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Benzo(k)fluoranthene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Biphenyl	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Chloroethoxy)methane	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Chloroethyl)ether	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Chloroisopropyl)ether	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
bis(2-Ethylhexyl)phthalate	5100	P1,P2,S3	ug/kg	89.3	19.6	SW846 8270E	1	10/21/2024 19:25	S7M	A
Butylbenzylphthalate	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Caprolactam	34.8U	U,P1,P2,S3	ug/kg	179	34.8	SW846 8270E	1	10/21/2024 19:25	S7M	A
Carbazole	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Chrysene	2450	P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Dibenzo(a,h)anthracene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Dibenzofuran	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Diethylphthalate	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Dimethylphthalate	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Di-n-Butylphthalate	31.3U	U,P1,P2,S3	ug/kg	89.3	31.3	SW846 8270E	1	10/21/2024 19:25	S7M	A
Di-n-Octylphthalate	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Fluoranthene	3760	P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Fluorene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachlorobenzene	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachlorobutadiene	426	P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachlorocyclopentadiene	26.8U	U,P1,P2,S3	ug/kg	179	26.8	SW846 8270E	1	10/21/2024 19:25	S7M	A
Hexachloroethane	205	P1,P2,S3	ug/kg	89.3	20.5	SW846 8270E	1	10/21/2024 19:25	S7M	A
Indeno(1,2,3-cd)pyrene	15.2U	U,P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Isophorone	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
mp-Cresol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
Naphthalene	131	P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A



Results

Client Sample ID	AC33101-04	Collected	10/02/2024 00:20
Lab Sample ID	3382844003	Lab Receipt	10/11/2024 09:24

SEMIVOLATILES (cont.)

Compound	Result	Flag	Units	RDL	MDL	Method	Dilution	Analysis Date/Time	By	Cntr
Nitrobenzene	30.4U	U,P1,P2,S3	ug/kg	89.3	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
N-Nitroso-di-n-propylamine	15.2U	U,P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
N-Nitrosodiphenylamine	168	P1,P2,S3	ug/kg	89.3	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
o-Cresol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
Pentachlorophenol	43.8U	U,P1,P2,S3	ug/kg	179	43.8	SW846 8270E	1	10/21/2024 19:25	S7M	A
Phenanthrene	541	P1,P2,S3	ug/kg	44.6	15.2	SW846 8270E	1	10/21/2024 19:25	S7M	A
Phenol	30.4U	U,P1,P2,S3	ug/kg	179	30.4	SW846 8270E	1	10/21/2024 19:25	S7M	A
Pyrene	8320	P1,P2,S3	ug/kg	223	75.9	SW846 8270E	5	10/22/2024 20:12	CGS	A

SURROGATES

Compound	CAS No	Recovery	Limits(%)	Analysis Date/Time	Qualifiers
2,4,6-Tribromophenol	118-79-6	62.9%	19 – 132	10/21/2024 19:25	
2-Fluorobiphenyl	321-60-8	70.7%	40 – 110	10/21/2024 19:25	
2-Fluorophenol	367-12-4	42.5%	26 – 116	10/21/2024 19:25	
Nitrobenzene-d5	4165-60-0	60.3%	38 – 112	10/21/2024 19:25	
Phenol-d5	4165-62-2	58.2%	35 – 111	10/21/2024 19:25	
Terphenyl-d14	98904-43-9	80.7%	45 – 126	10/21/2024 19:25	



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3382844001	AC33101-01	SW846 6010C	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8270E	SW846 3546	
3382844002	AC33101-02	SW846 6010C	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8270E	SW846 3546	
3382844003	AC33101-04	SW846 6010C	SW846 3051A	
		SW846 7471B	SW846 7471B	
		SW846 8270E	SW846 3546	



QUALITY CONTROL SAMPLES

METALS

QC Batch

QC Batch1317128

Prep MethodSW846 3051A

Date10/17/2024 10:05

Analysis MethodSW846 6010C

TechMEM

Associated Samples		
3382844001	3382844002	3382844003

Matrix Spike3893223 (MS1)3383018001 (non-Project Sample)For QC Batch1317128

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate3893224 (MSD1)3383018001 (non-Project Sample)For QC Batch1317128

Method Blank3893221 (MB)Created on10/17/2024 09:37For QC Batch1317128

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Arsenic, Total	7440-38-2	BLK	0.67U	mg/kg	2.0	U
Cadmium, Total	7440-43-9	BLK	0.17U	mg/kg	0.50	U
Chromium, Total	7440-47-3	BLK	0.33U	mg/kg	1.0	U
Iron, Total	7439-89-6	BLK	3.3U	mg/kg	10.0	U
Lead, Total	7439-92-1	BLK	0.67U	mg/kg	2.0	U
Manganese, Total	7439-96-5	BLK	0.33U	mg/kg	1.0	U
Selenium, Total	7782-49-2	BLK	1.7U	mg/kg	5.0	U
Zinc, Total	7440-66-6	BLK	0.67U	mg/kg	2.0	U

Lab Control Standard3893222 (LCS1)Created on10/17/2024 09:37For QC Batch1317128

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Arsenic, Total	7440-38-2	LCS	40.6		40	102	80 - 120		
Cadmium, Total	7440-43-9	LCS	21		20	105	80 - 120		
Chromium, Total	7440-47-3	LCS	21.1		20	106	80 - 120		
Iron, Total	7439-89-6	LCS	1080		1000	108	80 - 120		
Lead, Total	7439-92-1	LCS	108		100	108	80 - 120		
Manganese, Total	7439-96-5	LCS	22.4		20	112	80 - 120		
Selenium, Total	7782-49-2	LCS	103		100	103	80 - 120		
Zinc, Total	7440-66-6	LCS	106		100	106	80 - 120		

QC Batch

QC Batch1320490

Prep MethodSW846 7471B

Date10/24/2024 08:01

Analysis MethodSW846 7471B

TechJMS

Associated Samples		
3382844001	3382844002	3382844003



QUALITY CONTROL SAMPLES

METALS (cont.)

Matrix Spike 3895659 (MS) 3383382001 (non-Project Sample) For QC Batch 1320490

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3895660 (MSD) 3383382001 (non-Project Sample) For QC Batch 1320490

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	MS	0.92	0.0037	0.95	96.4	80 - 120		
Mercury, Total	7439-97-6	MSD	0.8	0.0037	0.84	95.6	80 - 120	RPD 13.10 (Max-20)	

Matrix Spike 3895661 (MS) 3383385001 (non-Project Sample) For QC Batch 1320490

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate 3895662 (MSD) 3383385001 (non-Project Sample) For QC Batch 1320490

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	MS	1.1	0.0011	0.95	121*	80 - 120		
Mercury, Total	7439-97-6	MSD	0.83	0.0011	0.89	92.7	80 - 120	RPD 32.30* (Max-20)	

Method Blank 3895657 (MB) Created on 10/23/2024 09:48 For QC Batch 1320490

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Mercury, Total	7439-97-6	BLK	0.016U	mg/kg	0.050	U

Lab Control Standard 3895658 (LCS) Created on 10/23/2024 09:48 For QC Batch 1320490

RESULTS

Compound	CAS No		Result (mg/kg)	Orig. Result (mg/kg)	Spk Added (mg/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Mercury, Total	7439-97-6	LCS	0.39		0.40	98.5	80 - 120		

QUALITY CONTROL SAMPLES

SEMIVOLATILES

QC Batch

Associated Samples

QC Batch	1318932	Prep Method	SW846 3546
Date	10/20/2024 13:30	Analysis Method	SW846 8270E
Tech.	GED		

338284400233828440033382844001

Matrix Spike3894048 (MS)3382843001 (non-Project Sample)For QC Batch 1318932

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate3894049 (MSD)3382843001 (non-Project Sample)For QC Batch 1318932

RESULTS

Compound	CAS No		Result (ug/kg)	Orig. Result (ug/kg)	Spk Added (ug/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
2-Methylnaphthalene	91-57-6	MS	1600	0	2160	74.1	59 - 108		
2-Methylnaphthalene	91-57-6	MSD	1830	0	2360	77.8	59 - 108	RPD 13.80 (Max-21)	
Acenaphthene	83-32-9	MS	1690	0	2160	78.4	61 - 105		
Acenaphthene	83-32-9	MSD	1900	0	2360	80.5	61 - 105	RPD 11.70 (Max-17)	
Acenaphthylene	208-96-8	MS	1440	0	2160	66.6	63 - 106		
Acenaphthylene	208-96-8	MSD	1650	0	2360	70.1	63 - 106	RPD 14.20 (Max-17)	
Anthracene	120-12-7	MS	1790	0	2160	83.3	60 - 107		
Anthracene	120-12-7	MSD	1870	0	2360	79.3	60 - 107	RPD 4.12 (Max-20)	
Benzo(a)anthracene	56-55-3	MS	1870	0	2160	86.8	61 - 113		
Benzo(a)anthracene	56-55-3	MSD	2060	0	2360	87.5	61 - 113	RPD 9.89 (Max-22)	
Benzo(a)pyrene	50-32-8	MS	1880	0	2160	87.2	68 - 121		
Benzo(a)pyrene	50-32-8	MSD	2060	0	2360	87.2	68 - 121	RPD 9.08 (Max-24)	
Benzo(b)fluoranthene	205-99-2	MS	1840	0	2160	85.3	64 - 115		
Benzo(b)fluoranthene	205-99-2	MSD	2080	0	2360	88	64 - 115	RPD 12.20 (Max-28)	
Benzo(g,h,i)perylene	191-24-2	MS	1980	0	2160	91.7	57 - 119		
Benzo(g,h,i)perylene	191-24-2	MSD	2230	0	2360	94.4	57 - 119	RPD 12 (Max-30)	
Benzo(k)fluoranthene	207-08-9	MS	1890	0	2160	87.8	63 - 116		
Benzo(k)fluoranthene	207-08-9	MSD	2020	0	2360	85.7	63 - 116	RPD 6.53 (Max-22)	
Chrysene	218-01-9	MS	1930	0	2160	89.7	65 - 113		
Chrysene	218-01-9	MSD	2100	0	2360	88.9	65 - 113	RPD 8.17 (Max-20)	
Dibenzo(a,h)anthracene	53-70-3	MS	1980	0	2160	91.7	59 - 116		
Dibenzo(a,h)anthracene	53-70-3	MSD	2190	0	2360	93	59 - 116	RPD 10.40 (Max-28)	
Fluoranthene	206-44-0	MS	2000	0	2160	92.7	61 - 114		
Fluoranthene	206-44-0	MSD	1990	0	2360	84.5	61 - 114	RPD 0.19 (Max-21)	
Fluorene	86-73-7	MS	1670	0	2160	77.6	62 - 107		
Fluorene	86-73-7	MSD	1890	0	2360	80	62 - 107	RPD 12 (Max-16)	
Indeno(1,2,3-cd)pyrene	193-39-5	MS	1900	0	2160	88	53 - 118		
Indeno(1,2,3-cd)pyrene	193-39-5	MSD	2140	0	2360	90.8	53 - 118	RPD 12.10 (Max-30)	
Naphthalene	91-20-3	MS	1650	0	2160	76.6	60 - 102		
Naphthalene	91-20-3	MSD	1900	0	2360	80.6	60 - 102	RPD 14.10 (Max-21)	
Phenanthrene	85-01-8	MS	1780	0	2160	82.7	61 - 106		
Phenanthrene	85-01-8	MSD	1770	0	2360	74.9	61 - 106	RPD 0.90 (Max-20)	
Pyrene	129-00-0	MS	1810	0	2160	83.8	62 - 117		
Pyrene	129-00-0	MSD	1940	0	2360	82.3	62 - 117	RPD 7.12 (Max-20)	



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

SURROGATES

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
2-Fluorobiphenyl	321-60-8	MS	1920	2160	89.1	40 - 110	
2-Fluorobiphenyl	321-60-8	MSD	2140	2360	90.9	40 - 110	
Nitrobenzene-d5	4165-60-0	MS	2060	2160	95.4	38 - 112	
Nitrobenzene-d5	4165-60-0	MSD	2170	2360	91.8	38 - 112	
Terphenyl-d14	98904-43-9	MS	2340	2160	109	45 - 126	
Terphenyl-d14	98904-43-9	MSD	2520	2360	107	45 - 126	

Method Blank 3894046 (MB) Created on 10/19/2024 08:06 For QC Batch 1318932

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
1,2,4,5-Tetrachlorobenzene	95-94-3	BLK	17.0U	ug/kg	100	U
1,4-Dioxane	123-91-1	BLK	17.0U	ug/kg	100	U
2,3,4,6-Tetrachlorophenol	58-90-2	BLK	34.0U	ug/kg	200	U
2,4,5-Trichlorophenol	95-95-4	BLK	34.0U	ug/kg	200	U
2,4,6-Trichlorophenol	88-06-2	BLK	34.0U	ug/kg	200	U
2,4-Dichlorophenol	120-83-2	BLK	34.0U	ug/kg	200	U
2,4-Dimethylphenol	105-67-9	BLK	34.0U	ug/kg	200	U
2,4-Dinitrophenol	51-28-5	BLK	198U	ug/kg	400	U
2,4-Dinitrotoluene	121-14-2	BLK	20.0U	ug/kg	100	U
2,6-Dinitrotoluene	606-20-2	BLK	34.0U	ug/kg	100	U
2-Chloronaphthalene	91-58-7	BLK	17.0U	ug/kg	100	U
2-Chlorophenol	95-57-8	BLK	34.0U	ug/kg	200	U
2-Methyl-4,6-dinitrophenol	534-52-1	BLK	50.0U	ug/kg	200	U
2-Methylnaphthalene	91-57-6	BLK	17.0U	ug/kg	100	U
2-Nitroaniline	88-74-4	BLK	23.0U	ug/kg	200	U
2-Nitrophenol	88-75-5	BLK	34.0U	ug/kg	200	U
3,3-Dichlorobenzidine	91-94-1	BLK	31.0U	ug/kg	200	U
3-Nitroaniline	99-09-2	BLK	17.0U	ug/kg	200	U
4-Bromophenyl-phenylether	101-55-3	BLK	17.0U	ug/kg	100	U
4-Chloro-3-methylphenol	59-50-7	BLK	34.0U	ug/kg	200	U
4-Chloroaniline	106-47-8	BLK	17.0U	ug/kg	200	U
4-Chlorophenyl-phenylether	7005-72-3	BLK	17.0U	ug/kg	100	U
4-Nitroaniline	100-01-6	BLK	29.0U	ug/kg	200	U
4-Nitrophenol	100-02-7	BLK	34.0U	ug/kg	200	U
Acenaphthene	83-32-9	BLK	17.0U	ug/kg	50.0	U
Acenaphthylene	208-96-8	BLK	17.0U	ug/kg	50.0	U
Acetophenone	98-86-2	BLK	17.0U	ug/kg	100	U
Anthracene	120-12-7	BLK	17.0U	ug/kg	50.0	U
Atrazine	1912-24-9	BLK	17.0U	ug/kg	100	U
Benzaldehyde	100-52-7	BLK	20.0U	ug/kg	200	U
Benzo(a)anthracene	56-55-3	BLK	17.0U	ug/kg	50.0	U
Benzo(a)pyrene	50-32-8	BLK	17.0U	ug/kg	50.0	U
Benzo(b)fluoranthene	205-99-2	BLK	17.0U	ug/kg	50.0	U
Benzo(g,h,i)perylene	191-24-2	BLK	17.0U	ug/kg	50.0	U



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

RESULTS

Compound	CAS No		Result	Units	RDL	Qualifiers
Benzo(k)fluoranthene	207-08-9	BLK	17.0U	ug/kg	50.0	U
Biphenyl	92-52-4	BLK	17.0U	ug/kg	100	U
bis(2-Chloroethoxy)methane	111-91-1	BLK	17.0U	ug/kg	100	U
bis(2-Chloroethyl)ether	111-44-4	BLK	17.0U	ug/kg	100	U
bis(2-Chloroisopropyl)ether	108-60-1	BLK	17.0U	ug/kg	100	U
bis(2-Ethylhexyl)phthalate	117-81-7	BLK	22.0U	ug/kg	100	U
Butylbenzylphthalate	85-68-7	BLK	17.0U	ug/kg	100	U
Caprolactam	105-60-2	BLK	39.0U	ug/kg	200	U
Carbazole	86-74-8	BLK	17.0U	ug/kg	100	U
Chrysene	218-01-9	BLK	17.0U	ug/kg	50.0	U
Dibenzo(a,h)anthracene	53-70-3	BLK	17.0U	ug/kg	50.0	U
Dibenzofuran	132-64-9	BLK	17.0U	ug/kg	100	U
Diethylphthalate	84-66-2	BLK	17.0U	ug/kg	100	U
Dimethylphthalate	131-11-3	BLK	17.0U	ug/kg	100	U
Di-n-Butylphthalate	84-74-2	BLK	35.0U	ug/kg	100	U
Di-n-Octylphthalate	117-84-0	BLK	17.0U	ug/kg	100	U
Fluoranthene	206-44-0	BLK	17.0U	ug/kg	50.0	U
Fluorene	86-73-7	BLK	17.0U	ug/kg	50.0	U
Hexachlorobenzene	118-74-1	BLK	17.0U	ug/kg	100	U
Hexachlorobutadiene	87-68-3	BLK	17.0U	ug/kg	100	U
Hexachlorocyclopentadiene	77-47-4	BLK	30.0U	ug/kg	200	U
Hexachloroethane	67-72-1	BLK	23.0U	ug/kg	100	U
Indeno(1,2,3-cd)pyrene	193-39-5	BLK	17.0U	ug/kg	50.0	U
Isophorone	78-59-1	BLK	17.0U	ug/kg	100	U
mp-Cresol	108394/106445	BLK	34.0U	ug/kg	200	U
Naphthalene	91-20-3	BLK	17.0U	ug/kg	50.0	U
Nitrobenzene	98-95-3	BLK	34.0U	ug/kg	100	U
N-Nitroso-di-n-propylamine	621-64-7	BLK	17.0U	ug/kg	100	U
N-Nitrosodiphenylamine	86-30-6	BLK	17.0U	ug/kg	100	U
o-Cresol	95-48-7	BLK	34.0U	ug/kg	200	U
Pentachlorophenol	87-86-5	BLK	49.0U	ug/kg	200	U
Phenanthrene	85-01-8	BLK	17.0U	ug/kg	50.0	U
Phenol	108-95-2	BLK	34.0U	ug/kg	200	U
Pyrene	129-00-0	BLK	17.0U	ug/kg	50.0	U

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	BLK	4460	5000	89.2	19 - 132	
2-Fluorobiphenyl	321-60-8	BLK	2230	2500	89.1	40 - 110	
2-Fluorophenol	367-12-4	BLK	4470	5000	89.3	26 - 116	
Nitrobenzene-d5	4165-60-0	BLK	2310	2500	92.2	38 - 112	
Phenol-d5	4165-62-2	BLK	5190	5000	104	35 - 111	
Terphenyl-d14	98904-43-9	BLK	3060	2500	122	45 - 126	



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

Lab Control Standard			3894047 (LCS)		Created on 10/19/2024 08:06		For QC Batch 1318932		
RESULTS									
Compound	CAS No		Result (ug/kg)	Orig. Result (ug/kg)	Spk Added (ug/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
1,2,4,5-Tetrachlorobenzene	95-94-3	LCS	1930		2500	77.1	51 - 102		
1,4-Dioxane	123-91-1	LCS	1610		2500	64.6	24 - 104		
2,3,4,6-Tetrachlorophenol	58-90-2	LCS	4430		5000	88.5	55 - 111		
2,4,5-Trichlorophenol	95-95-4	LCS	4760		5000	95.2	60 - 108		
2,4,6-Trichlorophenol	88-06-2	LCS	4540		5000	90.8	59 - 111		
2,4-Dichlorophenol	120-83-2	LCS	4860		5000	97.1	61 - 109		
2,4-Dimethylphenol	105-67-9	LCS	5270		5000	105	59 - 133		
2,4-Dinitrophenol	51-28-5	LCS	5060		5000	101	28 - 135		
2,4-Dinitrotoluene	121-14-2	LCS	1870		2500	74.7	62 - 115		
2,6-Dinitrotoluene	606-20-2	LCS	1910		2500	76.3	61 - 114		
2-Chloronaphthalene	91-58-7	LCS	1810		2500	72.5	59 - 104		
2-Chlorophenol	95-57-8	LCS	5070		5000	101	61 - 106		
2-Methyl-4,6-dinitrophenol	534-52-1	LCS	5530		5000	111	39 - 113		
2-Methylnaphthalene	91-57-6	LCS	1930		2500	77.2	59 - 108		
2-Nitroaniline	88-74-4	LCS	1900		2500	76.2	60 - 115		
2-Nitrophenol	88-75-5	LCS	4820		5000	96.5	60 - 114		
3,3-Dichlorobenzidine	91-94-1	LCS	2960		5000	59.3	25 - 104		
3-Nitroaniline	99-09-2	LCS	2010		2500	80.5	52 - 119		
4-Bromophenyl-phenylether	101-55-3	LCS	1860		2500	74.5	60 - 110		
4-Chloro-3-methylphenol	59-50-7	LCS	5090		5000	102	59 - 115		
4-Chloroaniline	106-47-8	LCS	1910		2500	76.4	42 - 111		
4-Chlorophenyl-phenylether	7005-72-3	LCS	2010		2500	80.4	59 - 107		
4-Nitroaniline	100-01-6	LCS	1820		2500	72.9	49 - 121		
4-Nitrophenol	100-02-7	LCS	5120		5000	102	53 - 124		
Acenaphthene	83-32-9	LCS	1940		2500	77.7	61 - 105		
Acenaphthylene	208-96-8	LCS	1610		2500	64.6	63 - 106		
Acetophenone	98-86-2	LCS	1890		2500	75.5	33 - 98		
Anthracene	120-12-7	LCS	1960		2500	78.5	60 - 107		
Atrazine	1912-24-9	LCS	1920		2500	76.7	62 - 116		
Benzaldehyde	100-52-7	LCS	2140		2500	85.4	46 - 115		
Benzo(a)anthracene	56-55-3	LCS	1970		2500	78.7	61 - 113		
Benzo(a)pyrene	50-32-8	LCS	1950		2500	77.9	68 - 121		
Benzo(b)fluoranthene	205-99-2	LCS	2010		2500	80.2	64 - 115		
Benzo(g,h,i)perylene	191-24-2	LCS	2000		2500	80.1	57 - 119		
Benzo(k)fluoranthene	207-08-9	LCS	2100		2500	83.8	63 - 116		
Biphenyl	92-52-4	LCS	1940		2500	77.5	56 - 100		
bis(2-Chloroethoxy)methane	111-91-1	LCS	2250		2500	89.9	56 - 112		
bis(2-Chloroethyl)ether	111-44-4	LCS	2030		2500	81.3	51 - 109		
bis(2-Chloroisopropyl)ether	108-60-1	LCS	2150		2500	86	38 - 120		
bis(2-Ethylhexyl)phthalate	117-81-7	LCS	2140		2500	85.4	51 - 130		
Butylbenzylphthalate	85-68-7	LCS	2180		2500	87.2	58 - 125		
Caprolactam	105-60-2	LCS	2070		2500	82.7	51 - 119		
Carbazole	86-74-8	LCS	1850		2500	73.9	66 - 117		
Chrysene	218-01-9	LCS	2060		2500	82.3	65 - 113		



QUALITY CONTROL SAMPLES

SEMIVOLATILES (cont.)

RESULTS

Compound	CAS No		Result (ug/kg)	Orig. Result (ug/kg)	Spk Added (ug/kg)	Rec. (%)	Limits (%)	RPD Limit (%)	Qualifiers
Dibenzo(a,h)anthracene	53-70-3	LCS	1900		2500	75.9	59 - 116		
Dibenzofuran	132-64-9	LCS	1820		2500	72.9	62 - 106		
Diethylphthalate	84-66-2	LCS	2010		2500	80.4	59 - 112		
Dimethylphthalate	131-11-3	LCS	1990		2500	79.5	60 - 111		
Di-n-Butylphthalate	84-74-2	LCS	2100		2500	83.9	62 - 125		
Di-n-Octylphthalate	117-84-0	LCS	2210		2500	88.3	47 - 134		
Fluoranthene	206-44-0	LCS	1890		2500	75.7	61 - 114		
Fluorene	86-73-7	LCS	1900		2500	76.2	62 - 107		
Hexachlorobenzene	118-74-1	LCS	1860		2500	74.2	56 - 111		
Hexachlorobutadiene	87-68-3	LCS	2210		2500	88.2	56 - 127		
Hexachlorocyclopentadiene	77-47-4	LCS	1480		2500	59	20 - 124		
Hexachloroethane	67-72-1	LCS	2010		2500	80.3	57 - 101		
Indeno(1,2,3-cd)pyrene	193-39-5	LCS	1810		2500	72.2	53 - 118		
Isophorone	78-59-1	LCS	2070		2500	83	41 - 101		
mp-Cresol	108394/106445	LCS	5460		5000	109	60 - 109		
Naphthalene	91-20-3	LCS	1920		2500	76.6	60 - 102		
Nitrobenzene	98-95-3	LCS	2040		2500	81.4	52 - 113		
N-Nitroso-di-n-propylamine	621-64-7	LCS	2210		2500	88.3	50 - 121		
N-Nitrosodiphenylamine	86-30-6	LCS	2380		2500	95.1	73 - 129		
o-Cresol	95-48-7	LCS	5030		5000	101	61 - 108		
Pentachlorophenol	87-86-5	LCS	5770		5000	115	46 - 138		
Phenanthrene	85-01-8	LCS	1920		2500	76.9	61 - 106		
Phenol	108-95-2	LCS	5010		5000	100	57 - 110		
Pyrene	129-00-0	LCS	2100		2500	83.8	62 - 117		

SURROGATES

Compound	CAS No		Result (ug/kg)	Expected (ug/kg)	Rec. (%)	Limits (%)	Qualifiers
2,4,6-Tribromophenol	118-79-6	LCS	4260	5000	85.2	19 - 132	
2-Fluorobiphenyl	321-60-8	LCS	2110	2500	84.2	40 - 110	
2-Fluorophenol	367-12-4	LCS	4190	5000	83.8	26 - 116	
Nitrobenzene-d5	4165-60-0	LCS	2210	2500	88.3	38 - 112	
Phenol-d5	4165-62-2	LCS	4730	5000	94.7	35 - 111	
Terphenyl-d14	98904-43-9	LCS	2760	2500	110	45 - 126	



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	Preparation Method	Prep Batch	Prep Date/Time	By	Analysis Method	Anly Batch
3382844001	AC33101-01	SW846 3051A	1317128	10/17/2024 10:05	MEM	SW846 6010C	1318062
		SW846 7471B	1320490	10/24/2024 08:01	JMS	SW846 7471B	1321252
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1320102
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1319871
3382844002	AC33101-02	SW846 3051A	1317128	10/17/2024 10:05	MEM	SW846 6010C	1318062
		SW846 7471B	1320490	10/24/2024 08:01	JMS	SW846 7471B	1321252
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1319871
3382844003	AC33101-04	SW846 3051A	1317128	10/17/2024 10:05	MEM	SW846 6010C	1318062
		SW846 7471B	1320490	10/24/2024 08:01	JMS	SW846 7471B	1321252
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1319871
		SW846 3546	1318932	10/20/2024 13:30	GED	SW846 8270E	1320102



Needham Crumb Rubber



Presented by: Evan Koncewicz & Neal Kelly
Month 06, 2025

Introductions



Evan Koncewicz

Environmental Geologist



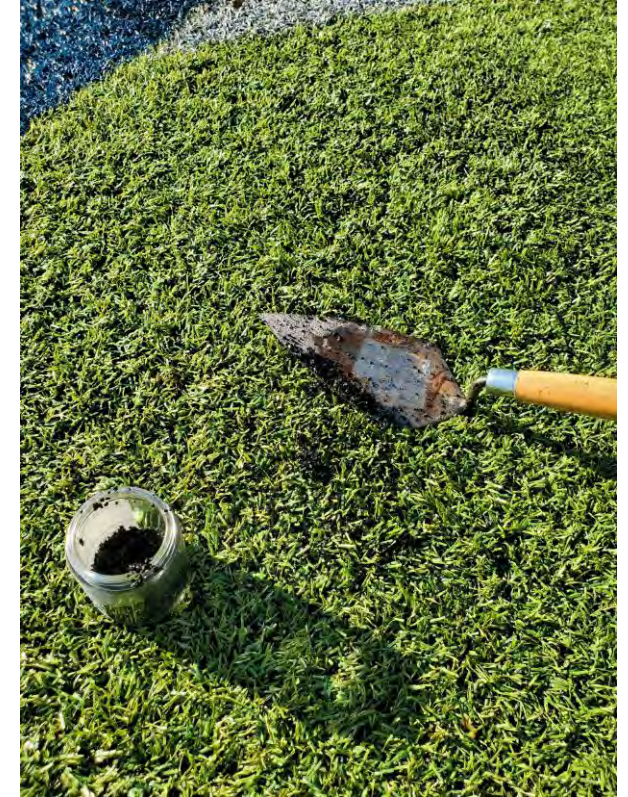
Neal Kelly

Associate, LSP

- **Environmental** – Phase I Environmental Site Assessments (ESAs), Phase II ESAs, Massachusetts Contingency Plan (MCP) Compliance, Brownfields, Soil Management, PFAS, etc.
- **Other Services:** Civil Engineering, Hazardous Building Materials (Inspections and Survey), Water & Natural Resources (Climate Resilience & Permitting), Transportation (Traffic and Roadway Design), Wastewater (Permitting & Design), & Mechanical Engineering

About the Project

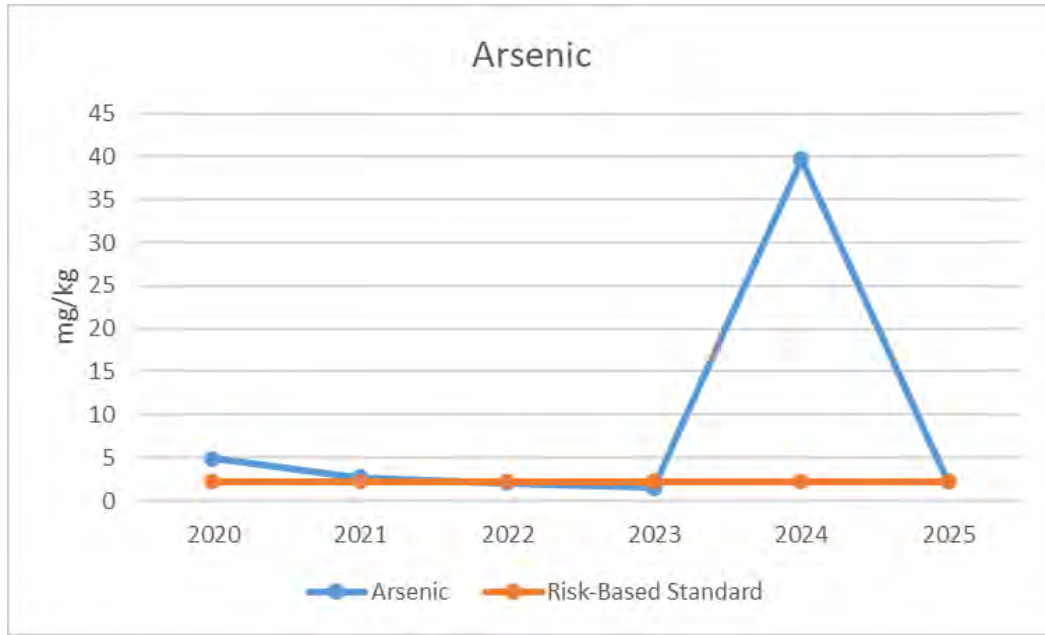
- Began sampling crumb rubber within turf fields in 2009.
 - Memorial Field at Needham High School & Founders and Brock Field at DeFazio Park.
- Two laboratory tests
 - VOCs: Closed Container Test
 - Metals and SVOCs: Dry Weight
- Started in 2020 with updated risk-based standards.
 - 2009 – 2018: OSHA PELs
 - 2020 – 2025: Risk-based standards



Standards & Results

- Risk-based standards based on MassDEP residential soil standards:
 - Publicly-available data
 - Typical background in New England soil
 - Ceiling concentrations (maximum concentrations set for compounds of limited toxicity)
 - Practically quantification levels (PQLs)
- We utilized MassDEP Excess Lifetime Cancer Risk (ELCR) and Hazard Index (HI) Concentrations utilizing MassDEP's Method 3 Residential Shortform for Human Health Risk, where promulgated.
- VOCs and SVOCs were detected, however no compounds were above risk-based levels except:
 - Acetone (2021) & Acetaldehyde (2023)
- All metals were below risk-based standards, except for arsenic and zinc.

Results



- Arsenic concentrations were not detected (ND) above laboratory reporting limits, but were above risk-based standards
 - NDs generally relate to an equipment/instrument's calibration and matrix interference for each analytical method.



- Zinc concentrations were detected above laboratory reporting limits, generally around risk-based standards

Summary

- Our Results:
 - Several VOC, SVOC, and Metal compounds are detected above laboratory reporting limits. Select VOCs and Metals were detected above risk-based standards.
- U.S. EPA & CDC/ATSDR. (2024). Synthetic Turf Field Recycled Tire Crumb Rubber Research Under the Federal Research Action Plan Final Report
 - “In general, the findings from the entire playing fields portion of the FRAP (Federal Research Action Plan on Recycled Tire Crumb Used on Playing Fields and Playgrounds) activities support the conclusion that although chemicals are present (as expected) in the tire crumb rubber and exposures can occur, they are likely limited...”
 - “Lead and Zinc exposures from residential plus dietary sources were estimated to be over 100 times higher than modeled exposure estimates for synthetic turf field users...”
- McKee, G. (2015). The Health Implications of Synthetic Turf Fields with Crumb Rubber Infill
 - “Given the current available evidence it is concluded that the existing information does not suggest that synthetic turf fields have a substantive independent effect on human health.”

Thank You

Evan Koncewicz

518.915.9626

evan.koncewicz@fando.com

www.fando.com

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Board of Health Town of Needham AGENDA FACT SHEET

MEETING DATE: June 20, 2025

Agenda Item	Nicotine Pouches – Public Hearing & Board Vote
Presenter(s)	• Karen Shannon, Substance Use Program Coordinator • Tara Gurge, Assistant Director of Public Health • Sai Palani, Environmental Health Agent • Cheryl Sbarra, Esq., Executive Director and Senior Staff Attorney, MA Association of Health Boards • Lisa Stevens Goodnight, Esq., Tobacco Control Director, MA Municipal Association

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED
Review of: 1. Draft changes to Board of Health Article 1, Regulation Affecting Smoking and the Sale and Distribution of Tobacco Products in Needham, and language that pertains to the sale of nicotine pouches. 2. NPHD Memorandum on flavored tobacco product testing. 3. Nicotine Pouches Power Point (Sbarra, 2025)	
2.	VOTE REQUIRED BY BOARD OF HEALTH
Suggested Motion: That the Board of Health [close/ hold open] the hearing on the proposed amendments to Article 1, to be further discussed and likely voted upon at the Board's next meeting.	
3.	BACK UP INFORMATION:
1. Draft changes to Article 1: Section G 2. NPHD Memo – Flavored Tobacco Product Testing 6.10.25 3. Nicotine Pouches, Cheryl Sbarra MAHB Presentation 4. CDC Foundation Brief of Nicotine Pouches – MA only and National	



**Needham Public
Health Division**
Prevent. Promote. Protect.

Board of Health

Edward Cosgrove, PhD Stephen Epstein, MD, MPP Tejal K. Gandhi, MD, MPH

Robert Partridge, MD, MPH Aarti Sawant-Basak, PhD

ARTICLE 1

Regulation Affecting Smoking and the Sale and Distribution of Tobacco Products in Needham

A. Statement of Purpose:

Whereas, there exists conclusive evidence that tobacco smoking causes cancer, respiratory and cardiac diseases, negative birth outcomes, irritations to the eyes, nose and throat;¹

Whereas, the U.S. Department of Health and Human Services has concluded that nicotine is as addictive as cocaine or heroin² and the Surgeon General found that nicotine exposure during adolescence, a critical window for brain development, may have lasting adverse consequences for brain development,³ and that it is addiction to nicotine that keeps youth smoking past adolescence;⁴

Whereas, a Federal District Court found that Phillip Morris, RJ Reynolds and other leading cigarette manufacturers “spent billions of dollars every year on their marketing activities in order to encourage young people to try and then continue purchasing their cigarette products in order to provide the replacement smokers they need to survive” and that these companies were likely to continue targeting underage smokers;⁵

¹ U.S. Center for Disease Control and Prevention (CDC), *Health Effects of Cigarette Smoking Fact Sheet* (2021), https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm.

² CDC, *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease*, (2010), http://www.cdc.gov/tobacco/data_statistics/sgr/2010/.

³ U.S. Dep’t of Health and Hum. Servs., *The Health Consequences of Smoking – 50 Years of Progress: A Report of the Surgeon General* at 122 (2014), <http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>.

⁴ *Id.*, at 13 (Executive Summary).

⁵ *United States v. Phillip Morris*, 449 F.Supp.2d 1, 1605-07 (D.D.C. 2006).

Whereas, the majority (90%) of smokers begin smoking before the age of 25, and over 5 million youth and young adults (ages 25 and under) smoke;⁶

Whereas, cigars and cigarillos, can be sold in a single “dose;” and enjoy a relatively low tax as compared to cigarettes;⁷

Whereas, spitless tobacco sales have increased from 100,000 units a year in 2018 to over 700,000 units a year by 2023;⁸

Whereas, nicotine use in any form during adolescence can cause addiction and can harm parts of the brain that control attention, learning, memory, mood, and impulse control. Nicotine use may also increase adolescents’ risk of future addiction to other drugs;⁹

Whereas more than 90 percent of all adult smokers begin smoking before the age of 18. In 2023, 22.2% of U.S. middle and high school students reported ever using any tobacco product, corresponding to 6.21 million persons, and 10% or 2.8 million middle and high school students reported current tobacco use;¹⁰

According to the 2021 National Youth Tobacco Survey (NYTS), 17.1% of current youth smokers reported directly purchasing cigarettes from a gas station or convenience store and 7.0% reported directly purchasing cigarettes from a vape shop or tobacco shop;¹¹

Whereas the Institute of Medicine (IOM) concludes that raising the minimum age of legal access to tobacco products to 21 will likely reduce tobacco initiation, particularly among adolescents 15 – 17, which would improve health across the lifespan and save lives;¹²

Whereas the 2023 MetroWest Adolescent Health Survey (MHAWS) results show that 2% of Needham high school students used cigarettes on at least one day of the 30 days before the survey, compared with 3% of students in 2021. And whereas the 2023 MetroWest Adolescent Health Survey (MHAWS) results show that 10% of Needham high school students used cigarettes in their lifetime, compared with 9% of students in 2021;

⁶ Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, *Key substance use and mental health indicators in the United States: Results from the 2020 National Survey on Drug Use and Health* (HHS Publication No. PEP21-07-01-003, NSDUH Series H-56) (2021) (Retrieved from <https://www.samhsa.gov/data/>).

⁷ CDC, *Youth Risk Behavior, Surveillance Summaries* (MMWR 2010: 59, 12, note 5) (2009) (Retrieved from: <http://www.cdc.gov/mmwr/pdf/ss/ss5905.pdf>).

⁸ Massachusetts Dept. of Public Health, *Updated Presentation: Monitoring the Impacts of MA Flavored Tobacco Law* (2024).

⁹ Campaign for Tobacco Free Kids, *The Rise of Products Using Synthetic Nicotine* (2021) (<https://assets.tobaccofreekids.org/factsheets/0420.pdf>)

¹⁰ Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC; ²Center for Tobacco Products, Food and Drug Administration, Silver Spring, Maryland.

¹¹ 2021 National Youth Survey, <https://www.cdc.gov/mmwr/volumes/71/ss/ss7105a1.htm>

¹² IOM (Institute of Medicine) 2015. *Public Health Implications of Raising the Minimum Age of Legal Access to Tobacco Products*. Washington DC: The National Academies Press, 2015.

Whereas, data from the 2023 MetroWest Adolescent Health Survey shows 9.6% of Needham High School students and 11.1% of high school students from 24 communities in the Metro West Region used any nicotine products in the past 30 days (cigarettes, smokeless tobacco, cigars, pouches, gum or electronic vapor products);

Whereas use of e-cigarettes among students in Massachusetts is 16%, representing a decrease of 1.5% for highschoolers between 2021 and 2023. Middle school 30-day use remained the same at 4.9 between 2021 and 2023;¹³

Whereas 16% of Massachusetts youth currently use e-cigarettes and 30.4% have tried them¹⁴ and in Needham 8.6% of Needham high school students currently use e-cigarettes and 17% of those students have tried e-cigarettes once in their lifetime, according to the 2023 MetroWest Adolescent Health Survey (MWAHS);¹⁵

Whereas, spitless tobacco, in particular nicotine salt packages, provides a discrete, cheap nicotine delivery system;¹⁶

Whereas, the Surgeon General found that exposure to tobacco marketing in stores and price discounting increase youth smoking;¹⁷

Whereas, the U.S. Food and Drug Administration and the U.S. Surgeon General have stated that flavored tobacco products are “starter” products that help establish smoking habits that can lead to long-term addiction;¹⁸

Whereas, the U.S. Surgeon General recognized in his 2014 report that a complementary strategy to assist in eradicating tobacco-related death and disease is for local governments to ban categories of products from retail sale;¹⁹

Whereas, the Massachusetts Department of Environmental Protection has classified liquid nicotine in any amount as an “acutely hazardous waste”;²⁰

Whereas, research indicates that the density and proximity of tobacco retailers increase smoking behaviors, including number of cigarettes smoked per day, reduced smoking abstinence during a quit attempt, and increased smoking prevalence among youth;²¹

¹³ Massachusetts Department of Public Health, Massachusetts Youth Health Survey (MYHS) 2023

¹⁴ Massachusetts Department of Public Health, 2023 Massachusetts Youth Health Survey (MYHS)

¹⁵ MetroWest Adolescent Health Survey: Needham High School Reports 2023

¹⁶ Ibid.

¹⁷ U.S. Dep’t of Health and Human Servs., *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General* 508, 530 (2012) (www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf).

¹⁸ Food and Drug Administration, *Fact Sheet: Flavored Tobacco Products* (2011), www.fda.gov/downloads/TobaccoProducts/ProtectingKidsfromTobacco/FlavoredTobacco/UCM183214.pdf; U.S. Dep’t of Health and Human Services, *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General*, 508, 539 (2012) (www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/full-report.pdf).

¹⁹ See fn. 3 at p. 85.

²⁰ 310 CMR 30.136

²¹ Ying-Chih Chuang et al., *Effects of neighbourhood socioeconomic status and convenience store concentration on individual level smoking*, 59(7) J. Epidemiol. Cmty Health 568 (2005) (doi: 10.1136/jech.2004.029041); Shelley D. Golden et al., *County-level associations between tobacco retailer density and smoking prevalence in the USA, 2012*, 17 (101005) Prev. Med. Rep. (Mar. 2020)

Whereas, the density of tobacco retailers near adolescents' homes has been associated with increased youth smoking rates and initiation of non-cigarette tobacco product use;²²

Whereas, tobacco retailers are more prevalent in underserved communities, especially in neighborhoods with a higher proportion of African American or Hispanic residents;²³

Whereas, policies to reduce tobacco retailer density have been shown to be effective and can reduce or eliminate social and racial inequities in the location and distribution of tobacco retailers;²⁴

Whereas, the Massachusetts Supreme Judicial Court has held that “. . . [t]he right to engage in business must yield to the paramount right of government to protect the public health by any rational means.”²⁵

Now, therefore it is the intention of the Needham Board of Health to regulate the sale of tobacco products.

B. Authority:

This regulation is promulgated pursuant to the authority granted to the Needham Board of Health by Massachusetts General Laws Chapter 111, Section 31 which states that "Boards of health may make reasonable health regulations".

C. Definitions:

For the purpose of this regulation, the following words shall have the following meanings:

(doi: 10.1016/j.pmedr.2019.101005); Eric C. Leas et al., *Place-Based Inequity in Smoking Prevalence in the Largest Cities in the United States*, 179(3) JAMA Intern Med., 442 (2019) (doi: 10.1001/jamainternmed.2018.5990); JG Lee et al., *Associations of tobacco retailer density and proximity with adult tobacco use behaviors and health outcomes: a meta-analysis*. Tobacco Control. Published Online First: 03 September 2021; LR Reitzel et al., *The effect of tobacco outlet density and proximity on smoking cessation*. American Journal of Public Health. 2011, 101(2):315-320; L Henriksen et al., *Is adolescent smoking related to the density and proximity of tobacco retailers and retail cigarette advertising near schools?* Preventive Medicine. 2008, 47(2): 210-4.

²² LJ Finan et al., *Tobacco Outlet Density and Adolescents' Cigarette Smoking: A Meta-Analysis*, 28(1) Tob Control. 27 (2019) (doi: 10.1136/tobaccocontrol-2017-054065); Abdel Magid HS et al., *Tobacco Retail Density and Initiation of Alternative Tobacco Product Use Among Teens*, 66(4) J. Adolescent Health 423 (2020) (doi: 10.1016/j.jadohealth.2019.09.004).

²³ Siahpush M. et al., *Association of availability of tobacco products with socio-economic and racial/ethnic characteristics of neighbourhoods*, 124(9) Pub. Health 525 (2010) (doi: 10.1016/j.puhe.2010.04.010); Lee JG, et al., *Inequalities in tobacco outlet density by race, ethnicity and socioeconomic status, 2012, USA: results from the ASPIRE Study*, 71(5) J. Epidemiol Cmty Health 487 (2017) (doi: 10.1136/jech-2016-208475); D.O. Fakunle et al., *Black, White, or Green? The Effects of Racial Composition and Socioeconomic Status on Neighborhood-Level Tobacco Outlet Density*, Ethn Health. 1 (2019) (doi: 10.1080/13557858.2019.1620178).

²⁴ Ribisl KM, et al., *Reducing Disparities in Tobacco Retailer Density by Banning Tobacco Product Sales Near Schools*, 19(2) Nicotine Tobacco Res. 239 (2017) (doi: 10.1093/ntr/ntw185); HG, Henry et al., *Tobacco Retail Licensing and Density 3 Years After License Regulations in Philadelphia, Pennsylvania (2012-2019)*, 110 (4) Am J. Pub. Health 547 (2020) (doi: 10.2105/AJPH.2019.305512); A.E. Myers et al., *A comparison of three policy approaches for tobacco retailer reduction*, 74 Prev. Med. 67(2015) (doi: 10.1016/j.ypmed.2015.01.025).

²⁵ *Druzik et al v. Board of Health of Haverhill*, 324 Mass. 129 (1949).

Adult-Only Retail Tobacco Store (also known as “Retail Tobacco Store” in G.L. c. 270): An establishment that is not adjoined, that has a separate entrance not used by any other retailer, that does not sell food, beverages or alcohol, that does not have a lottery license, whose only purpose is to sell or offer for retail sale tobacco products and/or tobacco product paraphernalia, in which the entry of persons under the age of 21 is prohibited at all times, and which maintains a valid permit for the retail sale of tobacco products from the Needham Board of Health and applicable state licenses. The entrance to the establishment must be secure so that access to the establishment is restricted to employees and to those 21 years or older. The establishment shall not allow anyone under the age of 21 to work at the establishment. As of the effective date of this regulation, no new adult-only retail tobacco stores shall be located within twenty-five (25) feet of a retailer with a tobacco product sales permit.

Blunt Wrap: Any product made wholly or in part from a tobacco product, manufactured or packaged with loose and removable leaves or section of a leaf, or as a hollow tube, that may be used by the consumer to wrap or contain loose tobacco or other fillers.

Bona Fide Purchaser for Value: A bona fide purchaser is someone who exchanges value for property without any reason to expect irregularities in the transaction.

Business Agent: An individual who has been designated by the owner or operator of any establishment to be the manager or otherwise in charge of said establishment.

Characterizing flavor: A distinguishable taste or aroma, other than the taste or aroma of tobacco, imparted or detectable either prior to or during consumption of a tobacco product or component part thereof, including, but not limited to, tastes or aromas relating to any fruit, chocolate, vanilla, honey, candy, cocoa, dessert, alcoholic beverage, menthol, mint, wintergreen, herb or spice; provided, however, that no tobacco product shall be determined to have a characterizing flavor solely because of the provision of ingredient information or the use of additives or flavorings that do not contribute to the distinguishable taste or aroma of the product.

Child-Resistant Package: Packaging intended to reduce the risk of a child ingesting nicotine and that meets the minimum standards of 16 C.F.R. 1700 *et seq.*, pursuant to 15 U.S.C. 1471 through 1476.

Cigar: Any roll of tobacco that is wrapped in leaf tobacco or in any substance containing tobacco, with or without a tip or mouthpiece, that is in a readily usable state immediately when removed from its packaging without any modification, preparation or assembly required as in a kit or roll-your-own package and is not otherwise defined as a cigarette under G.L. c. 64C, §1, Paragraph 1. Tobacco leaf in kits or roll-your-own packages shall be considered “blunt wraps” for the purpose of this regulation.

Component part: Any element of a tobacco product, including, but not limited to, the tobacco, filter and paper, but not including any constituent.

Constituent: Any ingredient, substance, chemical or compound, other than tobacco, water or reconstituted tobacco sheet, that is added by the manufacturer to a tobacco product during the processing, manufacturing or packaging of the tobacco product.

Coupon: Any card, paper, note, form, statement, ticket or other communication distributed for commercial or promotional purposes to be surrendered to receive an article, service or accommodation without charge or at a discount price.

Distinguishable: Perceivable by either the sense of smell or taste.

Educational Institution: Any public or private college, school, professional school, scientific or technical institution, university or other institution furnishing a program of higher education.

Electronic Nicotine Delivery System: An electronic device, whether for one-time use or reusable, that can be used to deliver nicotine or another substance to a person inhaling from the device including, but not limited to, electronic cigarettes, electronic cigars, electronic cigarillos, electronic pipes, vaping pens, hookah pens and other similar devices that rely on vaporization or aerosolization; provided, however, that “electronic nicotine delivery system” shall also include any noncombustible liquid or gel that is manufactured into a finished product for use in such electronic device; provided further, that “electronic nicotine delivery system” shall also include any component, part or accessory of a device used during the operation of the device even if the part or accessory was sold separately; provided further, that “electronic nicotine delivery system” shall not include a product that has been approved by the United States Food and Drug Administration for the sale of or use as a tobacco cessation product or for other medical purposes and is marketed and sold or prescribed exclusively for that approved purpose.

Employee: Any individual who performs services for an employer.

Employer: Any individual, partnership, association, corporation, trust or other organized group of individuals that uses the services of one (1) or more employees.

Flavored Tobacco Product: Any tobacco product or component part thereof that contains a constituent that has or produces a characterizing flavor. A public statement, claim or indicia made or disseminated by the manufacturer of a tobacco product, or by any person authorized or permitted by the manufacturer to make or disseminate public statements concerning such tobacco product, that such tobacco product has or produces a characterizing flavor shall constitute presumptive evidence that the tobacco product is a Flavored Tobacco Product.

Health Care Institution: An individual, partnership, association, corporation or trust or a person or group of persons who provides health care services and employs health care providers subject to licensing under this chapter; or a retail establishment that sells pharmaceutical goods and services and is subject to regulation by the board of registration in pharmacy. Health care institutions include but are not limited to hospitals, clinics, health centers, pharmacies, drug stores, doctors' offices, and dental offices.

Liquid Nicotine Container: A package:

- (i) from which nicotine in a solution or other form is accessible through normal and foreseeable use by a consumer; and
- (ii) that is used to hold a soluble nicotine in any concentration; provided however, that "liquid nicotine container" shall not include a sealed, prefilled and disposable container of nicotine in a solution or other form in which the container is inserted directly into an electronic cigarette, electronic nicotine delivery system or other similar product if the nicotine or other substance in the container is inaccessible through customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion or other contact by children.

Listed or non-discounted price: The higher of the price listed for a tobacco product on its package or the price listed on any related shelving, posting, advertising or display at the place where the tobacco product is sold or offered for sale plus all applicable taxes if such taxes are not included in the state price, and before the application of any discounts or coupons.

Manufacturer Documentation: A written document from a manufacturer that certifies which of each of its products is not flavored, as defined under Massachusetts law and these regulations. Manufacturer Documentation shall also mean a written document from a manufacturer that certifies the nicotine content expressed as milligrams per milliliter for each of its Electronic Nicotine Delivery System products. A manufacturer documentation must:

1. Be written by the manufacturer of the product(s).
2. Certify that the product(s) listed in the documentation are neither flavored nor have a characterizing flavor as defined by 105 CMR 665.005.
3. Include an attestation clause indicating that the "letter is true and accurate."
4. State that the "manufacturer will immediately provide an updated letter to correct any inaccuracy."
5. State that the person signing the letter "is authorized on behalf of the manufacturer to sign the letter."

6. Contain a signature of the manufacturer's corporate officer or an owner; and
7. For any Electronic Nicotine Delivery System product, certify that it does not have a nicotine content greater than 35 milligrams per milliliter. The content amount must be in "milligrams per milliliter." If the nicotine content is documented in a separate letter, the above-listed requirements must be included in that separate letter.

Note that a Manufacturer's Documentation IS NOT conclusive evidence that a product is unflavored. A board of health may conduct a smell/taste test to determine if a manufacturer's documentation misrepresents whether a product is flavored.

Non-Residential Roll-Your-Own (RYO) Machine: A mechanical device made available for use (including to an individual who produces cigars, cigarettes, smokeless tobacco, pipe tobacco, or roll-your-own tobacco solely for the individual's own personal consumption or use) that is capable of making cigarettes, cigars or other tobacco products. RYO machines located in private homes used for solely personal consumption are not Non-Residential RYO machines.

Oral Nicotine Pouches: Pre-portioned pouches containing nicotine and other ingredients, intended to be used between the cheek and gum to deliver nicotine.

Permit Holder: Any retailer engaged in the sale or distribution of tobacco products who applies for and receives a tobacco product sales permit or any person who is required to apply for a Tobacco Product Sales Permit pursuant to these regulations, or their business agent.

Retailer: Any person, firm, partnership, association, corporation, company or organization of any kind, including but not limited to, an owner, operator, manager, proprietor or person in charge of any establishment, business or retail store.

Retail Establishment: A physical place of business or a section of a physical place of business in which a tobacco product is offered for sale to consumers.

Rolling Papers: Sheets, rolls, tubes, cones or leaves, that do not contain tobacco, which are used for rolling cigarettes either by hand or with a roll-your-own machine.

Self-Service Display: Any display including an unlocked humidor regardless of size from which customers may select a tobacco product, as defined herein, without assistance from an employee or store personnel.

Schools: Public or private elementary or secondary schools.

Smoking Bar: An establishment that: (i) exclusively occupies an enclosed indoor space and is primarily engaged in the retail sale of tobacco products for consumption by customers on the premises; (ii) derives revenue from the sale of food, alcohol or other beverages that is incidental to the sale of a tobacco product and prohibits entry to a person under 21 years of age; (iii) prohibits a food or beverage not sold directly by the establishment from being consumed on the premises; (iv) maintains a valid permit for the retail sale of a tobacco product as required to be issued by the Town of Needham; and (v) maintains a valid license issued by the department of revenue to operate as a smoking bar. "Smoking bar" shall include, but not be limited to, those establishments that are commonly known as "cigar bars", "hookah-bars" and "vape bars."

Tobacco Product Flavor Enhancer: Any product designed, manufactured, produced, marketed or sold to produce a characterizing flavor when added to any tobacco product. A rolling paper with a characterizing flavor shall be considered a Tobacco Product Flavor Enhancer.

Tobacco Product: A product containing or made or derived from tobacco or nicotine that is intended for human consumption, whether smoked, chewed, absorbed, dissolved, inhaled, snorted, sniffed or ingested by any other means including, but not limited to, cigarettes, cigars, little cigars, chewing tobacco, pipe tobacco, snuff, electronic cigarettes, electronic cigars, electronic pipes, electronic nicotine delivery systems or any other similar products that rely on vaporization or aerosolization regardless of nicotine content in the product; provided, however, that "tobacco product" shall also include any component, part or accessory of a tobacco product; and provided further, that "tobacco product" shall not include a product that has been approved by the United States Food and Drug Administration for the sale of or use as a tobacco cessation product or for other medical purposes and is marketed and sold or prescribed exclusively for the approved purpose.

Vending Machine: Any automated or mechanical self-service device, which upon insertion of money, tokens or any other form of payment, dispenses or makes cigarettes or any other tobacco products, as defined herein.

Workplace: Any enclosed area of a structure, indoor area, facility or a portion thereof at which one (1) or more employees perform services for their employer (including the personal residence of the employer during those hours when used as a place of employment); other enclosed spaces rented to or otherwise used by the public; and where the employer has the right or authority to exercise control over the space. It also includes motor vehicles, employee lounges, restrooms, conference rooms, hallways, stairways and entrance ways, as well as exterior, unenclosed spaces at stairs, ramps, landings, patios, porches, decks, adjacent yards, loading docks and other areas within

twenty (20) feet of the entrance doors or other areas where smoke would migrate into the enclosed area of a structure.

D. No Tobacco Sales to Persons Born on or after January 1, 2004

1. No person shall sell or provide a tobacco product to a person born on or after January 1, 2004.

2. Required Signage:

All retail establishments, including adult-only retail tobacco stores, shall conspicuously post signage, made available from the Needham Board of Health. Such signage shall include: (i) referral information for smoking cessation resources; (ii) a statement that sale of tobacco products, including e-cigarettes, to a person born on or after January 1, 2004 is prohibited; (iii) health warnings associated with using electronic nicotine delivery systems; and (iv) except in the case of smoking bars, notice to consumers that the sale of flavored tobacco products are prohibited at all times. Such signage shall be posted conspicuously in the retail establishment or other place in such a manner so that it may be readily seen by a person standing at or approaching the cash register. The notice shall directly face the purchaser and shall not be obstructed from view or placed at a height of less than four feet or greater than nine feet from the floor. The signage may be in a form developed and made available by the Massachusetts Department of Public Health.

3. Identification:

Each person selling or distributing tobacco products shall first verify the age of **every** purchaser of tobacco products by means of a valid government-issued photographic identification containing the bearer's date of birth that the purchaser is born before January 1, 2004.

E. Tobacco Product Sales Permit:

1. No person shall sell or otherwise distribute tobacco products, as defined herein, within the town of Needham without first obtaining a Tobacco Product Sales Permit issued annually by the Needham Board of Health. Only owners of establishments with a permanent, indoor, non-mobile location in Needham are eligible to apply for a permit and sell tobacco products, as defined herein, at the specified location in Needham.

2. As part of the Tobacco Product Sales Permit application process, the applicant will be provided with the Needham regulation. Each applicant is required to sign a statement declaring that the applicant has read said regulation and that the applicant is responsible for instructing all employees who will be responsible for tobacco product sales regarding federal, state and local laws regarding the sale of tobacco and this regulation.

3. Each applicant who sells tobacco products is required to provide proof of a current Tobacco Retailer License issued by the Massachusetts Department of Revenue, when required by state law, before a Tobacco Product Sales Permit can be issued. Applicant may be asked to provide evidence that a legitimate business transfer or business purchase has taken place.

4. A separate permit, displayed conspicuously, is required for each retail establishment selling tobacco products, as defined herein. The fee for which shall be determined by the Needham Board of Health annually. All required Massachusetts Department of Revenue licenses related to the sale of tobacco products, as defined herein, must also be displayed conspicuously at the retail establishment.

5. As a condition for obtaining and/or renewing a Tobacco Sales Permit, the Needham Board of Health may require tobacco retailers and any employee involved in the sale of tobacco products to participate in training programs provided by, or approved by, the Board regarding compliance with the laws and regulations prohibiting the sale of tobacco products to persons born on or after January 1, 2004.

6. No Tobacco Sales Permit holder shall allow any employee to sell cigarettes or other tobacco products until such employee reads this regulation and state laws regarding the sale of tobacco products and signs a statement, a copy of which will be placed on file in the office of the employer, that the employee has read and understands the regulation and applicable state laws.

7. Issuance of a Tobacco Product Sales Permit shall be conditioned on an applicant's consent to unannounced, periodic inspections of his/her retail establishment to ensure compliance with this regulation. Neither the permit holder nor their employees shall interfere with or obstruct an inspection.

8. A Tobacco Product Sales Permit will not be renewed if the permit holder has failed to pay all fines issued and the time to appeal the fines has expired and/or the permit holder has not satisfied any outstanding permit suspensions.

9. A Tobacco Product Sales Permit will not be renewed if the permit holder has sold a tobacco product to a person born on or after January 1, 2004, three times within the permit year or 4 times within the 36-month period of performance and the time period to appeal has expired. The violator may request a hearing in accordance with the Violations section.

10. Retail Density.

- a. A new Tobacco Product Sales Permit shall not be issued to any new applicant for a retail location within five hundred (500) feet of a public or private elementary or secondary school as measured by a straight line from

the nearest point of the property line of the school to the nearest point of the property line of the site of the applicant's business premises

- b. A new Tobacco Product Sales Permit shall not be issued to any new applicant for a retail location within 500 feet of an existing retailer with a valid Tobacco Product Sales Permit as measured by a straight line from the nearest point of the property line of the retailer with a valid Tobacco Product Sales Permit to the nearest point of the property line of the site of the applicant's business premises.
- c. If the purchaser of a business with a valid tobacco sales permit pursuant to Section E.9 or the current holder of tobacco sales permit changes the location of the business, the new location shall be subject to the retail density requirements of Section E.11.

11. Sale of Business.

- a. Notwithstanding a cap on the total number of permit holders, the seller of a business holding a valid tobacco sales permit may transfer said permit to a bona fide purchaser for value of the business, subject to approval by the Board of Health, as required herein.
- b. The purchaser shall apply for the transfer of the permit no later than (30) calendar days after said purchase. The purchaser shall not sell tobacco product until the **transfer of the permit is approved by the Board of Health**; and
- c. All fines and suspensions of the previous owner must be satisfied prior to the sale.

12. Maximum Number of Tobacco Product Sales Permits—Retiring Cap

As of the effective date of this regulation, any permit surrendered, revoked or not renewed either because a retailer no longer sells tobacco products, as defined herein, or because a retailer closes the retail business, shall be returned to the Needham Board of Health and shall be permanently retired by the Board of Health.

F. Prohibition of Smoking Bars:

Smoking Bars are prohibited in the Town of Needham.

G. Oral Nicotine Pouches:

No retailer or person shall sell or distribute or cause to be sold or distributed oral nicotine pouches with a charactering flavor nor those with a nicotine content greater than six (6) mg per individual pouch. Prior to the sale of any nicotine pouch products, a retailer or person will provide a written manufacturer's document certifying the products are not flavored, as defined under Massachusetts law and these regulations. Reference the full description of "Manufacturer Documentation" in Section C, Definitions.

Commented [KS1]: Do we need to include the words, "tobacco product flavor enhancer" since it is also listed in the definitions (Sec. C)? @Samah Polan @Tara Gange

Commented [KS2R1]: @Samah Polan @Tara Gange

Commented [TG3R1]: @Karen Shannon @Samah Polan I think that a tobacco product flavor enhancer is specific to tobacco products. Not sure it would apply since nicotine pouches do not include tobacco leaf.

OR

Oral nicotine pouches shall only be sold in adult-only retail tobacco stores.

H.G. Cigar Sales Regulated:

1. No person shall sell or distribute or cause to be sold or distributed a single cigar unless such cigar is priced for retail sale at two dollars and ninety cents (\$2.90) or more.
2. No person shall sell or distribute or cause to be sold or distributed any original factory-wrapped package of two or more cigars, unless such package is priced for retail sale at five dollars and eighty cents (\$5.80) or more.
3. This Section shall not apply to a person or entity engaged in the business of selling or distributing cigars for commercial purposes to another person or entity engaged in the business of selling or distributing cigars for commercial purposes with the intent to sell or distribute outside the boundaries of Needham.
4. The Needham Board of Health may adjust from time to time the amounts specified in this Section to reflect changes in the applicable Consumer Price Index by amendment of this regulation.

I.H. Sale of Flavored Tobacco Products Prohibited:

No person, as defined herein, shall possess, hold, keep, sell or distribute or cause to be possessed, held, kept, sold or distributed any flavored tobacco product, as defined herein, or any flavored tobacco product enhancer, as defined herein.

Retailers must obtain manufacturer documentation certifying that all products possessed, held, kept, sold or distributed by the retailer do not meet the definition of a flavored tobacco product or tobacco product flavor enhancer (105 CMR 665.010(E)).

J.I. Nicotine Content in Electronic Nicotine Delivery Systems:

No person shall sell an electronic nicotine delivery system with nicotine content greater than 35 milligrams per milliliter; provided, however, that this subsection shall not apply to adult-only retail tobacco stores or smoking bars.

Retailers must obtain manufacturer documentation verifying that all electronic nicotine delivery products possessed, held, kept, sold or distributed by the retailer indicating the nicotine content expressed as milligrams per milliliter for each electronic nicotine delivery system to be sold in the retail establishment (105 CMR 665.010(C)).

K.J. Prohibition of the Sale of Blunt Wraps:

No retailer or person shall sell or distribute blunt wraps in Needham.

L.K. Free Distribution and Coupon Redemption: No retailer or person shall:

1. Distribute or cause to be distributed, any free samples of tobacco products, as defined herein.
2. Accept or redeem, offer to accept, or redeem, or cause or hire any person to accept or redeem or offer to accept or redeem any coupon that provides any tobacco product, as defined herein, without charge or for less than the listed or non-discounted price; and
3. Sell a tobacco product, as defined herein, through any discount (e.g., "buy-two-get-one-free") if the sale reduces the price of a pack to less than the listed or non-discounted price.

M.L. Out-of-Package Sales:

1. The sale or distribution of tobacco products, as defined herein, in any form other than an original factory-wrapped package is prohibited, including the repackaging, or dispensing of any tobacco product, as defined herein, for retail sale. No retailer or person, as defined herein, shall possess, hold, keep, sell, or distribute or cause to be possessed, held, kept, sold, or distributed any cigarette package that contains fewer than twenty (20) cigarettes, including single cigarettes.
2. Permit holders who sell Liquid Nicotine Containers must comply with the provisions of 310 CMR 30.000, Massachusetts Hazardous Waste Regulations.
3. All permit holders must comply with 940 CMR 21.05 which reads: "It shall be an unfair or deceptive act or practice for any person to sell or distribute nicotine in a liquid or gel substance in Massachusetts after March 15, 2016 unless the liquid or gel product is contained in a child-resistant package that, at a minimum, meets the standard for special packaging as set forth in 15 U.S.C. §§1471 through 1476 and 16 CFR §1700 *et seq.*"
4. No permit holder shall refill a cartridge that is prefilled with nicotine in a liquid or gel substance and sealed by the manufacturer and not intended to be opened by the consumer or retailer.

N.M. Self-Service Displays:

All self-service displays of tobacco products, as defined herein, are prohibited. All humidors including, but not limited to, walk-in humidors must be locked.

O.N. Vending Machines:

All vending machines containing tobacco products, as defined herein, are prohibited.

P.Q. Non-Residential Roll-Your-Own Machines:

All Non-Residential Roll-Your-Own machines are prohibited.

Q.P. Prohibition of the Sale of Tobacco Products by Health Care Institutions:

No health care institution located in Needham shall sell or cause to be sold tobacco products, as defined herein. No retail establishment that operates or has a health care institution within it, such as a pharmacy, optician/optometrist, or drug store, shall sell or cause to be sold tobacco products, as defined herein.

R.Q. Prohibition of the Sale of Tobacco Products by Educational Institutions:

No educational institution located in Needham shall sell or cause to be sold tobacco products, as defined herein, including by any person or retailer on the property of an educational institution.

S.R. Incorporation of State Laws and State Regulations:

1. The sale or distribution of tobacco products, as defined herein, must comply with state statutes including but not limited to those provisions found at G.L. c. 270, §§6, 6A, 7, 28, 29 and G.L. c. 112, §61A.
2. The sale or distribution of tobacco products, as defined herein, must comply with state regulations including but not limited to those provisions found at 940 CMR 21.00, Sale and Distribution of Cigarettes, Smokeless Tobacco Products, and Electronic Smoking Devices in Massachusetts, 940 CMR 22.00 Sale and Distribution of Cigars in Massachusetts; and 105 CMR 665.00, Minimum Standards for Retail Sale of Tobacco and Electronic Nicotine Delivery Systems.

T.S. PROHIBITION ON SMOKING IN PUBLIC PLACES AND WORKPLACES:

1. No person shall smoke or use an e-cigarette nor shall any person having control of the premises upon which smoking is prohibited by this regulation or by M.G.L. c. 270, §22, or the business agent or designee of such person, permit a person to smoke or use an e-cigarette in any of the following places in addition to those prohibited by G.L. c. 270, §22: all outdoor areas of restaurants, bars, taverns, and any other outdoor place where food and/or beverages, and/or non-alcoholic beverages are sold, served, or otherwise consumed or carried, health care facilities, municipal and school buildings, municipal vehicles, public places, public transportation, retail stores, town-owned parks and playgrounds, town-owned athletic fields, town-owned property, conservation land, nursing homes, hotels, motels, inns, bed and breakfast, lodging homes, and adult-only retail tobacco stores.

2. Notwithstanding any other provision of these regulations, smoking may be permitted in the following places and/or under the following circumstances consistent with all applicable state laws:

- a. Private residences except those portions used as a public place, food service establishment, childcare, adult care, or health care office during the hours when operating as such.

U.T. Violations:

1. It shall be the responsibility of the establishment, permit holder and/or his or her business agent, and not their employees, to ensure compliance with all sections of this regulation. For violations of the sections of this regulation that incorporate G.L. c. 270, §§6, 28, 29 and 105 CMR 665.000, the following penalties apply:
 - a. In the case of a first violation, a fine of one thousand dollars (\$1,000.00) shall be issued and the Tobacco Product Sales Permit shall be suspended for seven (7) consecutive business days.
 - b. In the case of a second violation within thirty-six (36) months of the date of the current violation, a fine of two thousand dollars (\$2,000.00) shall be issued and the Tobacco Product Sales Permit shall be suspended for fourteen (14) consecutive business days.
 - c. In the case of three violations within a thirty-six (36)-month period, a fine of five thousand dollars (\$5,000.00) shall be issued and the Tobacco Product Sales Permit shall be suspended for thirty (30) consecutive business days.
2. For violations of all other sections specific to the Town of Needham, the violator shall receive:
 - a. In the case of a first violation, a fine of one hundred dollars (\$100.00), and the Tobacco Product Sales Permit shall be suspended for seven (7) consecutive business days.
 - b. In the case of a second violation within thirty-six (36) months of the date of the current violation, a fine of two hundred dollars (\$200.00), and the Tobacco Product Sales Permit shall be suspended for fourteen (14) consecutive business days.
 - c. In the case of three violations within a thirty-six (36)-month period, a fine of three hundred dollars (\$300.00), and the Tobacco Product Sales Permit shall be suspended for thirty (30) consecutive business days.

3. List of state laws and local policies:

Policies Subject to State Law Fines

- Tobacco and Vape Sales to persons under the age of 21 (G.L. Ch. 270, §6)
- Flavored Tobacco Product Sales Restrictions (G.L. Ch. 270, §28)
- Penalties for sales to a person under the age of 21 of Tobacco/Vape products (105 CMR 665.045)
- Local Tobacco Sales Permit suspension for a first violation for sales to a person under the age of 21 of Tobacco/Vape products (105 CMR 665.040(d))
- Required Retailer Signage (105 CMR 665.015)
- Ban on Free Distribution (105 CMR 665.025)
- Ban on Self-Service Displays (105 CMR 665.010(B))
- Ban on Out-Of-Package Sales (105 CMR 665.030)
- Sales Without a Local Tobacco Product Sales Permit for Smoking Bars and Retail Tobacco Stores only (105 CMR 665.013(A))
- Failure to Check Identification of Purchaser (105 CMR 665.020)
- Nicotine Content in Electronic Nicotine Delivery Systems (G.L. Ch. 270, §29)
- Coupon Redemption (105 CMR 665.025)
- Child-Proofed Liquid Nicotine Containers Required (105 CMR 665.035)
- Failure to obtain manufacturer's non-flavored certification (105 CMR 665.010(E))
- Failure to obtain manufacturer's nicotine content certification (105 CMR 665.010(C))
- Admitting a person under the age of 21 into an Adult-Only Retail Tobacco Store (105 CMR 665.020(B))
- Other state policies

Policies Subject to Local Regulation

- Nicotine Free Generation / Sales to persons born on or after January 1, 2004
- Prohibition of the Sale of Blunt Wraps
- Ban on Smoking Bars
- Cigar Sales Regulated, including minimum sales price regulations.
- Tobacco Product Sales in Health Care Institutions as more broadly defined than in state law.
- Tobacco Product Sales in Educational Institutions
- Non-Residential Roll-Your-Own Machines Ban
- Display of MA Department of Revenue license(s)
- No Local Tobacco Sales Permit
- Retailer Density Minimums
- Transfer of Permit in Sale of Business
- Restricting Oral Nicotine Pouches to adult-only retail tobacco stores
- Other local policies

5. In the case of four violations or repeated, egregious violations of any section of this regulation, as determined by the Board of Health within a thirty-six (36) month period, the Board of Health shall hold a hearing in accordance with this regulation and, after such hearing shall permanently revoke a Tobacco Product Sales Permit.
6. Failure to cooperate or interference with inspections pursuant to this regulation shall result in the suspension of the Tobacco Product Sales Permit for thirty (30) consecutive business days.
7. In addition to the monetary fines set above, any permit holder who engages in the sale or distribution of tobacco products while their permit is suspended shall be subject to the suspension of all Board of Health issued permits for thirty (30) consecutive business days. Multiple suspensions of a Tobacco Product Sales Permit shall not be served concurrently.
8. A permit issued pursuant to this regulation may be suspended, revoked, or not renewed for any of the following reasons:
 - a. Violation of the permit holder of any provision of state or local laws and/or regulations.
 - b. Fraud, misrepresentation, false material statement, concealment, or suppression of facts by the permit holder in connection with an application for a permit or for renewal thereof.
9. The Needham Board of Health shall provide notice of the intent to suspend or revoke a Tobacco Product Sales Permit, which notice shall contain the reasons therefor and establish a time and date for a hearing which date shall be no earlier than seven (7) days after the date of said notice. The permit holder or its business agent shall have an opportunity to be heard at such a hearing and shall be notified of the Board of Health's decision and the reasons therefor in writing. After a hearing, the Needham Board of Health shall impose fines and/or suspend or revoke the Tobacco Product Sales Permit if the Board of Health finds that a violation of this regulation occurred. All tobacco products, as defined herein, shall be removed from the retail establishment upon suspension or revocation of the Tobacco Product Sales Permit. Failure to remove all tobacco products, as defined herein, shall constitute a separate violation of this regulation.
10. For purposes of such fines, the Board of Health shall make the determination notwithstanding any separate criminal or non-criminal proceedings brought in court hereunder or under the Massachusetts General Laws for the same offense.

V.U. Non-Criminal Disposition:

Whoever violates any provision of this regulation may be penalized by the non-criminal method of disposition as provided in G.L. c. 40, §21D where the penalty calls for a monetary fine not exceeding three hundred (\$300) dollars.

W.V. Separate Violations:

Each day any violation exists shall be deemed to be a separate offense.

X.W. Enforcement:

Enforcement of this regulation shall be by the Needham Board of Health, its Director of Health & Human Services, and its designated agents.

The Board of Health may enforce these regulations or enjoin violations thereof through any lawful process, and the election of one remedy by the Board of Health shall not preclude enforcement through any other lawful means.

Any resident who desires to register a complaint pursuant to the regulation may do so by contacting the Needham Board of Health or its designated agent(s) and the Board shall investigate.

Y.X. Severability:

If any provision of this regulation is declared invalid or unenforceable, the other provisions shall not be affected thereby but shall continue in full force and effect.

Z.Y. Effective Date: (Need to update this section with new dates.)

Board of Health discussion about the Nicotine Free Generation (NFG) policy occurred at public meetings on May 10, June 14, and July 12, 2024. A public hearing about the Nicotine Free Generation policy occurred on September 5, 2024, and was continued over until October 8, 2024 and then again until November 22, 2024, where the NFG policy and a draft version of this regulation incorporating NFG were discussed and debated. This regulation was approved by a unanimous vote of the Needham Board of Health on December 13, 2024 and shall take effect on January 1, 2025.

A notice and summary of the regulation was posted by the Needham Town Clerk, was posted on the Needham Public Health Division's website, and was published in a newspaper in circulation in the Town of Needham. Copies of this regulation have also been filed with the Needham Town Clerk and the Massachusetts Department of Environmental Protection.

The original Needham Board of Health smoking and tobacco regulation was enacted in September 1991. It has been amended extensively over the years, most notably in 2005 with the enactment of the Tobacco 21 policy, which was phased-in over a three-year period. This regulation was amended again in 2009 with the implementation of a prohibition on the sale of tobacco products in pharmacies. A ban on flavored tobacco

was incorporated in 2015, the tolling period for violations was revised in 2017, and restrictions on electronic nicotine delivery systems were incorporated in 2018 and 2019. Updates on the number of permits and also the adoption of updated state regulation requirements, along with the adoption of the state fine schedule, took place in 2020 and 2021. An update to the regulation, unanimously approved by the Board of Health on September 23, 2021, included a modification to the definition of "person" on page six and shall go into effect on October 15, 2021. The Nicotine Free Generation policy was incorporated into the regulation by vote of the Board of Health on December 13, 2024.

DRAFT



Needham Public Health Division

Prevent. Promote. Protect.



MEMO

To: Timothy McDonald, Director of Health & Human Services
From: Lydia Cunningham, Substance Use Prevention Coordinator
Date: June 16, 2025
Subject: Testing Procedure for Flavored Tobacco & Nicotine Products

Overview: This document contains information on existing guidance created for municipalities in Massachusetts to determine whether a tobacco product is flavored. The following information and protocols for assessing flavored tobacco and nicotine products is derived from documents and guidance from the Massachusetts Health Officers Association (MHOA), Massachusetts Association of Health Boards (MAHB), and Massachusetts Municipal Association (MMA), with specific guidance from Cheryl Sbarra, Esq., Executive Director and Senior Staff Attorney, MAHB and Lisa Stevens-Goodnight, Esq., Tobacco Control Director, MMA.

“Recommendations for Enforcing the Restriction on Flavored Tobacco and Vapes”¹: The MHOA has released a guidance document with recommendations for enforcing the restriction of flavored tobacco and electronic vapor products through smell tests and review of manufacturers’ letters. The guidance includes:

Locating Flavored Tobacco and Vape Brands (Manufacturer’s Letters):

- Review manufacturers’ letters. Retailers must have these letters. ***A retailer may not sell any brand of tobacco or vape unless it is listed in writing as unflavored by the manufacturer. If the brand is not listed, no smell test is required. That brand cannot be offered for sale.***
- If a retailer is missing a letter from a particular brand, you may:
 1. Give the retailer a few days to get the letter that lists the brand as nonflavored. The brand should not be offered for sale in the meantime. It should be removed from the shelves, stored in a box taped closed with the inspector’s signature and date written on the tape, and stored in a back room.
 2. Issue a violation order and instruct the retailer to get the letter that lists the brand. In the meantime, instruct the retailer to box and store the brand as in OPTION 1.
 3. If you suspect a brand is flavored, you do not need to wait for the letter. Instead, you may start the next step of enforcement described below, the smell test. Product packaging, online reviews, communications with colleagues in tobacco control may provide the basis for your suspicions that a brand is flavored.

¹https://mhoa.com/aws/MHOA/asset_manager/get_file/707184?ver=0#:~:text=A%20retailer%20may%20not%20sell,cannot%20be%20offered%20for%20sale.&text=You%20are%20not%20required%20to%20provide%20the%20letter.

- When a brand is clearly flavored because its packaging says so, document the packaging by either taking a picture or purchasing a package, and then issue a violation order. For example, if the packaging says the brand is menthol, then it is flavored. You do not need to wait for the manufacturer's letter. No smell test is needed.
- When a brand's packaging is not clear and they do not have a manufacturer's letter permitting the sale, and you believe it to be flavored, you may choose to enforce against it. You may need to conduct a smell test to confirm your suspicions and to build a case for penalty issuance.

Conducting a Smell Test

- A Massachusetts Appeals Court stated a tobacco flavor restriction "does not [require] ... any particular training or expertise . . . to make [the] . . . determination" that a tobacco or vape is flavored or not. The Court also stated a municipal board of health is "entitled to credit the perception of odor by its own members in concluding" the decision of a smell test. *Cumberland Farms v. Yarmouth Board of Health* (2018).
- **Tobacco and vape products in Massachusetts should only have the smell of tobacco or no smell at all. Any smell other than that of tobacco is enough to classify a product as flavored.**
- To conduct a smell test: Purchase one package of the brand suspected of being flavored for an onsite smell test. Test the product by opening the package and smelling the product. Issue the retailer a violation order if you determine the brand is flavored.
- Alternatively, you may choose to have your board of health members conduct the smell test before you issue the ticket. Keep a new package in an air-tight container like a Ziploc bag for the board of health to open right before the smell test.

Nicotine Pouches and Other Products: When meeting with Cheryl Sbarra and Lisa Stevens-Goodnight, Needham Public Health Division (NPHD) staff asked whether the above guidance can be applied to nicotine pouches. Cheryl Sbarra stated that nicotine pouches differ from combustibles and that the flavoring in pouches is not always identifiable by smell alone. In some cases, the flavor is only identifiable by taste when the product is moistened.

These products are currently being evaluated for flavoring through tests in which participants are given an unflavored (control product) or a product suspected to be flavored without knowledge of which is which and taste these products in a room free of other food, drink, or fragrances, with no communication with other product testers.

This testing, and the creation of guidance principles for determining whether a nicotine pouch is flavored, is currently ongoing, and additional guidance will become available through MHOA following these processes. An example of this testing process is detailed below.

Nicotine Pouch Flavor Testing June 2025: Sai Palani, Environmental Health Agent, Needham Public Health Division, attended a nicotine pouch testing at the Massachusetts Department of Public Health (DPH) office in Marlborough, MA, on June 13th, 2025. The following information was shared by Sai regarding his experience participating in this testing process alongside MAHB and DPH employees, including Cheryl Sbarra:

The purpose of the meeting and testing was to determine an appropriate protocol for testing vape and nicotine pouch products. As mentioned above, the criteria for a product to be in violation of the state flavor ban is tasting or smelling of something other than tobacco. There is no need to describe what the flavor is- if it is anything other than tobacco the product has a characterizing flavor and is classified as flavored.

There were 10+ representatives that lead and conduct enforcement for multi-town tobacco coalitions in the state present at the testing meeting.

Before the testing began, participants were asked not to bring in anything that would produce a smell and were instructed not to wear any perfumes, bring or chew gum, etc. Only unflavored water was allowed to cleanse the palate. Separate staff who were not participating in the testing opened new products in a separate room and placed them into envelopes which were each given a sample number. The test proceeded as follows:

- 1) All testers organized themselves around a table sitting side by side. The doors to the room were closed.
- 2) Testers were instructed not to speak during the testing and were given a form on which to input the sample # and circle whether or not the product had a characterizing flavor. Testers were asked to not look at the product, only to smell it and pass the product along- marking whether it was flavored.
- 3) The first sample was a control product, something that was determined to be unflavored. All other samples that differed greatly from the control sample during the testing were to be considered flavored.
- 4) Only 5-6 products were tested at a time due to fatigue. Testers were instructed to smell their elbows, blow their noses, and drink water to cleanse the sinus and olfactory glands.
- 5) Vapes and pouches were tested separately. Once all testing was completed, separate staff reviewed the findings and deemed any of the products that were unanimously marked as flavored to be officially flavored. The products that had results split between testers were discussed further or testers were asked to step outside to additionally test vape products using a “blow test” or perform a taste test for the pouches.

Findings:

All “Clear” vape and pouch products were found to be flavored, as well as all “Chill” products. Some of the nicotine pouch products labelled “Original” and “Smooth” were found to be flavored.

Additionally, Dutch Fusion, Backwoods “White”, “Black”, “Bold”, and “Smooth” and Game “Blue” and “Green” were found to be flavored by other communities.

Cheryl Sbarra asked for all communities represented to distribute the list of products found to be flavored to their communities and noted that she will keep a master list of these products.



Is Zyn the New Juul?

What are Oral Nicotine Pouches

- Small fiber pouches filled with nicotine salts.
- Not heated or burned (combusted).
- Do not contain cut, ground, powdered or leaf tobacco.
- Frequently flavored.



How to Use a Nicotine Pouch “discreet and convenient design”



How Popular Are They?

- From 2016 to 2023 sales increased from 6 million to 334 million. (CDC)
- From 2019 to 2023 current use among MA high students tripled. (1% to 3.2%)
 - Can be used discreetly in school.
 - No smoke or vaper.
 - Small.
 - Containers look like they contain mints or gum.
 - Can be used anywhere.
- 2nd most popular tobacco/nicotine product used by youth in 2024.
 - 480,000 middle and high school students using nationwide.
- Majority are flavored.
- Zyn (Philip Morris/Swedish Match)
- On! (Altria)

MAHNB

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Nicotine Strength Varies

- Low strength: 2 - 4 mg.
 - For beginners.
 - “Particularly beneficial for those who are experimenting with nicotine for the first time.”
 - <https://alppouch.com/>
- Medium strength: 6 – 8 mg.
 - For those with moderate nicotine tolerance.
- High Strength: 10 – 14 mg.
 - For those with high nicotine tolerance providing a “robust experience.”
- Extra High Strength: 16 – 20 mg.
 - For those with very high nicotine tolerance.
- Loon NYXX – Bad Bull: 28 mg.
 - Some higher.

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Health Effects of Pouches

- Youth use of nicotine in any form is unsafe.
 - Disrupts the formation of brain circuits.
 - Intensifies symptoms of depression and anxiety.
- Stomach problems
- Gum problems
- Cardiovascular issues
- Long term neurological effects?
- Presence of carcinogenic TSNA in pouches

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Marketing Strategies

- It's a harm reduction product.
 - No evidence that it helps quit smoking/vaping.
 - Not an FDA approved cessation device.
 - FDA authorized 3 mg. and 6 mg. Zyn products with explicit statement that:
 - "The authorization does not allow the company to make reduced risk claims about the products."
- Zynfluencers
 - Tucker Carlson
 - "Then you feel the power rising from your central nervous system, then going outward through all the nerve endings down to the tips of your fingers. And then up here, it just starts crackling the synapses."
 - "Zyn is a lifesaving medical product that enhances male vitality and mental acuity."



Is Zyn the New Juul?

A Cautionary Tale

- Philip Morris International (MPI) bought Swedish Match for \$16 billion in 2022.
- PMI sales are at record highs.
- Sales fueled by sale of Zyn.
- In 2024 shipments of Zyn rose 644 million cans, up by more than half from 2023.
- PMI cannot keep up with the demand.
- Expanding a factory in Kentucky.
- Building a new factory in Colorado for \$600 million.
- PMI pledged to make two-thirds of its income from products like Zyn by 2030.
- ALTRIA bought Juul for \$12.8 million.
 - Within 4 years it was nearly bankrupt by lawsuits blaming it for targeting youth.

Monitoring Sales: Nicotine Pouch Trends

This report highlights trends from February 2019 to September 2024.

What's the Bottom Line?

- Nicotine pouches contain a powder made of nicotine, flavorings, and other ingredients. The powder dissolves in the mouth, and nicotine is absorbed through the gums and lining of the mouth. Nicotine is an addictive chemical that is especially dangerous for youth, young adults, and pregnant people.
- Nicotine pouch sales in the United States are rapidly increasing. Surges occurred during 2023 and 2024.
- Nearly all nicotine pouches sold in the United States are non-tobacco flavored. Most are mint-flavored.
- States with flavor bans have seen slower increases in nicotine pouch sales. States with flavor restrictions are dominated by products marketed as smooth/original but likely contain sweeteners and products which provide a cooling sensation and contain sweeteners without a characterizing flavor.^{1,2}

Background

- No tobacco product is safe, including nicotine pouches.³
- In 2024, 1.8% of middle and high school students (480,000 youth) used nicotine pouches in the past month.⁴ Pouch use increased by more than 60% between 2022 and 2024 among U.S. middle and high school students.⁵
- Nicotine pouches were the second most commonly used tobacco product among youth in 2024, behind e-cigarettes.
- Two states, California and Massachusetts, prohibit the sale of flavored tobacco products, including nicotine pouches.

Key Findings

- Nicotine pouch sales increased by 183.7% between September 2022 and September 2024. The increase between 2022-2024 was larger than earlier increases.
- Most nicotine pouches sold in the United States are non-tobacco flavored. As of September 2024, mint flavor accounts for 59.2% of sales, followed by other flavors (e.g., fruits, candy, drinks) at 23.6%, and flavors marketed as clear/uncharacterized but which provide a cooling sensation at 8.2%.
- California experienced a 94.2% increase in nicotine pouch sales between September 2022 and September 2024, compared to 241.3% in New York and 267.2% in Rhode Island.

1. Jabba, S. V., Erythropel, H. C., Woodrow, J. G., Anastas, P. T., O'Malley, S., Krishnan-Sarin, S., Zimmerman, J. B., & Jordt, S. E. (2023). Synthetic cooling agent in oral nicotine pouch products marketed as 'Flavour-Ban Approved'. Tobacco control, tc-2023-058035. Advance online publication. <https://doi.org/10.1136/tc-2023-058035>

2. Jabba, S. V., Silinski, P., Yang, A. Y., Ouyang, W., & Jordt, S. E. (2024). Artificial Sweeteners in US-Marketed Oral Nicotine Pouch Products: Correlation with Nicotine Contents and Effects on Product Preference. bioRxiv : the preprint server for biology, 2024.01.26.577472. <https://doi.org/10.1101/2024.01.26.577472>

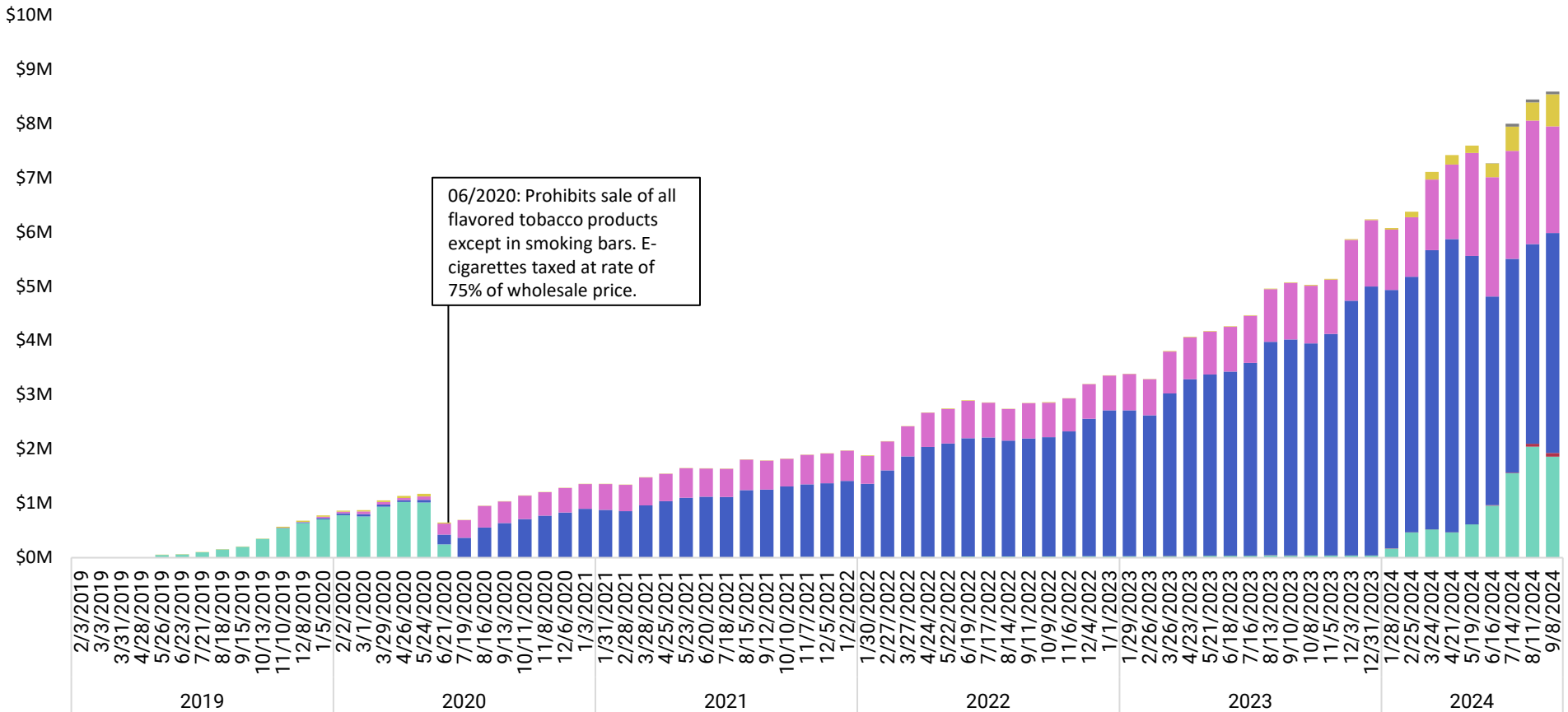
3. Centers for Disease Control and Prevention. (2024, September 17). *Nicotine pouches*. Centers for Disease Control and Prevention. <https://www.cdc.gov/tobacco/nicotine-pouches/index.html>

4. Jamal A, Park-Lee E, Birdsey J, et al. Tobacco Product Use Among Middle and High School Students — National Youth Tobacco Survey, United States, 2024. MMWR Morb Mortal Wkly Rep 2024;73:917–924. DOI: <http://dx.doi.org/10.15585/mmwr.mm7341a2>.

5. Park-Lee E, Ren C, Cooper M, Cornelius M, Jamal A, Cullen KA. Tobacco Product Use Among Middle and High School Students — United States, 2022. MMWR Morb Mortal Wkly Rep 2022;71:1429–1435. DOI: <http://dx.doi.org/10.15585/mmwr.mm7145a1>.

Figure 3. Total Nicotine Pouch Dollar Sales, by Flavor, Massachusetts

■ Menthol ■ Mint ■ Tobacco ■ Clear/Other Cooling** ■ Original/Smooth** ■ All Other Flavors** ■ Unknown



*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods. Total number of pouches sold calculated based on information provided in scanner data and represents individual pouches sold within a can.

**Clear/Other Cooling include products with flavor names such as clear, clear ice, or unflavored, which likely contain non-menthol synthetic cooling agents (e.g., Zyn Chill, Oeo Clear). Original/smooth includes products with flavor names such as smooth or original which likely contain artificial sweeteners (e.g. Zyn Smooth, On! Original, Zyn Original). All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, or some other flavor.

Trends of Pouch Dollar Sales by Flavor from 9/11/2022 to 09/08/2024

Total nicotine pouch dollar sales increased from \$2.9 million to \$8.6 million (+201.1%).

Tobacco-flavored nicotine pouch dollar sales increased from \$0 to \$65.4 thousand; unit share increased from 0% to 0.8%.

Menthol-flavored nicotine pouch dollar sales increased from \$0.3 thousand to \$2.8 thousand (+986.9%); unit share increased from 0.01% to 0.03%.

Mint-flavored nicotine pouch dollar sales increased from \$21.8 thousand to \$1.9 million (+8430.2%); unit share increased from 0.8% to 21.7%.

All other-flavored nicotine pouch dollar sales increased from \$7.0 thousand to \$589.0 thousand (+8329.3%); unit share increased from 0.2% to 6.9%.

Clear/other cooling-flavored nicotine pouch dollar sales increased from \$2.2 million to \$4.1 million (+86.6%); unit share decreased from 76.2% to 47.2%.

Original/Smooth nicotine pouch dollar sales increased from \$650.2 thousand to \$2.0 million (+202.3%); unit share increased from 22.8% to 22.9%.

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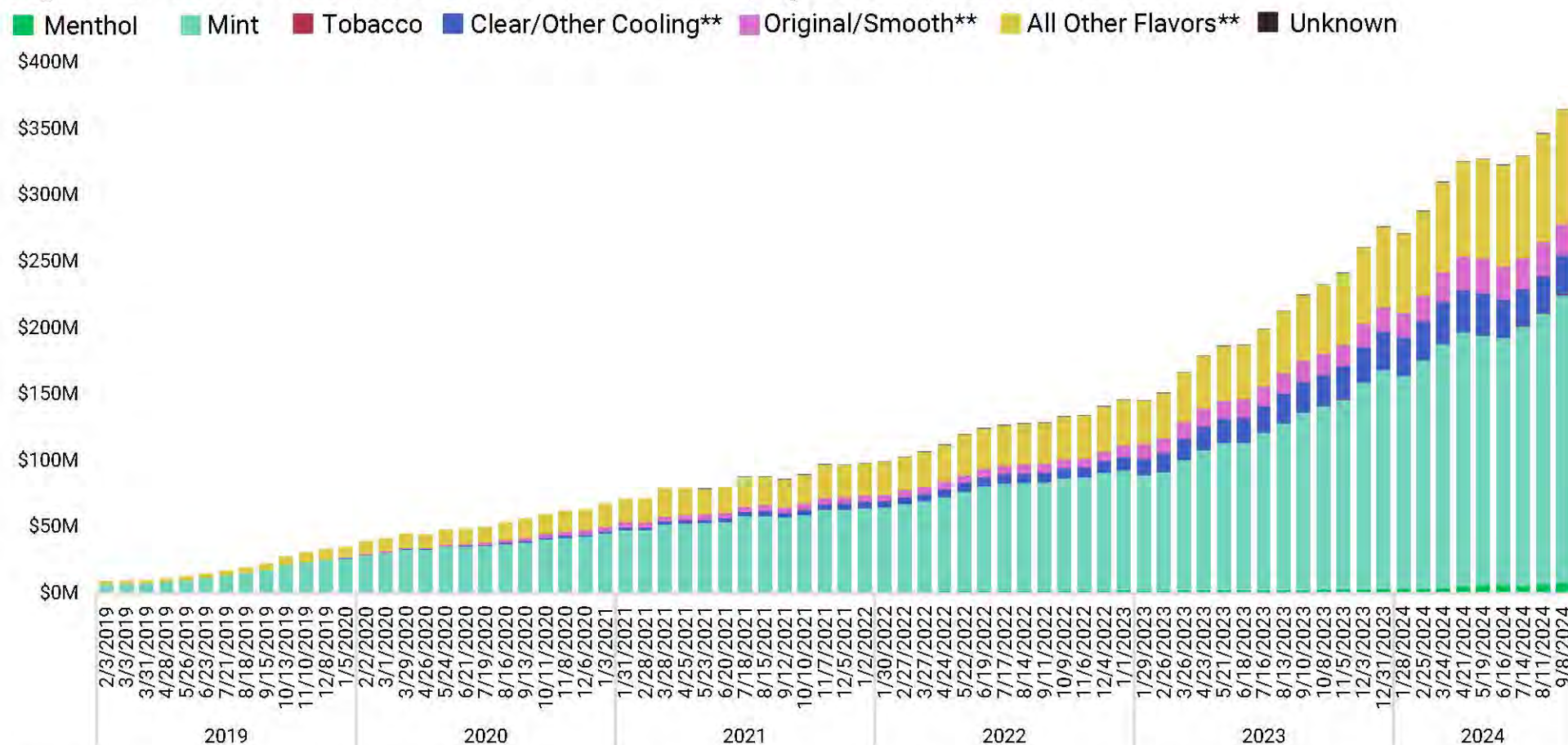
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2. Jabba, S. V., Silinski, P., Yang, A. Y., Ouyang, W., & Jordt, S. E. (2024). Artificial Sweeteners in US-Marketed Oral Nicotine Pouch Products: Correlation with Nicotine Contents and Effects on Product Preference. bioRxiv : the preprint server for biology. 2024.01.26.577472. <https://doi.org/10.1101/2024.01.26.577472>

3. Centers for Disease Control and Prevention. (2024, September 17). Nicotine pouches. Centers for Disease Control and Prevention. <https://www.cdc.gov/tobacco/nicotine-pouches/index.html>

4. Jamal, A., Park-Lee, E., Birdsey, J., et al. Tobacco Product Use Among Middle and High School Students — National Youth Tobacco Survey, United States, 2024. MMWR Morb Mortal Wkly Rep 2024;73:917–924. DOI: <http://dx.doi.org/10.15585/mmwr.mm7341a2>

5. Jamal, A., Ren, C., Cooper, M., Cornelius, M., Jamal, A., Culien, K.A. Tobacco Product Use Among Middle and High School Students — United States, 2022. MMWR Morb Mortal Wkly Rep 2022;71:1429–1435. DOI: <http://dx.doi.org/10.15585/mmwr.mm7145a1>

Figure 1. Total Nicotine Pouch Dollar Sales, by Flavor, United States

*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods. Total number of pouches sold calculated based on information provided in scanner data and represents individual pouches sold within a can.

**Clear/Other Cooling include products with flavor names such as clear, clear ice, or unflavored, which likely contain non-menthol synthetic cooling agents (e.g., Zyn Chill, Oco Clear). Original/smooth includes products with flavor names such as smooth or original which likely contain artificial sweeteners (e.g., Zyn Smooth, On! Original, Zyn Original). All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, or some other flavor.

Trends of Pouch Dollar Sales by Flavor from 9/11/2022 to 09/08/2024

Total nicotine pouch dollar sales increased from \$128.7 million to \$365.0 million (+183.7%).

Tobacco-flavored nicotine pouch dollar sales increased from \$0 to \$325.3 thousand; unit share increased from 0% to 0.1%.

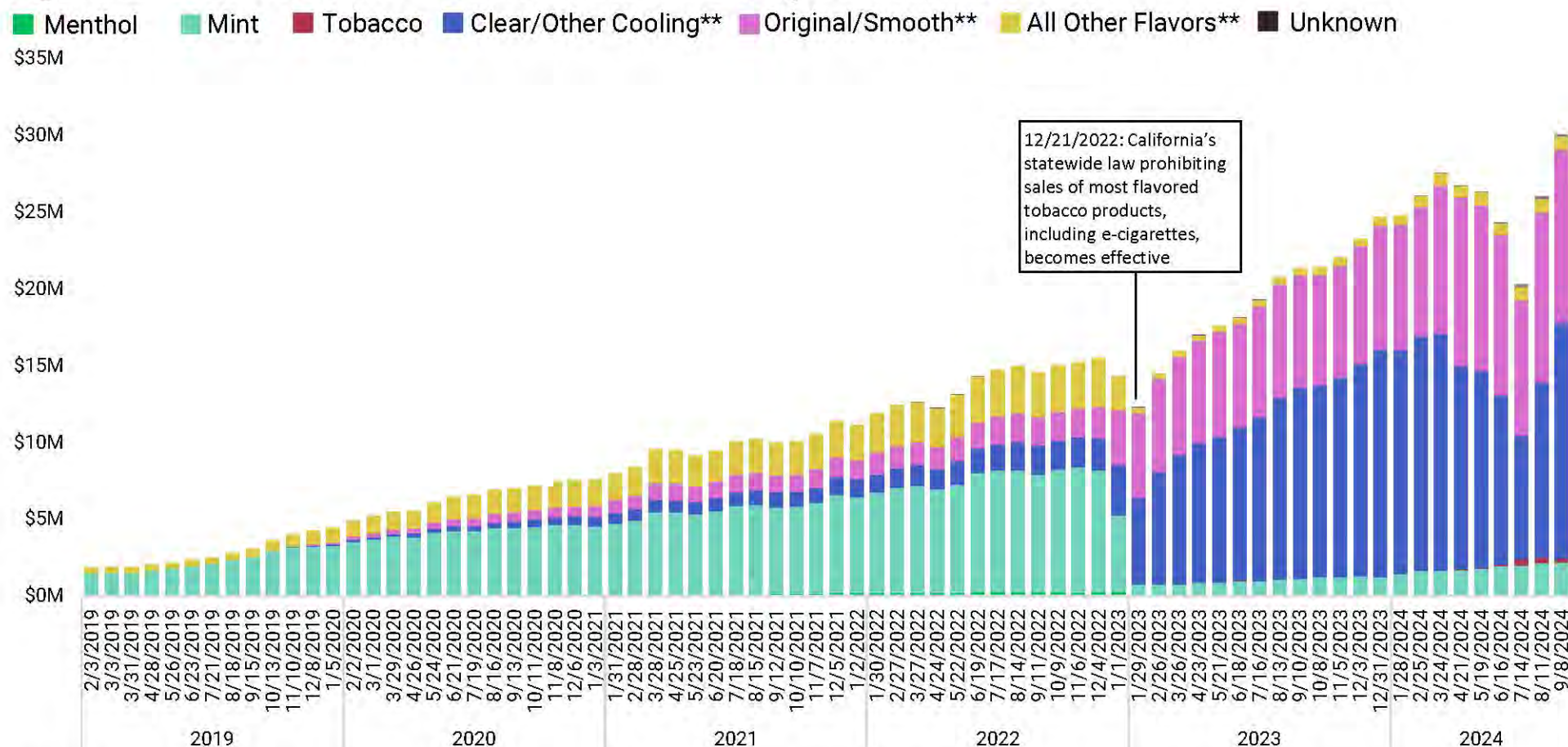
Menthol-flavored nicotine pouch dollar sales increased from \$1.9 million to \$8.5 million (+348.3%); unit share increased from 1.5% to 2.3%.

Mint-flavored nicotine pouch dollar sales increased from \$82.1 million to \$216.2 million (+163.5%); unit share decreased from 63.8% to 59.2%.

All other-flavored nicotine pouch dollar sales increased from \$30.7 million to \$86.3 million dollars (+181.2%); unit share decreased from 23.9% to 23.6%.

Clear/other cooling-flavored nicotine pouch dollar sales increased from \$7.4 million to \$29.8 million (+303.9%); unit share increased from 5.7% to 8.2%.

Original/Smooth nicotine pouch dollar sales increased from \$6.6 million to \$23.6 million (+257.6%); unit share increased from 5.1% to 6.5%.

Figure 2. Total Nicotine Pouch Dollar Sales, by Flavor, California

*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods. Total number of pouches sold calculated based on information provided in scanner data and represents individual pouches sold within a can.

**Clear/Other Cooling include products with flavor names such as clear, clear ice, or unflavored, which likely contain non-menthol synthetic cooling agents (e.g., Zyn Chill, Oco Clear). Original/smooth includes products with flavor names such as smooth or original which likely contain artificial sweeteners (e.g., Zyn Smooth, On! Original, Zyn Original). All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, or some other flavor.

Trends of Pouch Dollar Sales by Flavor from 9/11/2022 to 09/08/2024

Total nicotine pouch dollar sales increased from \$14.6 million to \$30.1 million (+106.4%).

Tobacco-flavored nicotine pouch dollar sales increased from \$0 to \$231.3 thousand; unit share increased from 0% to 0.8%.

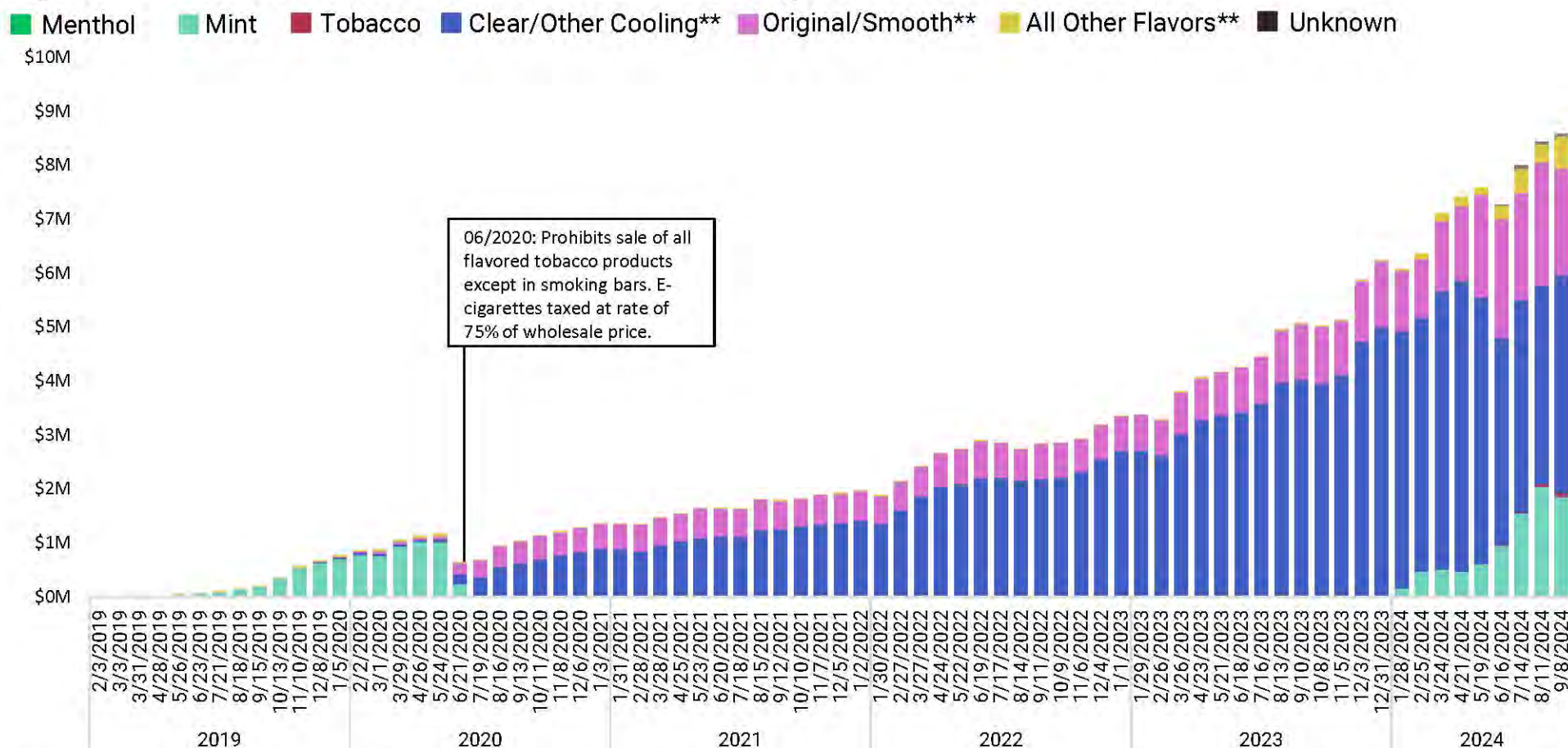
Menthol-flavored nicotine pouch dollar sales decreased from \$265.2 thousand to \$39.5 thousand (-85.1%); unit share decreased from 1.8% to 0.1%.

Mint-flavored nicotine pouch dollar sales decreased from \$7.7 million to \$2.2 million (-71.6%); unit share decreased from 52.8% to 7.3%.

All other-flavored nicotine pouch dollar sales decreased from \$2.9 million to \$841.9 thousand (-71.1%); unit share decreased from 20.0% to 2.8%.

Clear/other cooling-flavored nicotine pouch dollar sales increased from \$1.9 million to \$15.3 million (+724.3%); unit share increased from 12.8% to 51.0%.

Original/Smooth nicotine pouch dollar sales increased from \$1.8 million to \$11.3 million (+516.6%); unit share increased from 12.6% to 37.6%.

Figure 3. Total Nicotine Pouch Dollar Sales, by Flavor, Massachusetts

*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods. Total number of pouches sold calculated based on information provided in scanner data and represents individual pouches sold within a can.

**Clear/Other Cooling include products with flavor names such as clear, clear ice, or unflavored, which likely contain non-menthol synthetic cooling agents (e.g., Zyn Chill, Oco Clear). Original/smooth includes products with flavor names such as smooth or original which likely contain artificial sweeteners (e.g., Zyn Smooth, On! Original, Zyn Original). All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, or some other flavor.

Trends of Pouch Dollar Sales by Flavor from 9/11/2022 to 09/08/2024

Total nicotine pouch dollar sales increased from \$2.9 million to \$8.6 million (+201.1%).

Tobacco-flavored nicotine pouch dollar sales increased from \$0 to \$65.4 thousand; unit share increased from 0% to 0.8%.

Menthol-flavored nicotine pouch dollar sales increased from \$0.3 thousand to \$2.8 thousand (+986.9%); unit share increased from 0.01% to 0.03%.

Mint-flavored nicotine pouch dollar sales increased from \$21.8 thousand to \$1.9 million (+8430.2%); unit share increased from 0.8% to 21.7%.

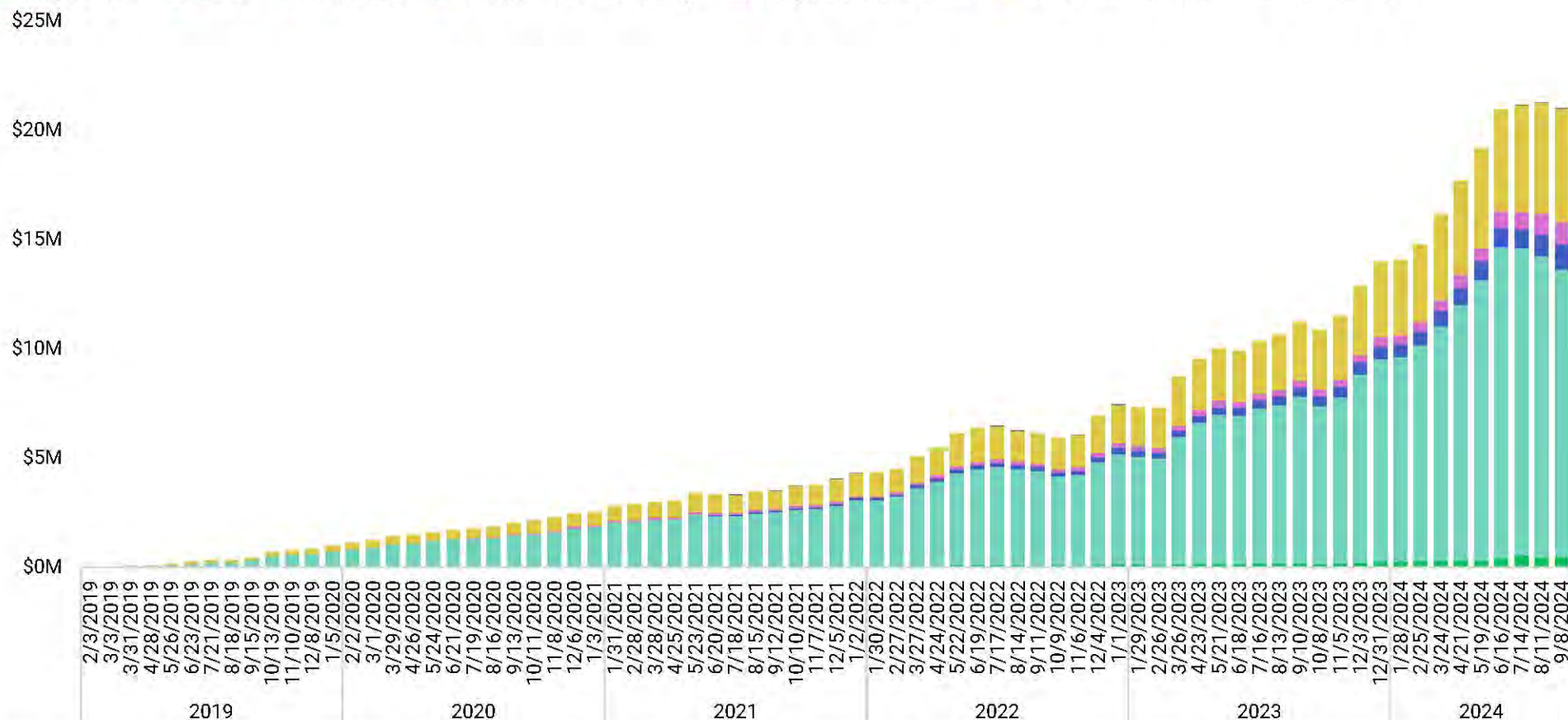
All other-flavored nicotine pouch dollar sales increased from \$7.0 thousand to \$589.0 thousand (+8329.3%); unit share increased from 0.2% to 6.9%.

Clear/other cooling-flavored nicotine pouch dollar sales increased from \$2.2 million to \$4.1 million (+86.6%); unit share decreased from 76.2% to 47.2%.

Original/Smooth nicotine pouch dollar sales increased from \$650.2 thousand to \$2.0 million (+202.3%); unit share increased from 22.8% to 22.9%.

Figure 4. Total Nicotine Pouch Dollar Sales, by Flavor, New York

■ Menthol ■ Mint ■ Tobacco ■ Clear/Other Cooling** ■ Original/Smooth** ■ All Other Flavors** ■ Unknown



*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods. Total number of pouches sold calculated based on information provided in scanner data and represents individual pouches sold within a can.

**Clear/Other Cooling include products with flavor names such as clear, clear ice, or unflavored, which likely contain non-menthol synthetic cooling agents (e.g., Zyn Chill, Oco Clear). Original/smooth includes products with flavor names such as smooth or original which likely contain artificial sweeteners (e.g., Zyn Smooth, On! Original, Zyn Original). All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, or some other flavor.

Trends of Pouch Dollar Sales by Flavor from 9/11/2022 to 09/08/2024

Total nicotine pouch dollar sales increased from \$6.2 million to \$21.0 million (+241.3%).

Tobacco-flavored nicotine pouch dollar sales increased from \$0 to \$60; unit share remained 0%.

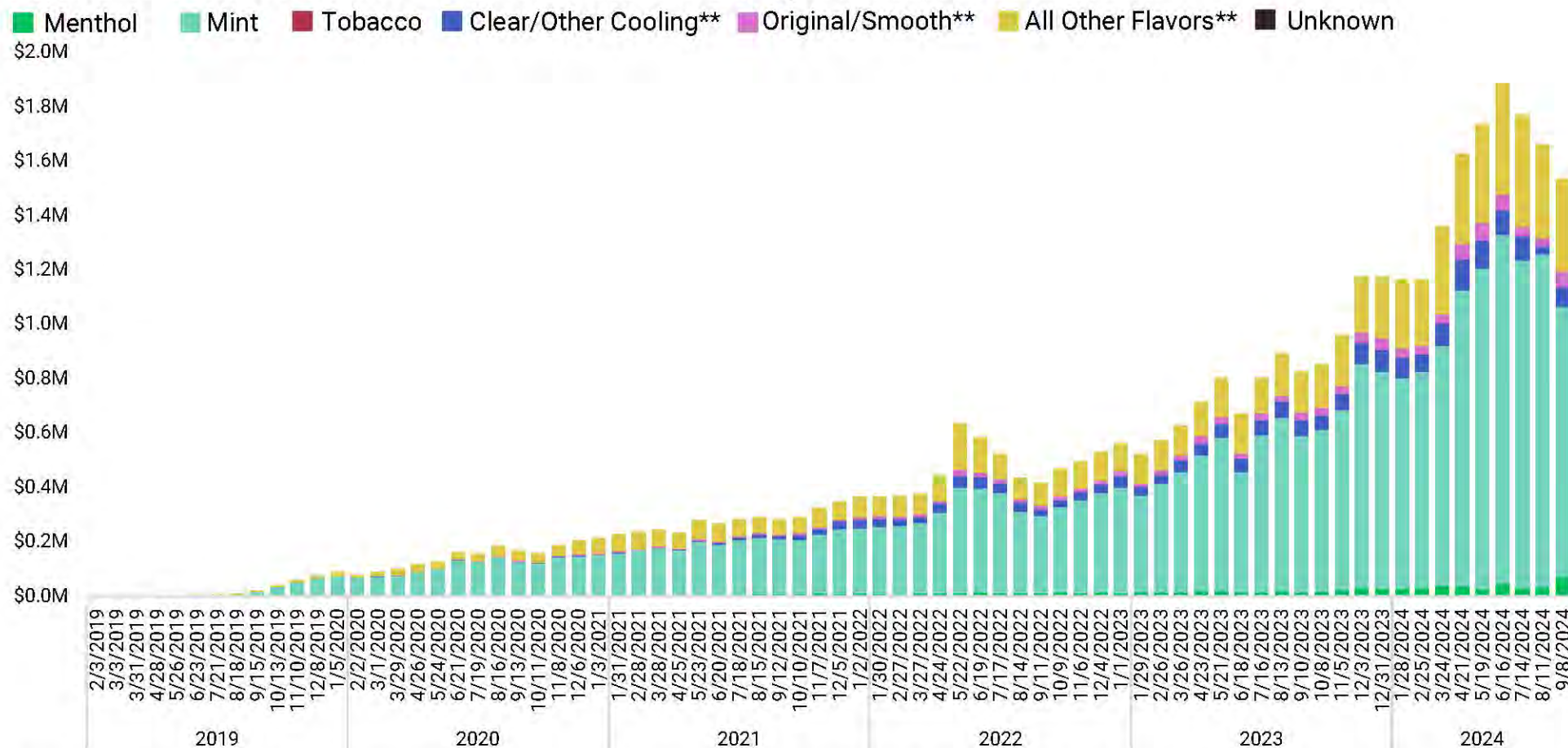
Menthol-flavored nicotine pouch dollar sales increased from \$108.9 thousand to \$481.4 thousand (+341.9%); unit share increased from 1.8% to 2.3%.

Mint-flavored nicotine pouch dollar sales increased from \$4.3 million to \$13.2 million (+203.5%); unit share decreased from 70.4% to 62.6%.

All other-flavored nicotine pouch dollar sales increased from \$1.4 million to \$5.2 million (+275.7%); unit share increased from 22.5% to 24.8%.

Clear/other cooling-flavored nicotine pouch dollar sales increased from \$186.0 thousand to \$1.2 million (+531.4%); unit share increased from 3.0% to 5.6%.

Original/Smooth nicotine pouch dollar sales increased from \$141.1 thousand to \$994.1 thousand (+604.6%); unit share increased from 2.3% to 4.7%.

Figure 5. Total Nicotine Pouch Dollar Sales, by Flavor, Rhode Island

*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods. Total number of pouches sold calculated based on information provided in scanner data and represents individual pouches sold within a can.

**Clear/Other Cooling include products with flavor names such as clear, clear ice, or unflavored, which likely contain non-menthol synthetic cooling agents (e.g., Zyn Chill, Oco Clear). Original/smooth includes products with flavor names such as smooth or original which likely contain artificial sweeteners (e.g., Zyn Smooth, On! Original, Zyn Original). All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, or some other flavor.

Trends of Pouch Dollar Sales by Flavor from 9/11/2022 to 09/08/2024

Total nicotine pouch dollar sales increased from \$418.0 thousand to \$1.5 million (+267.2%).

Tobacco-flavored nicotine pouch dollar sales increased from \$0 to \$0.2 thousand; unit share increased from 0% to 0.01%.

Menthol-flavored nicotine pouch dollar sales increased from \$11.9 thousand to \$73.0 thousand (+511.7%); unit share increased from 2.9% to 4.8%.

Mint-flavored nicotine pouch dollar sales increased from \$284.8 thousand to \$993.1 thousand (+248.6%); unit share decreased from 68.1% to 64.7%.

All other-flavored nicotine pouch dollar sales increased from \$83.8 thousand to \$340.6 thousand (+306.4%); unit share increased from 20.0% to 22.2%.

Clear/other cooling-flavored nicotine pouch dollar sales increased from \$23.2 thousand to \$71.4 thousand (+208.1%); unit share decreased from 5.5% to 4.7%.

Original/Smooth nicotine pouch dollar sales increased from \$14.2 thousand to \$56.4 thousand (+296.4%); unit share increased from 3.4% to 3.7%.



Board of Health Town of Needham AGENDA FACT SHEET

MEETING DATE: June 20, 2025

Agenda Item	Proposed New Fee Schedule -- Board Vote
Presenter(s)	Timothy McDonald, Director of Health & Human Services

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED
Mr. McDonald will review the Customized Permit Fee Calculator that was developed with significant staff and contractor effort. The dynamic model attempts to capture the true cost to the Public Health Division to accept and process various applications and plan reviews, and to conduct the appropriate inspections and follow-ups. The current calculations show that the Public Health Division may overcharge for some types of permits and licenses and also undercharges (in some cases dramatically) for various food service licenses. Coinciding with these efforts, the Public Health Division also seeks to adopt a risk-based fee schedule for food service establishments, one of the projects it has developed with FDA grants over the past 7+ years. Public Health Division staff members have calculated the impact to revenue from the proposed changes (both from the Permit Fee Calculator and from the switch to risk-based food establishment fees and permitting), and believe the bottom line will be a reduction of just under \$6,000.	
2.	VOTE REQUIRED BY BOARD OF HEALTH
Yes. Suggested motion: "I move that the Board of Health approve the fee list as presented and adopt fees for permits and licenses at those levels for FY 2026.	
3.	BACK UP INFORMATION:
• Draft Permit Fee list for FY2026 • Calculations of Revenue from FY 2025 with Proposed Revenue for FY 2026 • Draft Risk-Based Food Establishment Fee List & Revenue Comparison	



**Needham Public
Health Division**
Prevent. Promote. Protect.

Board of Health

Edward Cosgrove, PhD Stephen Epstein, MD, MPP Tejal K. Gandhi, MD, MPH

Robert Partridge, MD, MPH Aarti Sawant-Basak, PhD

PERMIT & LICENSE FEE SCHEDULE

Permit/License	FY25 Fee	FY26 Fee?
Animal Permit:		
• Initial Application	\$100.00	\$100.00
• Annual Renewal	N/A	\$50.00
• Additional per species for laboratory animals	\$50.00	\$50.00
Beaver Removal Permit <i>(not subject to Late Renewal Surcharges)</i>	\$75.00	\$360.00
Biosafety Laboratory Initial Registration	\$500.00	\$1,000.00
• Annual Renewal	N/A	\$500.00
• Plan Modification and Reinspection	\$250.00	\$180.00
Body Art:		
• Establishment Permit	\$700.00	\$180.00
• Establishment Plan Review	N/A	\$250.00
• Practitioner Permit	\$575.00	\$80.00
Bodyworks:		
• Establishment Permit	\$125.00	\$280.00
• Establishment Plan Review	\$200.00	\$250.00
• Practitioner Permit	\$25.00	\$80.00
Camp License (For Profit Groups)	\$250.00	\$250.00
Camp License (Non-Profit Groups)	\$125.00	\$125.00
Demolition Permit <i>(not subject to Late Renewal Surcharges)</i>	\$100.00	\$40.00
Dumpster Permit	N/A	\$50.00
Food:		
• Caterer's Fee (as an add on to existing permit)	N/A	\$150.00
• Farmers Market Seasonal Permit	\$50.00	\$80.00
~~• Food Service – less than 50 seats~~	~~\$250.00~~	~~N/A~~
~~• Food Service – 50 to 149 seats~~	~~\$450.00~~	~~N/A~~
~~• Food Service – 150 to 250 seats~~	~~\$550.00~~	~~N/A~~
~~• Food Service – more than 250 seats~~	~~\$650.00~~	~~N/A~~
• Food Service – Risk Level 1	N/A	\$200.00
• Food Service – Risk Level 2	N/A	\$300.00
• Food Service – Risk Level 3	N/A	\$450.00
• Food Service – Risk Level 4	N/A	\$600.00
• Food Service – Residential Kitchen	\$125.00	\$125.00
• Frozen Dessert Fee (per machine)	N/A	\$50.00

Commented [TM1]: Public Health Division recommends \$100.00

Commented [TM2]: Public Health Division recommends \$300.00

Commented [TM3]: Public Health Division recommends \$150.00

Commented [TM4]: Public Health Division recommends \$100.00

First discussed on February 21, 2025. First officially proposed May 20, 2025. Adopted by unanimous vote of the Board of Health on June 20, 2025. Effective July 1, 2025.

Permit/License	FY25 Fee	FY26 Fee?
• Mobile Food Service Vendors (non-Selectboard approved vendors)	\$125.00	~~\$120.00~~
• Plan Reviews for New Mobile Food Trucks (Seasonal)	\$50.00	\$50.00
• Plan Reviews for All Food Service or Retail Establishments	\$225.00	~~\$300.00~~
~~• Retail Food Establishment – Prepackaged foods, Refrigeration~~	~~\$125.00~~	~~N/A~~
~~• Retail Food Establishment less than 1,500 square feet~~	~~\$150.00~~	~~N/A~~
~~• Retail Food Establishment between 1,500 and 3,000 square feet~~	~~\$250.00~~	~~N/A~~
~~• Retail Food Establishment between 3,000 and 6,000 square feet~~	~~\$450.00~~	~~N/A~~
~~• Retail Food Establishment between 6,000 & 10,000 square feet~~	~~\$550.00~~	~~N/A~~
~~• Retail Food Establishment more than 10,000 square feet~~	~~\$750.00~~	~~N/A~~
• Retail Food Establishment – Supermarkets, Warehouses	N/A	~~\$600.00~~
• Temporary/One Day Event Permit	\$50.00	~~\$120.00~~
Funeral Director	N/A	~~\$50.00~~
Hauler Company (Grease, Medical, Rubbish, Septic)	\$150.00	~~\$40.00~~
Hotel/Motel	\$250.00	~~\$160.00~~
<u>Marijuana:</u>		
• Plan Review (Treatment Center or Cultivation/Processing Site)	\$1,000.00	\$1,000.00
• Plan Review (Storage/Disposal)	\$1,000.00	\$1,000.00
• Plan Review (Continuity of Business/Continuity of Operations)	NO FEE	NO FEE
• Plan Review (Security)	NO FEE	NO FEE
• Marijuana Treatment Center (MTC) Initial Permit Application	\$2,500.00	~~\$1,200.00~~
• Marijuana Treatment Center (MTC) Annual Permit Renewal	\$1,250.00	~~\$720.00~~
• Marijuana Home Cultivation Permit (Home Permit)	\$150.00	~~NO FEE~~
Pre-Residency Housing Inspection ¹ (not subject to Late Renewal Surcharges)	\$80.00	~~\$180.00~~
Sharps Permit	\$100.00	\$100.00
<u>Swimming Pool:</u>		
• Public/Semi-Public Pool – Permit (Annual)	\$300.00	~~\$420.00~~
• Public/Semi-Public Pool – Permit (Seasonal)	\$200.00	~~\$420.00~~
• Public/Semi-Public Pool – Wading and Special Purpose Pools	N/A	~~\$100.00~~
• Public/Semi-Public Pool – Plan Review (includes 2 free revisions)	\$250.00	\$250.00
• Public/Semi-Public Pool – Plan Revisions	\$50.00	\$50.00
• Public/Semi-Public Pool – Re-Inspection	\$125.00	~~\$150.00~~
• Public/Semi-Public Pool – Variance Initial Application	\$150.00	~~\$120.00~~
• Public/Semi-Public Pool – Variance Renewal	\$75.00	~~\$30.00~~
<u>Tanning (Indoor Tanning):</u>		
• Initial Permit Application	\$500.00	\$500.00
• Permit Renewal (per Tanning Bed/Booth)	\$125.00	\$125.00
<u>Title V/Septic:</u> (not subject to Late Renewal Surcharges)		
• Installer's Annual Permit (new- including exam)	\$250.00	~~\$150.00~~
• Installer's Renewal (no exam)	\$125.00	~~\$60.00~~
• Installer's Recertification Test (biennial)	\$50.00	~~\$90.00~~
• Soil Application Inspection (less than 2 hours)	\$425.00	~~\$300.00~~

Commented [TM5]: Public Health Division recommends \$125

Commented [TM6]: Public Health Division recommends \$60.00

Commented [TM7]: Public Health Division recommends \$100.00

¹ Pre-Residency Housing Inspections as required by state and federal housing assistance programs only, unless specifically approved by the Director of Health & Human Services.

• Soil Application (each additional hour over 2 initial hours)	\$75.00	\$130.00
• Septic Construction Permit (Major)	\$400.00	\$480.00
• Septic Construction Permit (Minor)	\$125.00	\$120.00
• Septic Plan Review (includes one free revision)	\$275.00	\$275.00
o Addition to home with Septic	\$75.00	\$75.00
o Deed Restriction	\$125.00	\$125.00
o Additional Plan Reviews for Septic Design	\$50.00	\$50.00
• Septic System Excavation & Trench Permit	\$50.00	\$30.00
• Septic System Local Upgrade Approval Request	\$150.00	\$150.00
Tobacco Permit	\$700.00	\$360.00
Well Application – Geothermal, Irrigation <i>(not subject to Late Renewal) Surcharges</i>	\$250.00	\$160.00

Commented [TM8]: Public Health Division recommends \$500.00

Notes

- In order for a permit or license renewal to be considered by the Needham Public Health Division, it must be:
 - o submitted with all required documentation and attachments;
 - o complete and accurate; and
 - o inclusive of payment in full.
- Permit and license renewals (which are accurate and complete and which include payment) will be reviewed and approved promptly. The processing time for applications is at least 15 business days, but every effort will be made to review applications promptly and those which are complete and accurate and inclusive of full payment may be processed in less time (potentially substantially less time).
 - o **Delayed License/Permit Renewals** are those submitted within 15 business days of permit/license expiration.
 - o **Late License/Permit Renewals** are those submitted within 10 business days of permit/license expiration.
 - o **Last-Minute License/Permit Renewals** are those submitted within 5 business days of permit/license expiration.
- Expedited reviews of permit and license renewals may be ordered at the applicant's discretion to avoid a possible gap in licensure, but that is not required.
- Non-profit organizations may, upon request and when approved by the Director of Health & Human Services, receive a discount of up to 50% on the applicable fees.
- In extraordinary circumstances, the Director of Health & Human Services or the Board of Health's designated agent may modify or reduce the fees noted above if, in that person's opinion, it is in the best interests of the Town of Needham. The Director or the designated agent will inform the Board of any modifications and the rationale for such actions at the Board's next meeting.
- Mobile Food Vendor permits and permits for the Farmers Market are the subjects of an extended cooperative program with other Town Departments and community partners that includes a bundled or simplified fee, and thus any fees may be waived if approved by the Director of Health & Human Services.

<u>Surcharges</u>	<u>New</u>
• Delayed License/Permit Renewal	\$75.00
• Late License/Permit Renewal	\$150.00

• Last-Minute License/Permit Renewal	DOUBLE FEE
• Noncompliance Re-inspection <i>(unless otherwise specified)</i>	\$150.00
• Inspection following Noncompliance for Operating without a Permit	DOUBLE FEE

Permit Type	Total Number of Permits *	Current Permit Fees *	Calculated Permit Application Fees	Permit Fee Difference	Current Revenue *	Projected Revenue Based on Calculated Fees	Revenue Difference
This sheet tracks what the projected revenue is based on calculated permit fees and the total number of permits issued. The table has been customized to Needham's permit fees. Please fill in Column B with number of permits for analysis. You are also able to compare Needham's current permit fees (Column C) against the calculated permit fees (Column E).							
~~ FOOD ~~~~ (Plan Review Fees Not Included)							
Farmers Market Seasonal Permit	15	\$ 50.00	\$ 80.00	\$ (30.00)	\$ 750.00	\$ 1,200.00	\$450.00
Food Service – less than 50 seats		\$ 250.00	\$ 660.00	\$ (410.00)	\$ -	\$ -	\$0.00
Food Service – 50 to 149 seats		\$ 450.00	\$ 660.00	\$ (210.00)	\$ -	\$ -	\$0.00
Food Service – 150 to 250 seats		\$ 550.00	\$ 660.00	\$ (110.00)	\$ -	\$ -	\$0.00
Food Service – more than 250 seats		\$ 650.00	\$ 660.00	\$ (10.00)	\$ -	\$ -	\$0.00
Food Service – Catered Feeding Location		\$ 175.00	\$ 300.00	\$ (125.00)	\$ -	\$ -	\$0.00
Food Service – Residential Kitchen	12	\$ 125.00	\$ 120.00	\$ 5.00	\$ 1,500.00	\$ 1,440.00	(\$60.00)
Food Service - Risk Level 1	30	\$ 4,475.00	\$ 4,400.00		\$ 4,475.00	\$ 4,400.00	(\$75.00)
Food Service - Risk Level 2	61	\$ 15,775.00	\$ 15,000.00		\$ 15,775.00	\$ 15,000.00	(\$775.00)
Food Service - Risk Level 3	19	\$ 8,350.00	\$ 8,550.00		\$ 8,350.00	\$ 8,550.00	\$200.00
Food Service - Risk Level 4	15	\$ 6,300.00	\$ 8,400.00		\$ 6,300.00	\$ 8,400.00	\$2,100.00
Food Service - 2nd Reinspection			\$ 90.00	\$ (90.00)	\$ -	\$ -	\$0.00
Mobile Food Service Vendors Non-Selectboard approved vendors	3	\$ 125.00	\$ 120.00	\$ 5.00	\$ 375.00	\$ 360.00	(\$15.00)
Retail Food Establishment – Prepackaged foods, Refrigeration		\$ 125.00	\$ 150.00	\$ (25.00)	\$ -	\$ -	\$0.00
Retail Food Establishment less than 1,500 square feet		\$ 150.00	\$ 180.00	\$ (30.00)	\$ -	\$ -	\$0.00
Retail Food Establishment between 1,500 and 3,000 square feet		\$ 250.00	\$ 360.00	\$ (110.00)	\$ -	\$ -	\$0.00
Retail Food Establishment between 3,000 and 6,000 square feet		\$ 450.00	\$ 120.00	\$ 330.00	\$ -	\$ -	\$0.00
Retail Food Establishment between 6,000 & 10,000 square feet		\$ 550.00	\$ 300.00	\$ 250.00	\$ -	\$ -	\$0.00
Retail Food Establishment more than 10,000 square feet		\$ 750.00	\$ 360.00	\$ 390.00	\$ -	\$ -	\$0.00
Temporary/One Day Event Permit	43	\$ 50.00	\$ 120.00	\$ (70.00)	\$ 2,150.00	\$ 5,160.00	\$3,010.00
~~ TITLE V/SEPTIC ~~~~							
Installer's Annual Permit (new- including exam)	9	\$ 250.00	\$ 150.00	\$ 100.00	\$ 2,250.00	\$ 1,350.00	(\$900.00)
Installer's Renewal (no exam)	7	\$ 125.00	\$ 60.00	\$ 65.00	\$ 875.00	\$ 420.00	(\$455.00)
Installer's Recertification Test (biennial)	2	\$ 50.00	\$ 90.00	\$ (40.00)	\$ 100.00	\$ 180.00	\$80.00
Soil Application Inspection (less than 2 hours)	3	\$ 425.00	\$ 300.00	\$ 125.00	\$ 1,275.00	\$ 900.00	(\$375.00)
Soil Application (each additional hour over 2 initial hours)	0	\$ 75.00	\$ 130.00	\$ (55.00)	\$ -	\$ -	\$0.00
Septic Construction Permit (Major)	5	\$ 400.00	\$ 480.00	\$ (80.00)	\$ 2,000.00	\$ 2,400.00	\$400.00
Septic Construction Permit (Minor)	3	\$ 125.00	\$ 120.00	\$ 5.00	\$ 375.00	\$ 360.00	(\$15.00)
Septic System Excavation & Trench Permit	10	\$ 50.00	\$ 30.00	\$ 20.00	\$ 500.00	\$ 300.00	(\$200.00)
Septic System Variance Request	0	\$ 150.00	\$ 60.00	\$ 90.00	\$ -	\$ -	\$0.00
~~ WELL ~~~~							
Well Application – Geothermal, Irrigation	3	\$ 250.00	\$ 160.00	\$ 90.00	\$ 750.00	\$ 480.00	(\$270.00)
~~ SWIMMING POOLS ~~~~							
Public/Semi-Public Pool – Permit (Annual)	7	\$ 300.00	\$ 420.00	\$ (120.00)	\$ 2,100.00	\$ 2,940.00	\$840.00
Public/Semi-Public Pool – Permit (Seasonal)	7	\$ 200.00	\$ 420.00	\$ (220.00)	\$ 1,400.00	\$ 2,940.00	\$1,540.00
Public/Semi-Public Pool – Re-Inspection	11	\$ 125.00	\$ 150.00	\$ (25.00)	\$ 1,375.00	\$ 1,650.00	\$275.00
Public/Semi-Public Pool – Variance Initial Application	0	\$ 150.00	\$ 120.00	\$ 30.00	\$ -	\$ -	\$0.00
Public/Semi-Public Pool – Variance Renewal	7	\$ 75.00	\$ 30.00	\$ 45.00	\$ 525.00	\$ 210.00	(\$315.00)
~~ CAMPS ~~~~							
Camp License (For Profit Groups)	2	\$ 250.00	\$ -	\$ 250.00	\$ 500.00	\$ -	(\$500.00)
Camp License (Non-Profit Groups)	6	\$ 125.00	\$ -	\$ 125.00	\$ 750.00	\$ -	(\$750.00)
~~ MARIJUANA ~~~~							
Marijuana Treatment Center (MTC) Initial Permit Application	0	\$ 2,500.00	\$ 1,200.00	\$ 1,300.00	\$ -	\$ -	\$0.00
Marijuana Treatment Center (MTC) Annual Permit Renewal	1	\$ 1,250.00	\$ 720.00	\$ 530.00	\$ 1,250.00	\$ 720.00	(\$530.00)
Marijuana Home Cultivation Permit (Home Permit)	0	\$ 150.00	\$ -	\$ 150.00	\$ -	\$ -	\$0.00
~~ TANNING ~~~~							
Initial Permit Application	0	\$ 500.00	\$ -	\$ 500.00	\$ -	\$ -	\$0.00
Permit Renewal (per Tanning Bed/Booth)	0	\$ 125.00	\$ -	\$ 125.00	\$ -	\$ -	\$0.00
~~ MISCELLANEOUS ~~~~							
Tobacco Permit	6	\$ 700.00	\$ 360.00	\$ 340.00	\$ 4,200.00	\$ 2,160.00	(\$2,040.00)
Animal Permit	17	\$ 100.00	\$ 60.00	\$ 40.00	\$ 1,700.00	\$ 1,020.00	(\$680.00)
- Additional per species for laboratory animals	2	\$ 50.00	\$ 50.00	\$ -	\$ 100.00	\$ 100.00	\$0.00
Beaver Removal Permit	1	\$ 75.00	\$ 360.00	\$ (285.00)	\$ 75.00	\$ 360.00	\$285.00
Biosafety Laboratory Initial Registration and Annual Renewal	4	\$ 500.00	\$ 1,020.00	\$ (520.00)	\$ 2,000.00	\$ 4,080.00	\$2,080.00

Notes: The Impacts to Revenue tab only accounts for Permits. Plan Reviews are not included.
Food service and retail food establishments are all includes in Food Service-Risk Levels. Because the fees paid in 2025 were not uniform across risk levels, the current permit fees and calculated permit application fees columns include the SUM of all of the risk level restaurants vs. permit cost by restaurant. Calculations for each risk level on food risk level tab.

Proposed	Risk 1	Risk 2	Risk 3	Risk 4	Retail Supermarket	Non-profit
	\$ 200.00	\$ 300.00	\$ 450.00	\$ 600.00	\$ 600.00	-

Permit Type	Total Number of Permits *	Current Permit Fees *	Calculated Permit Application Fees	Permit Fee Difference	Current Revenue *	Projected Revenue Based on Calculated Fees	Revenue Difference
This sheet tracks what the projected revenue is based on calculated permit fees and the total number of permits issued. The table has been customized to Needham's permit fees. Please fill in Column B with number of permits for analysis. You are also able to compare Needham's current permit fees (Column C) against the calculated permit fees (Column E).							
- Plan Modification and Reinspection	0	\$ 250.00	\$ 180.00	\$ 70.00	\$ -	\$ -	\$0.00
Body Art Establishment	1	\$ 700.00	\$ 180.00	\$ 520.00	\$ 700.00	\$ 180.00	(\$520.00)
Body Art Practitioner Permit	1	\$ 575.00	\$ 80.00	\$ 495.00	\$ 575.00	\$ 80.00	(\$495.00)
Bodyworks Establishment Permit	7	\$ 125.00	\$ 280.00	\$ (155.00)	\$ 875.00	\$ 1,960.00	\$1,085.00
Bodyworks Practitioner Permit	8	\$ 25.00	\$ 80.00	\$ (55.00)	\$ 200.00	\$ 640.00	\$440.00
Demolition Permit	57	\$ 100.00	\$ 40.00	\$ 60.00	\$ 5,700.00	\$ 2,280.00	(\$3,420.00)
Hauler Company (Grease, Medical, Rubbish, Septic)	59	\$ 150.00	\$ 40.00	\$ 110.00	\$ 8,850.00	\$ 2,360.00	(\$6,490.00)
Hotel/Motel	3	\$ 250.00	\$ 160.00	\$ 90.00	\$ 750.00	\$ 480.00	(\$270.00)
Pre-Residency Housing Inspection	5	\$ 80.00	\$ 180.00	\$ (100.00)	\$ 400.00	\$ 900.00	\$500.00
Sharps Permit	10	\$ 100.00	\$ 100.00	\$ -	\$ 1,000.00	\$ 1,000.00	\$0.00
TOTAL	462	\$ 51,030.00	\$ 49,100.00		\$ 82,825.00	\$ 76,960.00	(\$5,865.00)

Establishment_Name	Risk Level	Permit #	Fee Paid (2025)	Proposed (in Dollars)
Avita of Needham	4	10443	\$450.00	\$600.00
Beth Israel Deaconess Hospital Kitchen	4	10485	\$0.00	\$0.00
Briarwood Nursing and Rehab Center	4	10684	\$450.00	\$600.00
Fuji Steak House	4	10403	\$450.00	\$600.00
Gari Japanese Fusion Bistro	4	10552	\$450.00	\$600.00
New Garden Restaurant	4	10579	\$450.00	\$600.00
North Hill Bistro	4	10449	\$550.00	\$600.00
North Hill Central Ave Bakery & Café	4	10448	\$250.00	\$600.00
North Hill Central Kitchen-pine edge	4	10455	\$450.00	\$600.00
North Hill Main Kitchen	4	10454	\$450.00	\$600.00
Rainbow ADHC of Needham Riverside	4	10681	\$450.00	\$600.00
Yummi Sushi @ Sudbury Farms	4	10675	\$250.00	\$600.00
Volante Farms	4	10415	\$750.00	\$600.00
Wingate Residences	4	10570	\$450.00	\$600.00
Zdorovie ADH	4	10334	\$450.00	\$600.00
TOTAL	15		\$6,300.00	\$8,400.00

Establishment_Name	Risk Level	Permit #	Fee Paid (2025)	Proposed (in Dollars)
Blue on Highland	3	10436	\$550.00	\$450.00
Conrads	3	10659	\$550.00	\$450.00
COOK Needham	3	10453	\$450.00	\$450.00
Dragon Chef- Lyco Investments	3	10671	\$250.00	\$450.00
Epicurean Feast	3	10476	\$450.00	\$450.00
Founders Café @ Shark Ninja	3	10308	\$450.00	\$450.00
French Press Bakery	3		\$450.00	\$450.00
Fresco	3	10355	\$450.00	\$450.00
Hazels Bakery	3	10406	\$250.00	\$450.00
Hungry Coyote	3	10587	\$450.00	\$450.00
Little Spoon	3	10470	\$450.00	\$450.00
Mandarin Cuisine	3	10373	\$450.00	\$450.00
Masala Art	3	10444	\$550.00	\$450.00
Spiga	3	10412	\$450.00	\$450.00
Sweet Basil	3	10394	\$250.00	\$450.00
The Common Room	3	10584	\$450.00	\$450.00
The Farmhouse	3	10580	\$450.00	\$450.00
The Gordon Companies (Bakers Best Catering)	3	10395	\$550.00	\$450.00
The James	3	10399	\$450.00	\$450.00
SUM	19		\$8,350.00	\$8,550.00

Establishment_Name	Risk Level	Permit #	Fee Paid (2025)	Proposed (in Dollars)
7-Eleven- 32485C	2	10590	\$250.00	\$300.00
A New Leaf	2	10417	\$250.00	\$300.00

Abbott's Frozen Custard	2	10687	\$250.00	\$300.00
Bagel's Best Inc.	2	10424	\$250.00	\$300.00
Broadmeadow Elementary School	2		\$0.00	\$0.00
Café Fresh Bagel	2	10370	\$250.00	\$300.00
Cappella	2	10562	\$450.00	\$300.00
Comella's	2	10582	\$250.00	\$300.00
Cookie Monstah	2	10418	\$250.00	\$300.00
Cookies By Design- MeiraMore, Inc.	2	10359	\$250.00	\$300.00
Domino's Pizza	2	10369	\$250.00	\$300.00
Dunkin Donuts Chestnut	2	10481	\$250.00	\$300.00
Dunkin Donuts GPA	2	10480	\$250.00	\$300.00
Dunkin Donuts Highland	2	10482	\$250.00	\$300.00
El Mariachi	2	10586	\$250.00	\$300.00
Eliot Elementary School	2		\$0.00	\$0.00
Forklift Catering	2	10585	\$250.00	\$300.00
Gianni's Deli & Pizza	2	10423	\$250.00	\$300.00
Gyro and Kebab House Needham	2	10646	\$250.00	\$300.00
Hearth Pizzeria	2	10556	\$450.00	\$300.00
High Rock School	2		\$0.00	\$0.00
Homewood Suites Kitchen & Retail	2	10402	\$250.00	\$300.00
Junction Ice Cream	2	10410	\$250.00	\$300.00
Just Salads	2	10549	\$450.00	\$300.00
Kindercare Education	2	10407	\$250.00	\$300.00
Kosta's Pizza & Seafood	2	40542	\$250.00	\$300.00
Le Petit Four, The Little Oven	2	10672	\$150.00	\$300.00
McDonald's	2	10404	\$450.00	\$300.00
Micromarket at The Exchange (Guckenheimer)	2	10352	\$650.00	\$300.00
Mitchell Elementary School	2		\$0.00	\$0.00
Monsoon Kitchen	2	10664	\$250.00	\$300.00
Needham Golf Club	2	10474	\$450.00	\$300.00
Needham High School	2		\$0.00	\$0.00
Needham House of Pizza- International House of	2	10427	\$250.00	\$300.00
Needham Nutrition	2			\$0.00
Needham Pool and Raquet Club, Inc.	2	10360	\$150.00	\$300.00
Newman Elementary School	2		\$0.00	\$0.00
Nicholas' Pizzeria	2	10583	\$250.00	\$300.00
Olin College of Engineering	2	10674	\$0.00	\$0.00
Panera Bread #3017	2	10374	\$450.00	\$300.00
Pine Village	2	10519	\$175.00	\$300.00
Pollard Middle School	2		\$0.00	\$0.00
Residence Inn by Marriott Kitchen & Retail	2	10589	\$250.00	\$300.00
Restaurant Depot	2	10375	\$750.00	\$300.00
Elliot House-Riverside Community Care & Home	2	10466	\$0.00	\$0.00
Roche Bros. Supermarket	2	10460	\$750.00	\$600.00
Sheraton Needham	2	10680	\$450.00	\$300.00
St. Joseph Elementary School	2	10386	\$0.00	\$0.00

St. Sebastian's School	2	10677	\$550.00	\$300.00
Starbucks Coffee #7227	2	10661	\$250.00	\$300.00
Subway	2	10490	\$250.00	\$300.00
Sudbury Farms	2	10458	\$750.00	\$600.00
Sunita Williams Elementary School	2		\$0.00	\$0.00
Sweet Boba	2	10486	\$250.00	\$300.00
Sweet Tomatoes Pizza	2	10419	\$250.00	\$300.00
Temple Beth Shalom/Day Care	2	10339	\$0.00	\$0.00
Town House of Pizza	2	10421	\$250.00	\$300.00
Trader Joe's #504	2	10662	\$550.00	\$600.00
Treat Cupcake Bar	2	10416	\$250.00	\$300.00
Trip Advisor	2	10430	\$650.00	\$300.00
Walker, Inc	2	10568	\$0.00	\$0.00
SUM	61		\$15,775.00	\$15,000.00

Establishment_Name	Risk Level	Permit #	Fee Paid (2025)	Proposed (in Dollars)
Ben & Jerry's Catering MA Commissary	1	10478	\$150.00	\$200.00
Berraquera Coffee	1	10553	\$125.00	\$200.00
Buddha Superfoods	1	10676	\$125.00	\$200.00
Center at the Heights-Council on Aging	1	10446	\$0.00	\$0.00
ChocAllure	1	10673	\$125.00	\$200.00
Congregational Church of Needham	1		\$0.00	\$0.00
CVS #674	1	10408	\$550.00	\$200.00
CVS#2128	1	10409	\$550.00	\$200.00
Everyday Bakeshop	1		\$125.00	\$200.00
Great Plain Ave Gas	1	10372	\$150.00	\$200.00
Katie Eats Boston	1	10688	\$125.00	\$200.00
Kitchen of Oz	1	10663	\$125.00	\$200.00
Knowledge Beginnings	1	10695	\$250.00	\$200.00
Lt. Manson H. Carter V.F.W. Post 2498	1		\$0.00	\$0.00
Memorial Park Building	1		\$0.00	\$0.00
Mimi's Mama	1	10702	\$125.00	\$200.00
Need Em Cookies	1	10608	\$125.00	\$200.00
Needham Center Fine Wine	1	10512	\$150.00	\$200.00
Needham Community Council-Food Pantry	1	10392	\$0.00	\$0.00
Needham Creamery & Bakery	1	10647	\$125.00	\$200.00
Pauline's Bakery	1	10420	\$125.00	\$200.00
Reveler Beverage Company	1	10563	\$150.00	\$200.00
Speedway #2472	1	10492	\$150.00	\$200.00
Sweet Saba's	1	10368	\$125.00	\$200.00
Temple Aliyah	1	10488	\$0.00	\$0.00
The Congregational Church of Needham	1	10682	\$0.00	\$0.00
The Delicious Secret	1	10561	\$125.00	\$200.00
The Village Club	1	10411	\$0.00	\$0.00
Tiffany's Brownies & Treats LLC	1	10451	\$125.00	\$200.00

Walgreens #01852	1	10489	\$750.00	\$200.00
SUM	30		\$4,475.00	\$4,400.00



Needham Public Health Division

Prevent. Promote. Protect.



Board of Health Town of Needham AGENDA FACT SHEET

MEETING DATE: June 20, 2025

Agenda Item	Mental Health Services Overview
Presenter(s)	Sara Shine, Director of Youth & Family Services

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED
	The discussion topics will include the services provided by Youth & Family and how this is helping support the growing mental health needs of the community. There will also be a more in depth conversation about cell phone use and community guidance around this.
2.	VOTE REQUIRED BY BOARD OF HEALTH
	Discussion Only
3.	BACK UP INFORMATION:
	• Power Point Presentation • Attorney General's Toolkit Around Cell Phone Use and Social Media • SWAC report



Needham Youth & Family Services



@NeedhamYouthServices



@Needham_Youth



@NeedhamYouthServices

Purpose

The Needham Youth & Family Services Division provides leadership, and a community focus on youth and family issues and promotes community wellness. The Division accomplishes this through advocacy, education, partnering with other organizations, and providing high quality programs and vital mental health support to the residents and students of Needham. Strategic approaches include therapeutic treatment, enrichment programs, workshops, and community-wide presentations. The Division also actively engages with the community through participation in several committees and coalitions. Youth & Family Services provides crisis support to individuals and to the broader community. All of these efforts are aimed at fostering the well-being and healthy development of children and adolescents.

Clinical Programming

- Individual and Family Counseling
- School Counseling
- Case Management
- Crisis Management
- Managing Interface Referral Service
- Youth Diversion
- Parenting Supports
- Group Programming for Youth
 - Social skills groups
 - Transitional ages support
 - Grief support
 - Trauma
 - High School stressors
 - Anxiety
 - Coping Skills
 - Divorce Group

Social Skills Groups

INFORMED PARENTS, SUPPORTED KIDS, CONNECTED FAMILIES

NAVIGATING DIVORCE

WORKSHOPS
AIMED TO SUPPORT YOU AND YOUR KIDS THROUGH THE EXPERIENCE OF DIVORCE

“HOW CAN WE SUPPORT EACH OTHER? HOW CAN WE TALK ABOUT THIS?”
“HOW CAN I TAKE CARE OF MYSELF?”
“SHOULD I BE WORRIED?”

PARENTS AND CHILDREN WILL ATTEND THEIR RESPECTIVE WORKSHOPS AT THE SAME TIME FOR PARALLEL SUPPORT

PIZZA SERVED FOR THE KIDS

SCAN QR CODE TO REGISTER

QUESTIONS? EMAIL ELLEN WHIRLEY, LCSW AT EWHIRLEY@NEEDHAMMA.GOV

FEBRUARY 6
FEBRUARY 13
4:30-5:30PM
NEEDHAM YOUTH & FAMILY SERVICES
1475 HIGHLAND AVENUE
NEEDHAM



NEEDHAM YOUTH & FAMILY SERVICES

Teen Group TAKE OVER

FREE

MIDDLE + HIGH SCHOOLERS ARE WELCOME TO DROP IN!
NO REGISTRATION REQUIRED

NEEDHAM FREE PUBLIC LIBRARY

SNACKS & FACTS

LEARN ABOUT COMMUNITY SERVICE OPPORTUNITIES, COOL VIDEOS, GUEST SPEAKERS, AND MORE!

Common Ground Conversations

BRAIN BREAK ACTIVITIES

Beginning on Monday October 7th

Needham Free Public Library
Community Room

Mondays from 3:30PM - 4:30PM

Please contact: Community Outreach Clinician, Tony Serie - aserio@needhamma.gov / (781) 467 - 6983



NEEDHAM YOUTH & FAMILY SERVICES

JOIN US FOR

THURSDAYS
3:45-4:30PM
JUNCTION SUITE CONFERENCE ROOM,
2ND FLOOR OF NEEDHAM TOWN HALL

JAN 23
JAN 30
FEB 6
FEB 13
FEB 27
MAR 6

CANDID CONVERSATIONS
FOR 4TH AND 5TH GRADERS

INTERACTIVE GAMES,
SKILL BUILDING,
DEVELOPING
SELF-AWARENESS &
COMMUNICATION SKILLS

CONTACT
ELLEN WHIRLEY, LCSW
WITH QUESTIONS
EWHIRLEY@NEEDHAMMA.GOV
781-455-7500 EXT. 266

REGISTER FOR FREE ONLINE
WWW.NEEDHAMPROGRAMS.COM

NEEDHAM YOUTH & FAMILY SERVICES

JOIN US FOR

TUESDAYS
3:45-4:30PM
JUNCTION SUITE
NEEDHAM TOWN HALL, 2ND
FLOOR

JAN 21
JAN 28
FEB 4
FEB 11
FEB 25
MAR 4

GIGGLES, GAMES
AND FRIENDSHIPS
FOR 2ND AND 3RD GRADERS

INTERACTIVE GAMES,
SKILL BUILDING,
PROBLEM SOLVING &
HAVING FUN!

CONTACT
ELLEN WHIRLEY, LCSW
WITH QUESTIONS
EWHIRLEY@NEEDHAMMA.GOV
781-455-7500 EXT. 266

REGISTER FOR FREE ONLINE
WWW.NEEDHAMPROGRAMS.COM

Enrichment Programming

- Volunteers Around Needham
- Peer Mentoring
- Peer Tutoring
- SHOP (Students Helping Older People)
- Needham Unplugged Calendar
- Mental Health First Aid
 - Teen
 - Youth
- Baby Playgroups
- Family Nights
- Residential Employment Program
- Volunteer Program
- Community Presentations
 - Viewing of screenagers with facilitated family conversations
 - Deborah Farmer Kris - Emotions 101, helping your child name and navigate emotions
 - Michelle Icard – Essential Parenting Conversations

Community Based Programming

Together we assess the needs of the community and base programming, and services based on individual and larger scale group needs.

Community Connections office hours at the Library, RRC, YMCA, NCC, NHA

Parent consults/ support groups

Case management consults

Social skills groups

Diversion program

Short-term counseling

Curriculum/Workshops

Professional Development

Curriculum/Workshops

-
- **iDecide- Substance use program**
 - **Behavior Intervention Program**
 - **School Avoidance Training**
 - **Mental Health First Aid Training**
 - **Programming for transitional ages (Kindergarten, 6th, 7th, 9th, after HS)**
 - ***Most have in in-home option***

Community Involvement

The Youth Resource Network

The Substance Prevention Alliance of Needham

Chapter 84

The Domestic Violence Action Committee

The Community Crisis Intervention Team

Take Back the Night Club

The Homelessness Committee

Overdose Awareness

Online Safety Coalition

District Mental Health Committee

Management of the Crisis Donation Fund

Resource Guide



CELL PHONES AND SOCIAL MEDIA IN SCHOOLS

*A Toolkit for School Leaders
and Communities*

**OFFICE OF ATTORNEY GENERAL
ANDREA JOY CAMPBELL**



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INTRODUCTION

Smartphone and social media use are nearly universal amongst teens in America. Today, almost all teenagers have their own smartphone, and up to 95% of teenagers ages 13-17 report using social media, with over one-third reporting that they use it “almost constantly.”¹

In May 2023, the U.S. Surgeon General issued an Advisory on Social Media and Youth Mental Health, advising the public that, despite some benefits for some youth, the current body of evidence demonstrates that social media use poses a profound risk of harm to the mental health and well-being of children and adolescents.²

“With near universal social media use by America’s young people, these apps and sites introduce profound risk and mental health harms in ways we are only now beginning to fully understand. As physicians, we see firsthand the impact of social media, particularly during adolescence – a critical period of brain development.”

— Jack Resneck Jr., M.D., President, American Medical Association, statement on the U.S. Surgeon General’s Advisory: Social Media and Youth Mental Health, May 23, 2023

Schools have not been shielded from these effects. Teachers and school leaders across the country report grappling with the pervasive distractions caused by cell phones and social media use, with 72% of high school teachers citing cell phone use as a major problem in classrooms.³ School leaders in Massachusetts have reported significant impacts of cell phones and social media on students and the school environment, including distractions from learning, shortened student attention span, increased anxiety among students, negative peer interactions, and increases in cyberbullying, harassment, and hate incidents. Students use social media to plan and promote physical violence, with students recording fights on their phones then posting the videos on social media for “likes.”⁴ School leaders, educators, parents, and students in Massachusetts are asking for help.

This Toolkit is designed to provide information and resources to help schools navigate the challenges that cell phone⁵ and social media use present in their learning environments. It aims to support districts in developing and implementing policies, gaining buy-in from stakeholders, and fostering communities that collectively promote the well-being of children and youth.

The toolkit contains three main components:

1. Model Cell Phone Policy for schools and a list of key considerations for school leaders to tailor their policy to the needs of their district.
2. Guide for Developing Community Norms on cell phone and social media use outside of school hours.
3. Digital Media Literacy topics and strategies for teaching students responsible use of technology and digital media.

The Massachusetts Attorney General's Office is driving efforts to ensure that schools have the resources they need to address the impacts of cell phone and social media use on their learning environments.

These three components may be implemented together as part of a comprehensive approach, or individually, depending on the needs of the district. The Toolkit does not require school districts to make any specific changes. Rather, the Toolkit should be viewed as a *resource* for each district to gather the information that is most useful and relevant to its own efforts and needs.



SECTION 1:

POLICY

A growing number of schools in Massachusetts and nationwide are adopting policies to ban or restrict cell phone use during school hours to improve the learning environment and school culture. As of 2022, 76% of U.S. schools have prohibited the non-academic use of cell phones or smartphones.⁶ Schools with full-day phone-free policies (also known as “bell-to-bell” policies) report that students interact with each other more, are more engaged, and experience fewer disciplinary issues.⁷ Massachusetts superintendents have reported that implementing phone locking pouches and other bell-to-bell policies have led to marked improvements, including increased student attention, improved peer relationships, and reductions in cyberbullying.

Developing and implementing a cell phone policy for your school requires careful planning. Although “bell-to-bell” policies, further defined below, tend to be most effective, there are a range of implementation approaches. Rigorous implementation is critical to success, with clear expectations and procedures communicated to the entire school community, strong administrative support, and consistent enforcement across the school.

Rigorous implementation is critical to success, with clear expectations and procedures communicated to the entire school community, strong administrative support, and consistent enforcement across the school.

TYPES OF POLICIES

Schools across the country are currently implementing a range of strategies to manage cell phone and personal device use during the school day.⁸ The below chart lists three common types of policies, with key considerations for each:

- 1. Bell-to-Bell:** Cell phones are securely stored upon entering the building, and returned at the end of the day. Cell phones are physically inaccessible to students throughout the entire school day.
- 2. Off and Away:** Cell phones are expected to be powered off and stored out of sight during the entire school day, including class time, passing periods, and lunch. Students may store phones in their backpack, student locker, or other location out of sight. Students maintain physical access to their phones.
- 3. Limited Use:** Cell phones are expected to be powered off and stored out of sight during instructional periods, but may be used during designated times and in specific areas such as lunch or passing periods.

Please note: Schools increasingly provide students with school-issued devices (e.g. Chromebooks, iPads, other tablets, or laptops) to be used for educational purposes. In most schools, students also have access to school-owned desktop computers at different points during the school day. To manage the risks and ensure these devices are used solely for educational purposes, many schools implement internet restrictions, block access to social media applications, and enact other protections on all school-owned devices that students can access.

	PHONE-FREE "BELL-TO-BELL"	OFF + AWAY	LIMITED USE
Description	- Phones stored in a secure location when students arrive and are not physically accessible to students until the end of the day - E.g. lock boxes, locking pouches	Phones turned off and stored out of sight for entire day, in student backpacks or lockers, or in designated areas in each classroom (e.g. shoe racks, bins)	Phones allowed during designated times throughout the day, e.g., lunch, passing periods, and placed in backpacks or in designated areas in each classroom during class periods
Benefits	- Centralized and consistent implementation school-wide - Eliminates cell phone distraction in class and across the school building - Eliminates burden on teachers to enforce - Reduces strain on teacher-student relationships - Creates optimal environment for the development of in-person social skills	- Encourages student accountability - Reduces (but does not eliminate) cell phone distractions in class and around the school building - Encourages the development of in-person social skills	- Accommodates individual communication needs, especially for older students who may have after-school responsibilities - Fosters autonomy and encourages self-regulation
Drawbacks & Implementation Challenges	- Upfront cost of storage solutions (pouches, lockers) - Provides less opportunity for students (particularly at the high school level) to demonstrate autonomy and practice using their phone responsibly during school hours - Students unable to use personal cell phones during the school day to communicate with after-school employers or coordinate other after-school logistics	- Burden on teachers to enforce - Takes time away from teaching and learning - Contributes to strained teacher-student relationships - Potential for uneven enforcement - Risk of use during instructional time - Can create a culture of monitoring or "policing" phone-use	- Burden on teachers to enforce - Takes time away from teaching and learning - Contributes to strained teacher-student relationships - Can lead to battles convincing students to put their phones away during restricted-use times - Risk of use during instructional time - Relies on students to self-regulate phone use, which may be an unrealistic expectation - During designated periods when phones are permitted (e.g. lunch), students may engage in cyberbullying, video recording, and other non-educational uses - Can create a culture of monitoring or "policing" phone-use - Less opportunity for in-person social interaction and social skill development

	PHONE-FREE "BELL-TO-BELL"	OFF + AWAY	LIMITED USE
Common Parent Concerns	• Unable to reach their child on their personal cell phone during the school day • Concerns related to communication during emergencies	• Difficult to reach their child on their personal cell phone during the school day • Concerns related to communication during emergencies • Impact of teacher enforcement on teacher-student relationships • Distractions during instructional time	• Distractions during instructional time • Impact of teacher enforcement on teacher-student relationships • Negative impacts on peer dynamics and overall school culture • Cyberbullying during non-class times (e.g. lunch)
Age Group Considerations	• May be implemented at elementary, middle, and high school levels. • Implementation procedures may differ by grade level. E.g. at the elementary level, the policy may require personal cell phones to be left at home, whereas a front door cell phone locking protocol may be necessary at the middle and high school levels.	• May be used at middle or high school levels with careful implementation.	• Not recommended for elementary or middle school. May be used at high school level with careful implementation.
Massachusetts Examples	• Holyoke Middle Schools and High School • Brockton High School • Pioneer Valley	• Public Schools of Brookline • Mount Greylock Regional High School	• Lowell High School • Worcester Public Schools

Policy and Implementation Considerations

- Communicate clearly with the school community throughout the process of developing new policy. Identify any specific areas for input from school staff, families, and students.
- Policies and procedures may vary between elementary, middle, and high school levels. Ensure your policy and procedures clearly outline how the policy will be implemented at each level.
- Clearly communicate to school staff, families, and students the expectations and consequences for not complying with the policy.
- Decide how the policy will be enforced and how the school will respond if violations occur. Consider containing the role of teachers due to the potential impact on teacher-student relationships and instructional time.
- If implementing a bell-to-bell policy, decide upon and budget for storage solutions in advance.
 - Lock storage options include lock pouches, cell phone lockers, cell phone lockers with individual slots. Low-cost options include padded envelopes or pencil pouches stored in alphabetized compartments or hanging calculator storage systems located in the front office, homerooms, or other secure location monitored by staff.
- Establish clear protocols for parents/guardians to communicate with their child if necessary, during the school day (e.g. by calling the front office) and clear protocols in the event of an emergency at the school. Keep parent/guardian phone numbers and emergency contact information current.

Accommodating Students with Disabilities

Ensure that your policy accommodates the communication or other needs of students with disabilities or health conditions as required by their IEP, 504 Plan, or health plan.

Considerations for School-Owned Devices

Consider implementing internet restrictions and other protections on all school-owned devices that students have access to (including desktop computers in school buildings and school-issued individual devices) to ensure these devices are used solely for educational purposes.

If your school uses a social media account to communicate with parents and/or students, consider utilizing an alternative communication platform that does not require parents and students to have a social media account to receive information from the school.

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- Ensure your policy and procedures address legitimate communication needs of older students related to after-school responsibilities, such as contacting an employer regarding a job or coordinating with family-members for caregiving or transportation needs. These needs can be met in a variety of ways, such as allowing access to a phone in the school's front office or granting brief, temporary cell phone access at the administration's discretion.
 - Consider addressing in your policy other personal electronic devices, including smartwatches, headphones, personal laptops, tablets, and similar items that may provide access to social media and the internet or cause other distractions.
 - Review for alignment with broader policies, such as those addressing bullying and harassment, and supports student safety, privacy, and well-being.
 - If devices are part of the learning experience, differentiate between personal phone use and school-issued technology.
 - Consider whether the policy extends to school events outside of school hours and how it will be implemented in those settings.

Discipline Best Practice

Schools should be cautious about utilizing suspensions as a consequence for violating a cell phone policy. Cell phone policies aim to maximize time students spend in school learning, and suspensions lead to further missed instructional time. Instead, consider implementing Action Plans with students who are struggling to abide by the policy, and engage the student, family, and school social worker or other counseling staff to address any underlying needs that may be contributing to repeated noncompliance.

MODEL BELL-TO-BELL CELL PHONE POLICY⁹

[School District] Cell Phone and Personal Electronic Device Policy

[School District] is committed to fostering a school environment that prioritizes engaged learning, supports the development of social skills, and promotes the overall well-being of our students. To achieve this, [school district] is a cell phone-free community. This means that, subject to the exceptions outlined below, cell phones and other personal electronic devices are not accessible to students during school hours. Implementation of this policy varies by grade level, as further described below.

Definition of Personal Electronic Devices:

Personal electronic devices (“devices” as used herein) are defined as any electronic device utilized to access the internet, wi-fi, cellular telephone signals, or to capture or play images or video. These include, but are not limited to, smartphones, mobile phones, headphones, earbuds, smartwatches, tablets, laptops, and gaming devices.

The school reserves the right to classify additional devices as personal electronic devices.

Grade-Level Policies

Elementary School:

- **Policy:** Students are not permitted to bring cell phones or devices to school.
- **If Brought to School:** Cell phones and devices must be checked in at the front desk upon arrival and stored securely for the duration of the school day. They will be returned to students at the end of the day. Parents will receive a call from the school requesting that personal devices be left at home.

Middle School and High School:

- **Policy:** Students are not permitted access to their cell phones or other devices at school during school hours. Students are encouraged to leave devices at home. At the start of each school day, students must place their personal device in a designated locked or staff supervised storage area. Students will re-gain access to their device at the end of each school day.

Response to Policy Violations:

First incident: The cell phone or device will be confiscated and placed in the designated storage location for the remainder of the school day. The student can retrieve the device at the end of the day.

Second incident: The cell phone or device will be confiscated and placed in the designated storage location for the remainder of the school day. A school administrator will have a conversation with the student and contact the parent/guardian.

Third incident: A meeting will be held with the student, parent/guardian, and school administrator (and school counselor, social worker, or other staff, as appropriate) to review the policy and develop a written

“Cell Phone/Personal Device Action Plan.”

Repeat incidents (more than 2) may result in the loss of the privilege to bring personal devices to school. Beginning with the third incident, a meeting with the student and parent/guardian will be scheduled each time the policy is violated. At the meeting, the Action Plan will be modified as necessary and underlying needs of the student that may be contributing to repeated non-compliance will be discussed and addressed.

Parent-Student Communication During School Day:

Students needing to contact a parent/guardian during the school day may do so by using the phone in the front office, or by accessing their cell phone in the front office with administrator approval. Parent/guardian and emergency contact numbers should be kept current.

Parents/guardians needing to reach their student during the school day can contact the front office. The school will ensure urgent messages are promptly relayed.

Accommodations:

If a student has a disability or medical condition that requires a cell phone, or other device, the accommodation will be noted in the student’s IEP, 504 Plan, or health plan. The special education team coordinator or health office will notify appropriate staff of the necessary accommodations.

Students with outside responsibilities, such as after-school jobs or caregiving, should make all plans prior to the school day. If there is a need for a student to access their cell phone during the school day, they may do so in the front office or other designated location, and only with the permission of a school administrator.

Families should make arrangements with their child that don’t rely upon their child having access to a cell phone or device during school hours.

School events:

Students may not use cell phones or other devices at school-sponsored events.

Staff use of personal devices:

School staff are strongly discouraged from using cell phones or personal devices in front of students, except for essential educational purposes (e.g. taking photos in accordance with school policy, quick communication with another staff member, or quick, essential communication with a parent).

CONSIDERATIONS FOR COMMUNICATING THE FINAL POLICY

Communicating the Policy to Students and Families

- Update the school's student/parent handbooks to include the new policy.
- Use multiple channels, such as emails, newsletters, or school events like open houses, to communicate the policy to both students and families.
- Provide both online and in-person opportunities, such as webinars, town hall meetings, or Q&A sessions, for students and families to ask questions.
- Clearly explain the reasons for the policy, focusing on issues like distractions and cyberbullying, and highlight its benefits for an improved learning environment.
- Anticipate concerns around communication and loss of student autonomy and provide clear responses. Share an FAQ flyer addressing common questions, including those related to parent-student communication during the school day and emergency contact procedures. Refer to the [Sample FAQ](#) document in Appendix for sample responses to frequently raised concerns.
- Anticipate challenges during the transition period as students adapt to the new expectations. The shift will be hardest for *current* middle and high school students who are accustomed to using devices during school hours. Provide additional support to these students to manage anxiety and other emotions that may arise during the transition. The policy transition will be less challenging for younger students as these students and future cohorts of students will move into higher grades with the new expectations and norms already in place.
- Share success stories or testimonials from other schools that have seen positive results from similar policies.

Communicating with Staff and Broader Community

- Share the reasoning for the policy with teachers and staff, highlighting their own feedback on the topic, and emphasizing research or other evidence for how the policy is designed to minimize distractions and mitigate negative impacts of cell phone and social media use in the school.
- Establish clear roles for staff in the building relative to implementation of the policy. For example, schools may wish to limit the role of teachers and classroom support staff and place more responsibility for enforcing the policy in the hands of administrators. Schools should also think through whether there is a supportive role for school counselors or social workers for students who are struggling to follow the policy.

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- Provide training for staff on the policy and specific roles and responsibilities of different staff members.
 - Equip teachers with strategies to respond to student or parent complaints about the policy. Encourage discussions in the classroom and use role-playing in training to prepare for common objections.
 - Hold implementation check-in sessions with staff to address concerns and to promote consistency in the implementation of the policy.

By communicating transparently about the rationale for the policy and addressing common concerns upfront, schools can foster greater community support for the new policy.



SECTION 2:

COMMUNITY NORMS

Policies address cell phone and social media use during school hours, but stop short of addressing the challenges that arise with these technologies outside of school that nevertheless impact the school environment. In addition, parents increasingly face difficult choices as they encounter pressures to provide their child access to these technologies at earlier and earlier ages in order for them to belong with their peers. These and other factors have led schools and families to seek broader solutions. “Community Norms” empower families, students, educators, and community stakeholders to align around shared values and practices regarding cell phone, social media, and other technology use. By collectively committing to guiding our children around responsible technology use in all settings, Community Norms create consistency between school, home, and the broader community, and reinforce positive habits that benefit students’ learning, relationships, and well-being.

CHARACTERISTICS OF EFFECTIVE NORMS

While norms should be tailored to the specific needs of each community, strong norms share several key characteristics:

1. **Clear:** Norms should be easy to understand and short. Long paragraphs make it harder for people to find the point.
2. **Actionable:** Norms should establish clear and concrete expectations that families and community members can implement.

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3. **Flexible:** Norms should be adaptable, taking into account individual students' needs and differing family circumstances.
 4. **Focused on Community and Belonging:** Norms should affirm the community's values and provide supportive guidelines for families. Norms are not required and the focus should not be on compliance. Rather, the goal is for communities to coalesce around shared values that motivate families to voluntarily follow the norms.
 5. **Brief:** Fewer norms are better. It's best to aim for between 5 and 10 norms that reflect the values of the community and address its greatest needs.

SAMPLE NORMS AND CONSIDERATIONS

This section provides one example of what a complete set of Community Norms might look like. These sample norms may be used and adapted by your school community, or your community may choose to develop its own. Either way, it is vital for each community to engage in its own process of identifying common concerns, articulating the community's values, and ensuring norms reflect the specific needs of the community.

1. In-person interactions and activities are prioritized in our community, and device-use is limited.

- **Every child has device-free time built into their after-school hours.** Families strive to create and follow a schedule for device use, such as limiting device use to a specific time (e.g., one hour after school) or specific spaces (e.g., only in common spaces of the home). Individual families may choose to designate certain activities and times as device-free, such as meals, family gatherings, bedtime, and during homework, to foster connection, improve focus, and minimize distractions.
- **Bedrooms at night are tech-free spaces.** This norm helps ensure children are getting adequate sleep and avoid the negative impacts associated with late-night technology consumption. Individual families may set the time for devices to be moved out of bedrooms and decide where to store devices at night (e.g., in a common area). Families may consider purchasing inexpensive alarm clocks if necessary to replace cell phone alarms.

2. Our community commits and supports families to wait until high school (9th grade) to provide personal, internet-connected smartphone devices to children.

- We remind ourselves that while this may be a dramatic cultural shift and a difficult transition for current youth, younger children and future generations will not experience this change, only the new norm. If there are legitimate needs to communicate with our children on a personal smartphone earlier than high school (e.g. 7th or 8th grade), we commit to providing our middle schoolers with smartwatches with restricted internet access or mobile phones (i.e. “flip phones” or “dumb phones”) to avoid the risks associated with constant social media and internet access for young developing brains.

3. We take the harms and risks of social media use seriously. We therefore commit as a community to wait to enable social media apps on our children’s phones until age 16.

Considerations for providing access to smartphones and social media:

First review the research on impacts of social media use by children and youth then decide upon a guideline around the age/grade to enable access to smartphones and social media based on a review of the data and expert recommendations.

4. Adults in our community are self-aware and intentional about their own device use and strive to minimize cell phone use in front of children.

- We remind ourselves that our behavior as adults serves as a model for our children.

5. Hate and bullying have no place in our community.

- As a community, we value differences and teach our children to be kind and respect others.
- As a community, we strive to create a culture of inclusivity and belonging both in and out of school. This means we teach our children to include, not exclude others, regardless of differences or peer pressures.
- Together, we aim to ensure every child knows what to do when they witness hate or bullying.
- We work to ensure that all school staff, students, and families know how to identify bullying, harassment, and hate, and know how to respond when it occurs, including how/ to whom to report it.

6. All youth understand and follow the general rule of thumb not to text, message, or post anything online that they wouldn't want everyone to see (including their parents, peers, teachers, the principal).

- Youth understand that their messages and posts- including images- can be shared with others, and even their "Snaps" can be screenshotted and shared.

7. Children and youth in our community know when something is "Too Big to Handle Alone."

- Children and youth know the types of situations or problems that are too serious to handle on their own, and they know to contact a trusted adult.
- Children and youth understand that conversations about any difficult or substantive topic are usually better in person than online.
- Families in our community support each other in working through hard dynamics between peers or other challenging situations, with the goal of promoting a healthy, safe, and inclusive community for all.

COMMUNITY NORMS IMPLEMENTATION FRAMEWORK

The following framework offers guidelines for engaging the entire community—school leaders, educators, staff, students, families, and community organizations—in the process of developing Community Norms.

Phase 1: Forming the Community Norms Advisory Group

Schools may establish a small group of stakeholders to develop voluntary Community Norms for cell phone and social media use outside of school. This group will also serve as a bridge between the school's initiatives and the home and community settings.

The group should ideally consist of 5-6 members, and it is strongly recommended to keep the total number under 10. This group may include a variety of stakeholders such as parents/guardians, educators, family engagement staff, school social workers, mental health counselors, and other community members (such as directors of after-school or extracurricular programs).

This group will help develop broader community buy-in for adopting norms, so their early commitment and engagement is critical.

Leadership: It's recommended that the principal/school leadership recruit the chair or co-chairs of the Advisory Group.

Steps:

1. The school principal identifies a parent and/or staff person to serve as the Advisory Group chair (or co-chairs). The chair's responsibilities are to (a) recruit and form the Advisory Group; (b) plan and facilitate meetings of the Advisory Group; (c) lead the process of developing Community Norms; and (d) serve as a liaison with school leadership.
2. The principal and chair develop high-level goals and milestones (i.e. decide when the Community Norms should be completed and shared with the broader community).
3. The Advisory Group chair recruits other Advisory Group members through newsletters, emails, and school events such as back-to-school nights and open houses.
 - Ensure a diverse mix of parents/guardians across grades, cultures, languages, and perspectives.
 - Include interested staff, such as those in counseling, social work, or technology, as appropriate for your school and district.
 - Invite a student to join, or explore other ways to incorporate student input.
 - Consider inviting local youth-serving organizations, after-school providers, and sports leagues to join, fostering broader community involvement.
4. Schedule and create an agenda for your first meeting.

You are ready to move to Phase 2 when:

- High-level goals have been clearly defined by school leadership (i.e. target date for completion and launch of Community Norms).
- 5-10 people have committed to joining the Advisory Group.
- The first meeting has been scheduled.

Note: A delay between Phase 1 and Phase 2 may lead to reduced engagement and participation, so it's important to maintain momentum.

Phase 2: Defining the “Why” and Educating the Advisory Group

In Phase 2, the Advisory Group will explore the reasons and need for creating Community Norms and will set clear goals. The Advisory Group will review relevant research and information on the use of cell phones, social media, and other technology by young people to deepen their understanding of the issues.

Leadership: The chair of the Advisory Group will lead this effort and will collect background educational materials to share with the group.

Steps:

At the first meeting, the Advisory Group should:

1. Discuss common concerns of the group members regarding student use of cell phones, social media, and other technology outside of school hours, and review background research and information on these topics.
2. Develop goals including what issues the group hopes to address through the Community Norms; and discuss desired outcomes.
3. Decide how frequently the group will meet, and if the meetings will be held virtually or in-person.

You are ready to move to Phase 3 when:

- Background research and educational materials have been shared and reviewed by the group.
- Common concerns, desired outcomes, and goals have been clearly defined.
- A consistent meeting cadence and schedule have been established.

Phase 3: Educate, Inform, and Engage with the Community

Informed by conversations and input from phases 1 & 2, the Advisory Group will begin engaging and educating the broader school and local community on challenges facing young people related to cell phone, social media, and other technology use.

Note: Don't be discouraged if the first large community event doesn't have a great turn out - it can take some time to build the habit of joining these kinds of events and word of mouth will help as time goes on.

Leadership: The Advisory Group leads the effort, with support from school administrators for publicity and community engagement.

Steps:

1. Select and share with the broader school community educational materials from credible sources on the impact of cell phones and social media on youth well-being.
2. Educate and engage the community in dialogue regarding these topics. Effective strategies to foster engagement may include:
 - A. Co-host with school officials virtual or in-person sessions to discuss specific topics related to cell phones, social media, and other technology use.
 - B. Organize screenings of relevant films.
 - C. Collaborate with neighboring school districts, libraries, nonprofits, or community groups to bring in guest speakers or co-host events (e.g., researchers, child psychologists, and school administrators, educators, parents, and youth from neighboring districts).

You are ready to move to Phase 4 when:

- The Advisory Group's work has gained visibility within the community.
- Education programs from Phase 2 have begun (but don't need to be complete).
- Parents/guardians and community members have shown interest through attendance at educational sessions, engaging with emails, and signing up to participate in norm-setting discussions.

Taking the time to educate the community about the risks of cell phone and social media use among youth is an essential step as it builds common understanding of the issues and need for Community Norms. Be sure to refer to reliable research and other credible sources of information.

Phase 4: Drafting and Community Review

The next phase focuses on drafting the Community Norms and collecting feedback from the school community to ensure the norms reflect the community's concerns.

Leadership: The Advisory Group leads, with support from school administrators.

Steps:

The Advisory Group:

1. Drafts proposed Community Norms, reflecting the needs of the school community, in formats and languages appropriate for your community.
2. Shares the draft Community Norms with the principal or school leader for review and input.
3. Distributes the revised draft to the entire school community via emails, newsletters, and other communication channels.
4. Hosts virtual or in-person meetings to present the Community Norms, gather feedback, and address any questions.
5. Seek feedback from students through student government, student clubs, or by collaborating with school staff to present and discuss the norms with students during an advisory or other period during the school day.
6. Incorporates feedback ensuring that the Community Norms continue to align with the goals outlined in phases 1 and 2.

You are ready to move to Phase 5 when:

- Community Norms have been drafted and shared with the community and all stakeholders.
- Feedback has been gathered using a variety of communication channels (e.g. email, surveys, and/or virtual or in-person events) and incorporated.

Phase 5: Finalize Launch

The final phase focuses on finalizing and clearly communicating the Community Norms throughout the community in formats and languages appropriate for the community.

Leadership: The Advisory Group leads, with support from school administrators.

Steps:

1. Share the final Community Norms with the principal or school leader for awareness.
2. Share final Community Norms widely with students, parents/guardians, and the full school community via emails, newsletters, school events, and community meetings. Be sure to translate the document into other languages, as appropriate for the community.

Phase 6: Ongoing Engagement and Review

- Maintain open communication with the full school community.
- Gather feedback regularly to assess the Community Norms and address any concerns.
- Reinforce Community Norms by sharing reminders and tips, hosting additional educational sessions, and encouraging families to revisit the Community Norms throughout the year.
- Review and adjust the Community Norms as needed, maintaining alignment with the goals outlined by the Advisory Group.
- Communicate any changes to all stakeholders.



SECTION 3:

CURRICULUM GUIDELINES

Schools play a vital role in equipping young people with the knowledge and skills they need to engage responsibly in the digital world. Digital media literacy refers to the ability to access, understand, evaluate, and responsibly engage with content in digital spaces. This skill set empowers individuals to navigate online information thoughtfully, ethically and responsibly, recognize misinformation, and consider the broader impact of digital media on society.

This section of the Toolkit aims to provide school leaders and educators with guidelines on integrating key digital media literacy topics into existing curricula. Educators seeking examples of curricula to incorporate can find more information in the [resource section](#).

CONSIDERATIONS WHEN IMPLEMENTING DIGITAL MEDIA LITERACY

There are a number of factors to consider when adding digital media literacy to an already full curriculum, to complement existing priorities without overwhelming students or educators.

When to introduce:

- Consider starting digital media literacy in elementary school as students begin using technology, with more advanced lessons in middle and high school.

How to Embed Across Subjects:

- Digital media literacy can integrate seamlessly into student leadership opportunities and a range of subjects, including:
 - Social Studies and Language Arts by analyzing media, understanding bias, and evaluating credibility.
 - Computer Science and Technology by teaching critical thinking, how algorithms work, and responsible tech use.
 - Health and Social Emotional Learning by addressing the mental health impacts of technology, such as social media use, and promoting well-being.

Flexible implementation:

Schools can implement digital media literacy through:

- Embedding lessons in core subjects or advisory periods.
- Project-based learning, workshops, or standalone lessons.
- Connecting digital media literacy lessons with the [Massachusetts Comprehensive Health and Physical Education Framework](#), which include related standards, to streamline integration into existing coursework.
- Educators looking to align and select curricula can explore the [resource section](#).

HOW TEACHERS CAN SUPPORT DIGITAL LITERACY

Teacher mindsets matter. The following principles can help schools be more effective in supporting digital literacies among students.

- 1. Building Digital Agency:** Schools need both policies to limit the distractions of cell phones *and* digital media literacy lessons that equip students with the knowledge and skills to navigate technology responsibly.
- 2. Be a Coach, Not a Referee:** Rather than acting as referees who only enforce rules and consequences, adults can serve as Coaches, guiding teens in a tech-filled world. Coaches support skill-building, collaborate with youth to navigate challenges, and use mistakes as learning opportunities. This approach fosters accountability, resilience, and a path forward for growth.
- 3. Ask Instead of Assume:** Adults often make assumptions about teens' technology use, leading to misguided advice and interventions that don't resonate. These assumptions can unintentionally alienate youth, blocking open communication. By asking questions and approaching with curiosity, adults can gain a deeper understanding, fostering empathy and providing support that truly aligns with the experiences of young people. This approach enables adults to provide guidance that is constructive, tailored, and empowering.

CHOOSING A CURRICULUM

When choosing a curriculum, prioritize one that is evidence-based, inclusive of diverse perspectives, and relevant to your students' experiences. Look for programs that empower students with practical skills, foster meaningful connections, and equip educators to guide thoughtful discussions. Together, these elements create a well-rounded approach to addressing the challenges and opportunities of technology use.

Choosing a Curriculum – Two Key Considerations

How, why, and for whom it was created:

- Is the curriculum evidence-based?
- Who created it and why? Are there biases to consider?
- Was it designed with input from youth?
- Are the topics and activities relevant to your student population, and will the portrayals of tech be resonant, validating, and affirming?
- Do lessons reflect the relevance of identity and context and confer different risks and benefits when it comes to tech?

Learning goals and the role of students and educators:

- What are the lessons' goals, and do those goals focus on empowering students and building their skills to navigate technology responsibly?
 - Do the lessons help students learn Key Messages for Digital Media Literacy?
[See Appendix D.](#)
- Does the curriculum encourage students' active engagement and opportunities to draw connections to their real lives and experiences?
- Will the lesson build connections between students and support the community in our classroom and school?
- Are educators equipped to embrace the role of a coach who intentionally creates space for dialogue with students furthering self-reflection and growth, rather than a referee who merely enforces rules?



CONCLUSION

Creating a thoughtful and effective approach to cell phone and social media use in school communities is an essential step toward fostering a positive learning environment and supporting students' mental health and well-being. This Toolkit provides a framework for implementing policies, developing Community Norms, and equipping students with the skills they need to navigate the digital world responsibly.

We hope this resource serves as a helpful guide for your school community. Together, we can create communities where children and youth are healthy, safe, and thriving. Thank you for your commitment to this important work.

This Toolkit was developed by the Children's Justice Unit of the Massachusetts Attorney General's Office under the direction of CJU Director, Liza Hirsch, with input from staff from multiple divisions across the office. The AGO worked together with the Shah Foundation, Boston University researcher and lecturer Jill Walsh, and the Center for Digital Thriving to develop the contents of this toolkit, and integrated the input of a wide range of additional experts and stakeholders.

RESOURCES

GOVERNMENT RESOURCES

- **Resources from the Massachusetts Attorney General's Office**
 - [Think Before You Send: Facts about Sexting and Cyberbullying](#)
 - [Guidance on Schools' Legal Obligations Regarding Hate and Bias Incidents](#)
 - [Addressing Hate and Bias in Schools: Q&A \(Spanish\)](#)
 - [Combatting Hate in Our Schools: A Guide for Families and Students \(Spanish\)](#)
- **Resources from the Massachusetts Department of Elementary and Secondary Education (DESE)**
 - [Digital Literacy and Computer Science](#)
 - [Digital Literacy and Computer Science Framework](#)
 - [Digital Literacy and Computer Science Curriculum Guide](#)
- **Federal Government Resources**
 - [U.S. Surgeon General's Advisory: Social Media and Youth Mental Health](#)
 - [Planning Together: A Playbook for Student Personal Device Policies](#) (U.S. Department of Education: Office of Educational Technology)

ADDITIONAL RESOURCES¹⁰

- [Your Brain on Social Media](#)
 - [School Resources](#)
 - [Digital Media Literacy Lesson Plans](#)
 - [Top Parent Concerns](#)
- [Common Sense Media](#)
- [The Center for Digital Thriving](#)
- [Media Literacy Now](#)
- [Half the Story](#)

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Finally, we wish to acknowledge and express our gratitude to the broader group of experts and practitioners who provided invaluable advice and feedback during the creation of this Toolkit. This effort would not have been possible without the expertise and insights of these dedicated professionals. Your collective knowledge has greatly enriched this Toolkit, ensuring it thoughtfully and effectively addresses the needs of students at this moment in time.

We are deeply appreciative of the following individuals and organizations for their contributions:

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-
- John Crocker, Director of School Mental Health & Behavioral Services, Methuen Public Schools, Founder of The Massachusetts School Mental Health Consortium
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 - Deepika Sawhney, Vice Chair, Lexington Public Schools School Committee
 - Annie Scanlan-Emigh, Principal, Pioneer Valley Regional School
 - Keneisha Sinclair-McBride, Attending Psychologist, Department of Psychiatry and Behavioral Sciences, Boston Children's Hospital
 - Sociedad Latina Youth Leaders
 - Joshua Tarksy, Principal, Holbrook Middle-High School
 - Geoffrey Walker, Head of School, Fenway High School
 - Steve Zrike, Superintendent, Salem Public Schools

Finally, we wish to thank all the parents, educators, school leaders, and students who shared their perspectives on this topic and helped guide the development of this Toolkit.

APPENDIX

[Appendix A: Model Bell-to-Bell Cell Phone Policy](#)

[Appendix B: Sample FAQs on Cell Phone Policies](#)

[Appendix C: Digital Media Literacy Curriculum Examples](#)

[Appendix D: Integrating Key Messages for Digital Media Literacy \(With or Without a Full Curriculum\)](#)

Disclaimer: *The resources included in this appendix are provided for informational purposes only. Their inclusion does not imply endorsement or approval by the Massachusetts Attorney General's Office. Users are encouraged to evaluate each resource independently to determine its suitability.*

APPENDIX A: MODEL BELL-TO-BELL CELL PHONE POLICY

[Download the Editable Model Bell-to-Bell Cell Phone Policy](#)

[School District] Cell Phone and Personal Electronic Device Policy

[School District] is committed to fostering a school environment that prioritizes engaged learning, supports the development of social skills, and promotes the overall well-being of our students. To achieve this, [school district] is a cell phone-free community. This means that, subject to the exceptions outlined below, cell phones and other personal electronic devices are not accessible to students during school hours. Implementation of this policy varies by grade level, as further described below.

Definition of Personal Electronic Devices:

Personal electronic devices (“devices” as used herein) are defined as any electronic device utilized to access the internet, wi-fi, cellular telephone signals, or to capture or play images or video. These include, but are not limited to, smartphones, mobile phones, headphones, earbuds, smartwatches, tablets, laptops, and gaming devices.

The school reserves the right to classify additional devices as personal electronic devices.

Grade-Level Policies

Elementary School:

- **Policy:** Students are not permitted to bring cell phones or devices to school.
- **If Brought to School:** Cell phones and devices must be checked in at the front desk upon arrival and stored securely for the duration of the school day. They will be returned to students at the end of the day. Parents will receive a call from the school requesting that personal devices be left at home.

Middle School and High School:

- **Policy:** Students are not permitted access to their cell phones or other devices at school during school hours. Students are encouraged to leave devices at home. At the start of each school day, students must place their personal device in a designated locked or staff supervised storage area. Students will re-gain access to their device at the end of each school day.

Response to Policy Violations:

First incident: The cell phone or device will be confiscated and placed in the designated storage location for the remainder of the school day. The student can retrieve the device at the end of the day.

Second incident: The cell phone or device will be confiscated and placed in the designated storage location for the remainder of the school day. A school administrator will have a conversation with the student and contact the parent/guardian.

Third incident: A meeting will be held with the student, parent/guardian, and school administrator (and school counselor, social worker, or other staff, as appropriate) to review the policy and develop a written “Cell Phone/Personal Device Action Plan.”

Repeat incidents (more than 2) may result in the loss of the privilege to bring personal devices to school. Beginning with the third incident, a meeting with the student and parent/guardian will be scheduled each time the policy is violated. At the meeting, the Action Plan will be modified as necessary and underlying needs of the student that may be contributing to repeated non-compliance will be discussed and addressed.

Parent-Student Communication During School Day:

Students needing to contact a parent/guardian during the school day may do so by using the phone in the front office, or by accessing their cell phone in the front office with administrator approval. Parent/guardian and emergency contact numbers should be kept current.

Parents/guardians needing to reach their student during the school day can contact the front office. The school will ensure urgent messages are promptly relayed.

Accommodations:

If a student has a disability or medical condition that requires a cell phone, or other device, the accommodation will be noted in the student’s IEP, 504 Plan, or health plan. The special education team coordinator or health office will notify appropriate staff of the necessary accommodations.

Students with outside responsibilities, such as after-school jobs or caregiving, should make all plans prior to the school day. If there is a need for a student to access their cell phone during the school day, they may do so in the front office or other designated location, and only with the permission of a school administrator.

Families should make arrangements with their child that don’t rely upon their child having access to a cell phone or device during school hours.

School events:

Students may not use cell phones or other devices at school-sponsored events.

Staff use of personal devices:

School staff are strongly discouraged from using cell phones or personal devices in front of students, except for essential educational purposes (e.g. taking photos in accordance with school policy, quick communication with another staff member, or quick, essential communication with a parent).

Please note that this model is not, and does not reflect, legal advice. It may be necessary to consult a licensed attorney to evaluate the policy against applicable state and federal laws and regulations.

APPENDIX B: SAMPLE FAQs ON CELL PHONE POLICIES

[Download the Editable Sample FAQs on Cell Phone Policies](#)

1. Why is our school adopting a cell phone policy now?

- Our school is joining over half of Massachusetts school districts in adopting a cell phone policy to address increasing concerns about the impact of cell phone and social media use on students' academic performance, social interactions, and mental health. By limiting cell phone and device use during the school day, we aim to foster a more respectful, distraction-free learning environment where students can engage fully in their education.

2. What kinds of devices are included in the policy?

- Our policy includes all personal electronic devices utilized to access the internet, wi-fi, cellular telephone signals, or to capture or play images or video. These include, but are not limited to, smartphones, mobile phones, headphones, earbuds, smartwatches, tablets, laptops, and gaming devices.

3. How can I reach my student during the day?

- If you need to reach your student during the school day, please contact the school's front office and school staff will ensure your message is delivered.

Please keep in mind that receiving messages during school can be distracting and, in some cases, cause anxiety for students. Whenever possible, we suggest arranging after-school plans outside of school hours and waiting to speak to your student in person to share other important information.

4. How can my student reach me during the school day?

- If your student needs to reach you during the school day, they can visit the front office, where staff will assist in contacting you.

Tip: Add the school phone number to your contacts to ensure you don't miss any calls from your student.

5. What if there is a lockdown or other emergency in the building?

- In the event of a lockdown or other emergency, the school will communicate with families through official channels, such as text messages, phone calls, or emails.

In an emergency it's essential for safety that students focus on following the directions of their teacher and other school staff. While it may seem helpful for students to use cell phones during a crisis, research shows that it actually creates more risks by distracting students from safety instructions, spreading misinformation, and disrupting emergency response efforts.

To learn more about how cell phone use can impact school safety during emergencies, please visit [Cell Phones and School Safety](#).

6. What if my child uses a tablet or other communication device as part of their IEP or 504 Plan?

- Accommodations will be made for students with disabilities who use electronic devices to communicate, or for other reasons related to their disability, in accordance with the student's IEP or 504 Plan.

7. What if my child has a medical condition that must be monitored using their phone?

- If your child has a medical condition that requires phone or other device use for monitoring, the school will work with you to create a plan that accommodates their health needs.

8. What if my child needs to reach other people during the school day, such as their siblings or their boss, to make after-school plans?

- We encourage students to finalize after-school plans outside of school hours. However, if your student needs to reach other people, such as their sibling or boss, they can visit the front office, where staff will assist in making the necessary contact.

9. Will my student miss out on opportunities to use technology in their learning if they don't have access to a personal device?

- Your student will not miss out on technology-based learning. While we limit personal device use, the school provides structured access to technology to support their academic growth. This approach minimizes distractions and helps to ensure student safety while providing all students the benefits of digital learning.

APPENDIX C: DIGITAL MEDIA LITERACY CURRICULUM EXAMPLES

[Download the Digital Media Literacy Curriculum Examples One-Pager](#)

[Center for Humane Technology](#)

- Recommended Grade Level: 7-12
- Focus Areas:
 - Self-reflection on social media use
 - Recognizing social media harms
 - Understanding the business model of social media companies
 - Identifying cognitive biases
 - Encouraging journaling and storytelling
- Resources Formats:
 - Individual and group activities
 - Issue and action guides for educators
- Cost: Free
- Educator Resources:
 - Action guides on social media business models
 - Activities to promote student engagement through self-reflection

[Common Sense Media](#)

- Recommended Grade Level: K-12 (especially good for K-8)
- Focus:
 - Encouraging healthy tech behaviors
 - Recognizing when to take breaks from technology
 - Understanding the effects of social media on the brain
 - Identifying attention-grabbing design tricks used in technology
- Format:
 - Slideshow presentations for guided lessons
 - Activities include media creations and quizzes for reflection and analysis
 - Lessons take 30-45 minutes
- Cost: Free
- Educator Resources:
 - Pre- and post-lesson quizzes for assessing student understanding
 - Slideshow presentations and media creation activities for student engagement

Project Look Sharp

- Recommended Grade Level: K-12
- Focus:
 - Analyzing social media posts and articles
 - Encouraging critical thinking about media credibility
 - Developing skills to evaluate trustworthy media sources
- Format:
 - K-12 resources designed for classroom use
 - Activities centered on media analysis
- Cost: Free
- Educator Resources:
 - Tools to help students assess the credibility of media content
 - Lesson plans and activities for media analysis across grade levels

CyberWise

- Recommended Grade Level: K-8
- Focus:
 - Developing social-emotional skills for responsible device use
 - Teaching ethical and productive social media use
 - Assessing readiness for social media accounts
 - Understanding digital citizenship, information literacy, and digital media literacy
 - Discussing the harms of social media on the brain
- Format:
 - Comprehensive curriculum for digital literacy
 - Lessons on digital citizenship, information literacy, and digital media literacy
- Cost: TBD (may vary by school)
- Educator Resources:
 - Lesson plans for teaching responsible social media use
 - Activities focused on social-emotional development and digital media literacy

APPENDIX D: INTEGRATING KEY MESSAGES OF DIGITAL MEDIA LITERACY (WITH OR WITHOUT A FULL CURRICULUM)

Created by the [Center for Digital Thriving](#).

[Download the Integrated Key Digital Media Literacy Lesson Without a Curriculum One-Pager](#)

For schools unable to implement a full curriculum, focusing on four key teaching areas can still make a significant impact. Understanding these lessons will help students navigate technology thoughtfully, prioritize digital well-being, critically engage with information, and understand the real-world impact of their online behavior.

1. Key Message 1: Technology is *designed*, and design isn't neutral.

Students start to understand systemic forces that shape the tech they use.

Lesson topics and themes:

- **Business Model of Tech & Social Media:** Understand the “attention economy”—how tech and social media companies gather data to predict and influence behavior, profiting from time spent on apps.
- **Persuasive Design:** Explore how the design of social media apps aims to keep users engaged, boosting ad revenue and profit.
- **Generative AI:** Learn what generative AI is, how it functions, its potential uses, and limitations.
- **Bias in Tech & AI:** Discuss the implications of bias in AI systems, such as algorithmically-generated content and advertising
- **Mutual Influence:** Reflect on how people shape technology and, in turn, how technology shapes people.

2. Key Message 2: Information varies in its quality and purpose.

Students develop literacy skills that help them engage critically with information.

Lesson topics and themes:

- **Digital Media Literacy Skills:** Practice evaluating sources, assessing credibility, and recognizing bias.
- **Misinformation & Disinformation:** Cultivate awareness of the effects of misinformation and disinformation.
- **Algorithmic Literacy:** Understand how algorithms shape the information we see, influence digital experiences, and impact our choices.
- **Origins of Information:** Consider where information comes from, including the ethical implications of human- and AI-generated content.
- **Digital Justice:** Attend to evolving digital divides in access, information literacy, and digital literacy as justice issues.

3. Key Message 3: Digital well-being is essential to well-being.

Students believe that tech habits impact their mental and physical health, and they can use tech with care.

Lesson topics and themes:

- **Impact of Content on Well-Being:** Reflect on how different types of screen time affect mood and well-being, identifying supportive vs. harmful content.
- **Mental Health and Social Media:** Discuss known links between problematic social media use and mental health challenges.
- **Positive Tech Use:** Encourage intentional tech use to foster social connection, mood, interests, learning, and civic engagement.
- **Adaptive Coping Skills:** Acknowledge tech challenges like persuasive design, social comparison, and multitasking, and develop strategies to help students manage overuse and negative impacts for well-being.
- **Recovering from Digital Missteps:** Explore constructive ways to handle online mistakes.
- **Social Norms and Tech Use:** Reevaluate norms around tech use in various settings, from school to home and community.

4. Key Message 4: Tech is powerful, but we are not powerless.

Students understand the power of their digital posts and how they can impact others, their communities, and the wider world.

Lesson topics and themes:

- **Building Online Norms:** Collaborate to establish norms for respectful online behavior and respond to violations constructively.
- **Device Use Norms:** Discuss appropriate tech use across various social and community settings.
- **Safety and Harms:** Address issues like cyberbullying, sexting, and online harassment, emphasizing their real-world impacts.
- **Digital Drama and Disinhibition:** Recognize the effects of online behavior, including the concept of online disinhibition.
- **Consent in a Digital World:** Understand consent regarding sharing images, privacy, and personal boundaries.
- **Tech and Marginalized Identities:** Consider how technology uniquely affects historically marginalized communities and how these impacts evolve.

ENDNOTES

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- 3 Jenn Hatfield, 72% of U.S. high school teachers say cellphone distraction is a major problem in the classroom, Pew Rsch. Ctr. (June 12, 2024), <https://www.pewresearch.org/short-reads/2024/06/12/72-percent-of-us-high-school-teachers-say-cellphone-distraction-is-a-major-problem-in-the-classroom/>
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- 5 For purposes of this report, the term “cell phone” is defined broadly to include any electronic device utilized to access the internet, wi-fi, cellular telephone signals, or to capture or play images or video. These include, but are not limited to, smartphones, mobile phones, headphones, earbuds, smartwatches, tablets, laptops, and gaming devices.
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- 9 Please note that this model is not, and does not reflect, legal advice. It may be necessary to consult a licensed attorney to evaluate the policy against applicable state and federal laws and regulations.
- 10 Information attributed to third parties and linked resources in this Toolkit do not represent the opinion or position of the Attorney General or her office. The content displayed on third party websites are not endorsed by the Attorney General’s Office and do not represent the views or position of the Attorney General.

SCHOOL WELLNESS ADVISORY COMMITTEE REPORT

GUIDANCE ON CELL PHONES AND SOCIAL MEDIA IN SCHOOL



2024-2025
SWAC
MEMBERS

- Matt Spengler**, School Committee
Dr. Connie Barr, School Committee
Alison Coubrough-Argentieri, Acting Assistant Superintendent for Student Support Services
Dana Plunkett, Director of Counseling, 7-12
Chris Gosselin, Director of Instructional Technology and Innovation, K-12
Denise Schwerzler, Nurse, NHS
Lianna Osgood, Student, NHS
Peter Giannacopoulos, Student, NHS
Kerry Hurwitch, Needham Parent
Neeti Mehta, Needham Parent
Sascha D’Angelo, Pollard Counselor
Emily Murphy, Director of Nutrition Services
Natalie Guthrie, NHS assistant principal and teacher
Tamatha Bibbo, Principal, Pollard Middle School
Aaron Sicotte, Principal, Needham High School
Erin Mack, High Rock Teacher
Brett McNeice, NHS teacher
Denise Domnarski, K-12 Director of Wellness
Susannah Hann, Director of Health Services
Sarah Shine, Director of Needham Youth and Family Services
Tina Gurge, Assistant Director of Public Health for Community and Environmental Health
Dan Gutekanst, Superintendent

Introduction

This report shares updates and information about the work of the Needham Public Schools School Wellness Advisory Committee (SWAC) during the 2024-2025 school year. According to Massachusetts General Law, all Massachusetts school districts are required to establish a School Wellness Advisory Committee. The committee is intended to ensure that each public school district has an established group of school staff and concerned community representatives to recommend, review and help implement school district policies addressing school nutrition, nutrition education, physical activity and related issues that affect student health.

This year, the NPS School Wellness Advisory Committee focused on cellphones and social media in schools and the impact on our students. We reviewed Needham and local district policies, we collected and analyzed student, staff, and family data from our community, we conducted research using relevant local, state, and national resources, we partnered with experts on the topic to consider what is best for Needham Public School children, and we consulted with school leaders and visited districts who have implemented Yondr pouches and other phone free practices. This report outlines our vision for Needham Public School children, presenting our core philosophy and key recommendations regarding school handbook language, digital literacy and citizenship, and community norms.

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Philosophy

Cell Phones and Social Media in Schools

The Needham Public Schools is committed to the **Portrait of a Needham Graduate**, a shared vision of the future for our PreK-12 students, preparing all Needham Public School students to be...

- Creative Thinkers and Problem Solvers
- Communicators and Collaborators
- Socially and Culturally Responsive Contributors
- Responsible and Resilient Individuals
- Empowered Learners



Guiding Principles & Recommendations

Given the pervasive presence of smart devices and social media among students, it is imperative that we address their impact on student learning and mental health & well-being. To this end, we commit to the following guiding principles:

- **Prioritize Student Learning and Well-Being:** We will place paramount importance on fostering an environment that supports both academic achievement and the holistic well-being of our students.
- **Review and Enhance the Digital Literacy and Citizenship Curriculum:** We will critically evaluate and expand our curriculum to equip students with the necessary skills for responsible and effective digital engagement.
- **Establish and Cultivate Essential Community Partnerships:** We will actively seek and nurture collaborations with community stakeholders to support our students' development and safety.

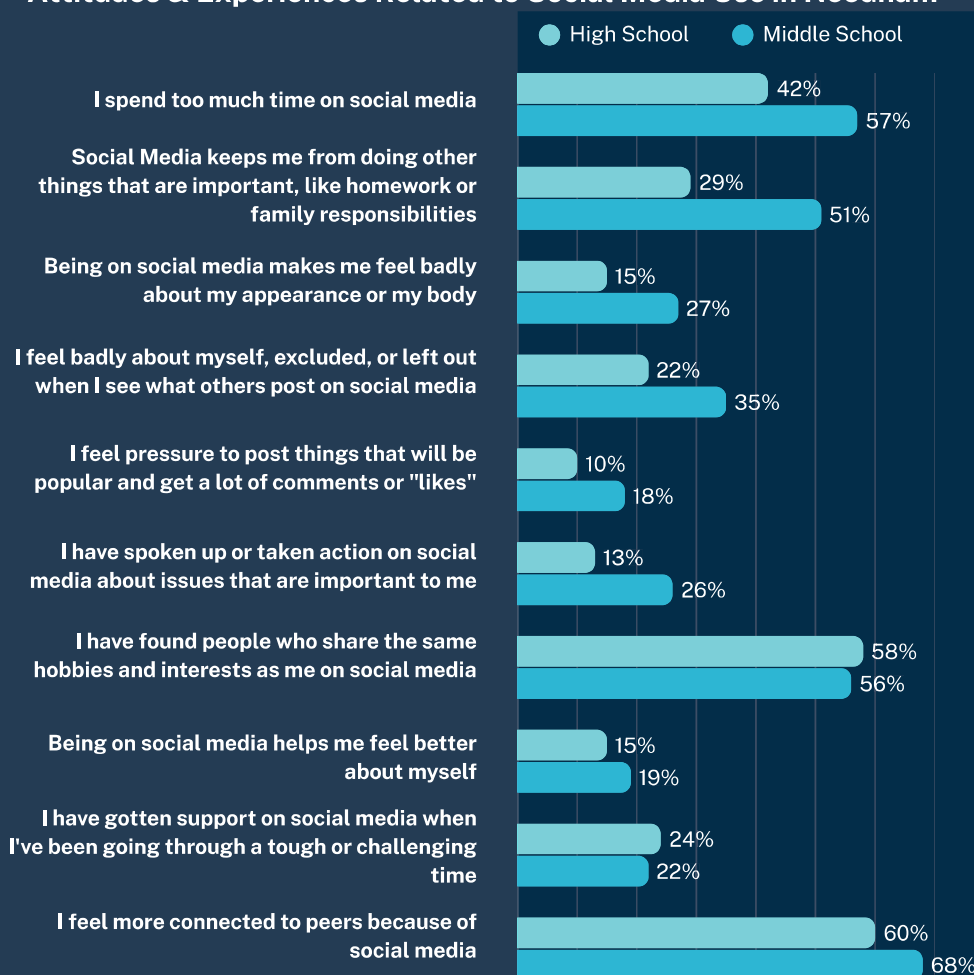
Impact of Cell Phone Use in School

Mental Health & Well-being

At the Local Level

MetroWest Adolescent Health Data provided information on Online Behaviors and Mental Health. The Needham specific data indicated that middle school students reported significantly higher negative impacts of social media compared to high school students across several key areas: time management, feeling badly about appearance, feeling excluded, and pressure for popularity. While both groups found connection and support on social media, the challenges appeared more pronounced for the middle school population.

Attitudes & Experiences Related to Social Media Use in Needham¹



National Concern

U.S. Surgeon General's Advisory² Findings :

"Social media can provide benefits for some children, including by serving as a source of connection for youth ... However, increasingly, evidence is indicating there is reason to be concerned about the risk of harm social media use poses to children and adolescents. Children and adolescents on social media are commonly exposed to extreme, inappropriate, and harmful content"

"... those who spend more than 3 hours a day on social media face double the risk of poor mental health including experiencing symptoms of depression and anxiety."

¹ MetroWest Adolescent Health Survey -2023. MetroWest Health Foundation, 2023, www.mwhealth.org.

² U.S. Department of Health and Human Services, Office of the Surgeon General. (n.d.). Social Media and Youth Mental Health, February 19, 2025. <https://www.hhs.gov/surgeon-general/reports-and-publications/youth-mental-health/social-media/index.html>

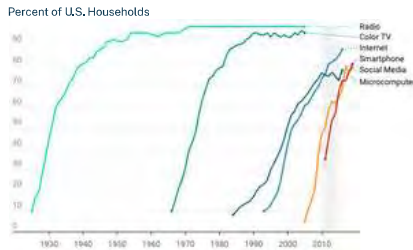
Data Collection & Research

To understand the impact of personal technology on student learning, the Needham Public Schools undertook a comprehensive data collection process that was informed by several key sources. This included research from Jonathan Haidt's book, *The Anxious Generation*, the study on "The Impact of Banning Mobile Phones in Swedish Secondary Schools", and the Surgeon General's New Advisory about the effects social media use has on youth mental health.

The Anxious Generation The Rise of the Phone-Based Childhood

Research on *The Anxious Generation* showed data on the correlation and potential causation between social media use and mental health.

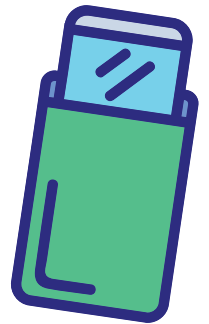
Share of US Households with Specific Technology (1925-2019)



The share of U.S. households using specific technologies. The smartphone was adopted faster than any other communication technology in history. (Source: *Our World in Data* referenced by *The Anxious Generation Research Webpage*.)

Our data collection methods included conducting focus groups with middle school students and teachers, as well as with instructional technology teachers. Additionally, surveys were administered to high school students and staff, and to middle and high school families. To further inform our

understanding of practical implementations, research was conducted on the use of Yondr pouches and other phone-free practices. This involved site visits to Salem High School and F.A. Day Middle School in Newton, and conversations with Old Rochester Regional High School and Dover-Sherborn Middle School, among others.

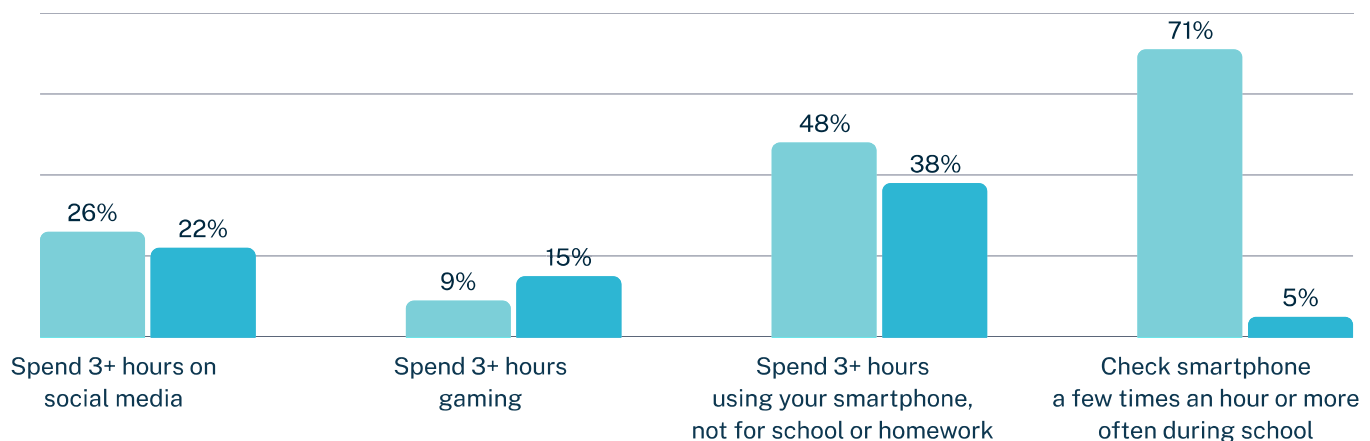


Student Learning

Metrowest Adolescent Health Data provided information on time spent online. The Needham specific data indicated that high school students reported spending more time (3+ hours) on their smartphones and checked their phones much more frequently during school compared to middle school students. Conversely, middle school students reported spending more time gaming (3+ hours). Time spent on social media for 3+ hours was similar for both groups.

Time Spent Online in Needham

● High School ● Middle School

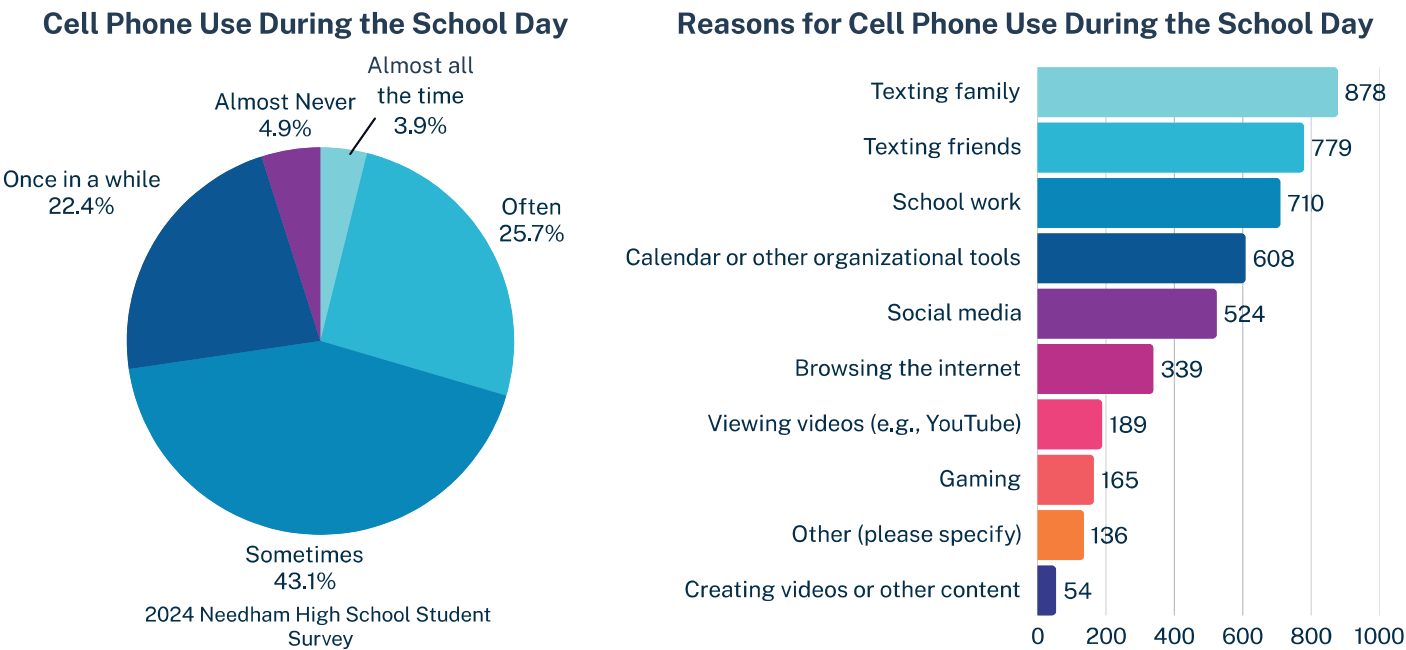


High School

Data & Handbook Language

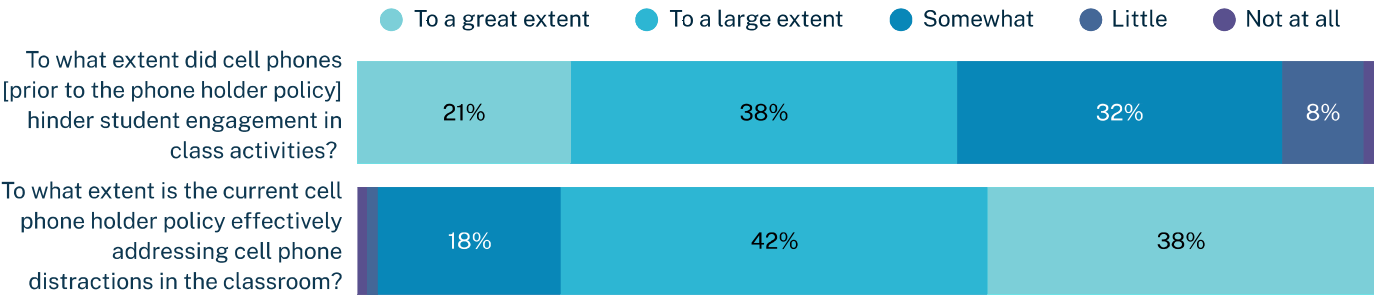
NHS Student Data

The 2024 Needham High School Student Survey received 1,040 responses to 25 questions around cell phones in school and social media. The results show, in the perspective of the high school students, that approximately 70% use their cell phones during school sometimes, often, or almost all the time. The main reasons for cell phone use during school includes texting family, texting friends, and for school work.



NHS Staff Data

For the 2024-2025 school year, Needham High School implemented a cell phone holder/hotel policy, requiring students to store their devices upon entering classrooms. Feedback from the NHS Staff Survey indicates a strong positive impact of this policy, with staff reporting that the cell phone holders/hotels have been largely or greatly effective in reducing cell phone distractions within the classroom environment.



Three Recommendations for the Needham Public Schools

- **Prioritize Student Learning and Well-Being:** We will place paramount importance on fostering an environment that supports both academic achievement and the holistic well-being of our students, through updated handbook language.
- **Review and Enhance the Digital Literacy and Citizenship Curriculum:** We will critically evaluate and expand our curriculum to equip students with the necessary skills for responsible and effective digital engagement.
- **Establish and Cultivate Essential Community Partnerships:** We will actively seek and nurture collaborations with community stakeholders to support our students' development and safety.

“ Updated High School Handbook Language

Needham High School maintains a “**Cell Phone Free**” environment during instructional time.

The Needham Public Schools recognizes the pervasive technological environment that exists in today’s world and strongly believes in the centrality of the classroom.

We are committed to providing uninterrupted, high quality classroom instruction, minimizing distractions, and increasing engagement and learning for students.

Equally important is our dedication to fostering a supportive environment that nurtures the emotional health and well-being of each student.

- **Cell phones are expected to be powered off and stored in phone holders during instructional periods. Phone holders will be provided in each classroom and staff are responsible for ensuring compliance.**
- **Smart Watches, earbuds, and similar personal electronics may remain with the student but are not to be used during instructional periods.**
- **Cell phones and other personal electronics may be used during passing periods, at lunch, and at the discretion of the principal.**

Students who use cell phones/electronic devices that are not school-issued and in violation of the expectations above will have device confiscated and returned to parent/guardian. Continued violations may result in disciplinary action.

Please note: Needham Public Schools is committed to providing students with the technology needed for academic success. Each student receives a school-issued device (Chromebook or iPad). At Needham High School, students can opt to use their own device that complies with district policies or a school-issued Chromebook. Additionally, students who require the use of mobile technology to support health needs will be permitted.

Middle School

Updated Middle School Handbook Language

Pollard Middle School and High Rock maintain a “**Cell Phone Free**” environment.

Cell phones, smart watches and other personal technology are expected to be **powered off and stored out of sight during the entire school day**, including class time, passing periods, and lunch.

Students must store phones, watches, and other personal electronic devices in their backpack, student locker, or other location not on their person. Cell phones, smart watches, and other personal electronic devices are not allowed to be in the pockets of jackets, coats, or other clothing. Students who use cell phones/electronic devices that are not school-issued will have devices confiscated and returned to parent/guardian.

Continued violations may result in disciplinary action.



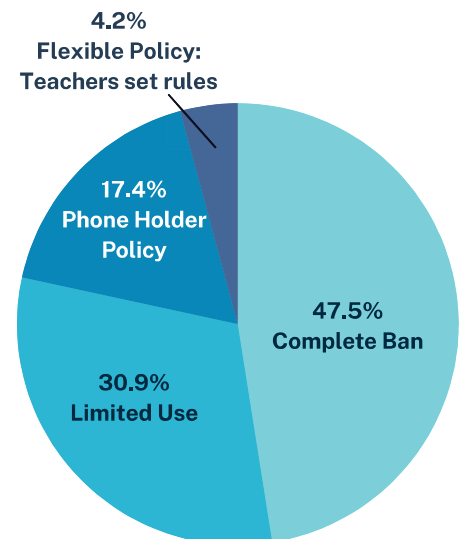
Needham District Grades 6-12 Parent Survey Conclusions Phone Use Restriction

The Needham parent survey overwhelmingly indicated strong support for restricting phone use during school hours. Key concerns driving this support included the perceived negative impacts of social media and excessive screen time on students' mental health, well-being, and academic engagement.

Parents expressed varying preferences for implementation, with some advocating for a complete phone ban during the school day and others suggesting designated communication times. A consistent desire emerged for uniform enforcement of phone policies across all classrooms, coupled with the need to address non-academic use of all student devices (laptops, iPads).

Challenges identified by parents included the difficulty in monitoring screen time when devices were used for academic purposes and the need to balance communication needs with minimizing distractions. Suggestions for improvement included enhanced education on digital citizenship and responsible technology use, as well as increased parental collaboration to address social pressures related to phone and social media use.

What type of cell phone policy would you prefer for your student?



787 Needham district parent responses from grades 6-12

Elementary School

Updated Elementary School Handbook Language

The elementary schools maintain a “**Cell Phone Free**” environment.

Cell phones, smart watches, wireless earbuds and other personal technology are expected to be **powered off and stored out of sight during the entire school day**, including class time, passing periods, and lunch.

Students must store phones, watches, and other personal electronic devices in their backpack, student locker, or other location not on their person. Cell phones, smart watches, and other personal electronic devices are not allowed to be in the pockets of jackets, coats, or other clothing. Students who use cell phones/electronic devices that are not school-issued will have device confiscated and returned to parent/guardian.

Continued violations may result in disciplinary action.

The School Committee has adopted new 2025-26 handbook language related to cell phone use in schools.

Each school will:

- Ensure that the school policy and procedures clearly outline how the policy will be implemented.
- Clearly communicate to students, school staff, and parents/guardians the accountability for complying with the policy.
- Establish clear protocols for parents/guardians to communicate with their child, if necessary, during the school day (and clear protocols in the event of an emergency at the school).
- If a student has a disability, medical condition, or language need that requires a cell phone, or other device, the accommodation will be decided by the student’s team and communicated to relevant staff.

Focus Group Technology Integration Specialists K-12

The open responses from the Technology Integration Specialists K-12 Survey highlighted a perceived need for a K-12 scope and sequence for Digital Literacy and Citizenship. Specialists also indicated that there is insufficient dedicated time for Digital Citizenship, Wellness, or Literacy instruction. Furthermore, they noted that teachers, already burdened with curriculum demands, often prioritize content over digital citizenship/literacy skills. Based on these responses, and aligned with our guiding principles, we reviewed and enhanced the Digital Literacy and Digital Citizenship Curriculum (see next page).

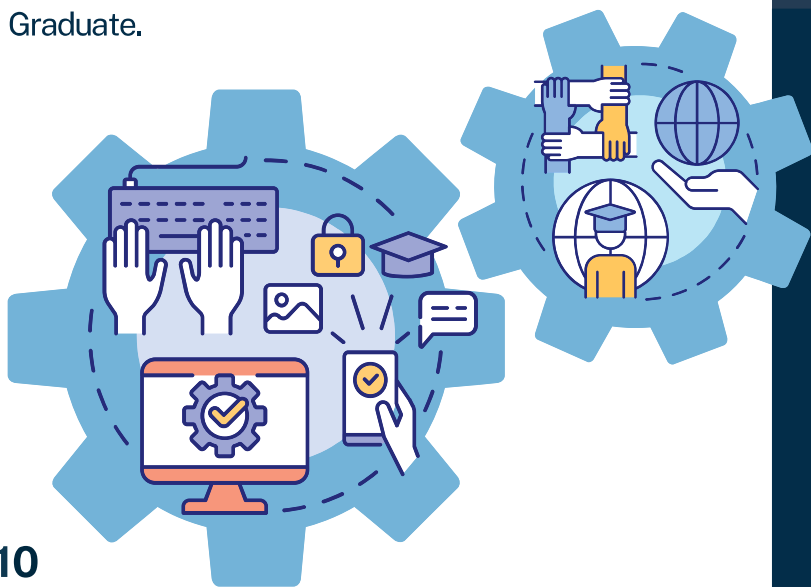
Curriculum

Digital Literacy & Digital Citizenship

Digital Literacy and Citizenship is using technology responsibly, safely, and respectfully. In the Needham Public Schools, teaching staff support students in developing good digital habits and avoiding behaviors that can harm oneself or others, and the ability to access, understand, evaluate, and responsibly engage with content in digital spaces. This work takes place through direct instruction and through integration in the general education classroom setting.

Schools play a vital role in equipping young people with the knowledge and skills they need to engage responsibly in the digital world. This skill set empowers individuals to navigate online information thoughtfully, ethically and responsibly, recognize misinformation, and consider the broader impact of digital literacy on our community.

The Needham Public Schools is committed to further developing, articulating, and delivering a continuum of digital literacy and citizenship curriculum across the district that is aligned with the Portrait of a Needham Graduate.



Recommendations for School Implementation

Implement and integrate throughout the NPS student experience

Identify gaps in the continuum of learning across the K-12 student experience and delve into focused work centered on addressing developmental needs of students in all schools

Embed across subjects whenever possible

Continue to seek meaningful opportunities for district Media & Digital Learning staff to collaborate with and coach teachers in integrating concepts of digital literacy and citizenship into their practice.

Implement flexibly and adjust as needed

In our ever-changing world of emerging technology, respond readily to shifts in trends and new research as it becomes available. Continuously assess practices and adjust as needed.

Provide job-embedded coaching and professional learning

Provide opportunities for district Media & Digital Learning staff to engage in relevant and meaningful professional development opportunities, aligned with Portrait of a Needham Educator, to support this work.

Community Norms for Needham

Our community is committed to working together –with parents, educators, students, and community leaders –to foster responsible digital citizenship and healthy online habits for all our youth. We recognize the importance of technology and digital literacy for success, and by partnering with various community stakeholders, we strive to ensure equitable access and opportunities for all students. We recommend that families and the community:

Encourage Support Seeking

Children and youth in our community know when something is “Too Big to Handle Alone” and who they can reach out to for help.

Promote Responsible Online Communication

All youth understand and follow the guidance not to text, message, or post anything online that they wouldn’t want everyone to see. Nothing is truly private once shared online.

Zero Tolerance for Hate and Bullying

Knowing that inappropriate use of social media can be a vehicle for hate and bullying, the community works to ensure that students, families, and school staff can recognize and interrupt when it is observed.

Prioritize In-Person Engagement

In-person interactions and activities are prioritized in our community, but our community is committed to fostering 21st Century Skills by promoting developmentally appropriate and relevant technology use.

Smart Device Access for Our Children

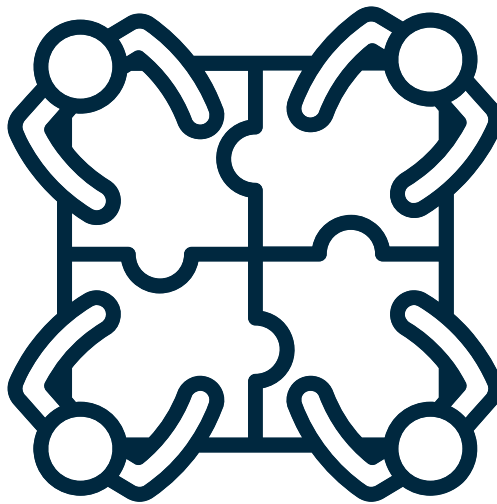
Our community is committed to engaging in open and inclusive conversations about the appropriate age at which families should provide personal, internet-connected smart devices to children. This conversation will be grounded in research and consider the diverse needs and circumstances of all families in our community.

Limit Social Media Usage

We take the harms, risks, and benefits of social media use seriously. We commit as a community to engage in robust conversations to determine when developmentally it is appropriate for our children to have access to these powerful tools of connection.

Model Responsible Device Use

Adult community members are self-aware and intentional about their own device use and strive to be aware of their device use in front of children.



Resources

Families may find additional resources here:

- SWAC Handout: [Online Behaviors and Mental Health](#)
- [May 2023, US Surgeon General Advisory on Social Media and Youth Mental Health.](#)
- [Cell Phones and Social Media in School: A Toolkit for School Leaders and Communities, Office of Attorney General, Andrea Joy Campbell](#)
- [Dr. Jill Walsh, Digital Aged Resources](#)
- [The Anxious Generation Resources](#)
- [10 Minutes With... Navigating Norms, Curriculum & Policy in a Digital Age](#)





Board of Health

AGENDA FACT SHEET

June 20, 2025

Agenda Item	May Staff Reports
Presenter(s)	Public Health Division staff members

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED
Each program area within the Public Health Division will give a brief update on current topics, projects, events, accomplishments, and more.	
2.	VOTE REQUIRED BY BOARD OF HEALTH
Discussion only.	
3.	BACK UP INFORMATION:
a) Environmental Health – Sai Palani & Tara Gurge b) Accreditation – Lynn Schoeff & Alison Bodenheimer c) Traveling Meals – Rebecca Hall d) Substance Use Prevention: Regional – Carol Read & Lydia Cunningham e) Substance Use Prevention: Needham – Karen Shannon, Karen Mullen, Monica DeWinter, Angi MacDonnell, Vanessa Wronski f) Public Health Preparedness –Taleb Abdelrahim g) Epidemiology – Julie McCarthy h) Nursing – Ginnie Chacon-Lopez & Hanna Burnett i) Shared Public Health Services – Kerry Dunnell	



Needham Public Health Division

Prevent. Promote. Protect.



May 2025

Assist. Health Director - Tara Gurge

Full-time Health Agent – Sainath Palani

Part-time Health Agent/Food Inspector – Monica Pancare and Pamela Ross-Kung

Part-time Intern – Alexandra Diener

Unit: Environmental Health

Date: June 20, 2025

Staff members: Tara Gurge, Sainath Palani, Monica Pancare, Pamela Ross-Kung and Alexandra Diener

Activities and Accomplishments

Activity	Notes
Intern Projects - Update	Alexandra has been working on Standard 9 of the voluntarily retail standards by cleaning up raw inspection report data from 2021 through 2024 to pull out all instances of risk factor violations in those years. The five main risk factors are 1) Poor personal hygiene of food employees (failing to wash hands, bare hand contact with food), 2) Improper holding temperatures of food, 3) Use of contaminated equipment, 4) Inadequate cooking, 5) Food coming from unsafe sources. She has also sorted the risk violations by establishment type and is finalizing creating tables and graphs. Our summer intern funded by the MADPH, Xinrang “Nelly” Wang, started on June 4th, and she will pick up and work with Alexandra to finish up this iteration of standard 9 by comparing data to original baseline survey performed around 5 years ago and to also see if there are any trends for any of the risk factors to help inform an intervention. Nelly’s main project will be to come up with a couple of interventions and perform the interventions and assess the effectiveness of the interventions.
Follow-up on Enforcement of Zyn Nicotine Pouches/Other Vape Products	Zyn-Chill products were not being sold in the 5 retailers that were inspected in May. In addition, order letters to remove two vape products (Crave and Space Ultra-Clear flavor) that were determined to be flavored were sent. The five stores were not selling these products.
Finishing MAPHIT	Tara and Sai are working towards getting standardized for food safety by going through this training program from the State. Both Sai and Tara have completed Tier 1 and 2 training and Sai finished his Tier 3 training in May

Standardization for Food	to be a standardized inspector for food. He will work to get into the next upcoming training for MAPHIT housing.
Participated in Emergency Operations Center (EOC) Functional Exercise and Mental Health First Aid Training for Older Adults	Tara and Sai participated in a mock Emergency Operations Center (EOC) functional drill exercise/training. An emergency situation was presented and environmental health practiced thinking through the situation based on their roles in the EOC. Certain gaps were identified during the training. Both Tara and Sai participated in an all day training on Mental Health First Aid for Older Adults on May 20th. Certificates were awarded.

Other Public Health Division activities this month: (See report below.)

Activities

<i>Activity</i>	<i>Notes</i>
Body Art	0 – Permits Issued
Demo Reviews/ Approvals	3 - Demolition signoffs: -#1092 Highland Ave. -#72 Valley Rd. -#3 Hancock Rd.
Disposal of Sharps Permits	0 – Disposal of Sharps Permits issued.
Septage/Grease/ Medical Waste Hauler Permits Issued	0 – Septage/Grease & Medical Waste Hauler Permits Issued.
Trash/Recycling Waste Hauler Permit issued	1 - Trash and Recycling Waste Hauler Permits issued to: - E.O.M.S Recycling
Food - Plan reviews/Follow- ups/Pre-operation inspections	1 – Plan Review Meeting/Initial Pre-operation inspection conducted: - Informal walkthrough at Noodle Doodle
Food – Temporary Food Event Permits issued	11– Temporary Food event online permit application reviews and permits issued to: - 1706 Cornhole Tournament for Needham Firefighters Union at Village Club (end of May) - Mitchell Family Picnic hosted by Mitchell PTC (early June) - MHOA Quarterly (x2), Food trucks-Butter “ur” Biscuit & Roxy’s Grilled Cheese (end of May)

	- SWES Fest and 5th grade field day (2x) hosted by Sunita Williams PTC (early June) - Broadmeadow carnival hosted by PTC (end of May) - Needham Soccer Tournament, All Purpose Bakery (end of May) - St. Joe's Field Day (Early June) - Frisbee field day hosted by the Community Center of Needham, (mid-June) - Elliot school picnic, Sweet Pete's ice cream (early June)
Food Complaints/ Follow-ups	0 – Food Complaints/Foodborne illness cases received.
Housing - Complaints/Follow- ups, etc.	(2/9) – New/existing Housing Complaints/Follow-ups conducted at: – <u>Greendale Ave. (0/1)</u>: See past monthly reports for history. Reinspection performed on May 9th and owner was able to attend to some items and has made some progress. Another check in inspection is scheduled for mid-June. – <u>Chambers St. (Needham Housing Authority/NHA) (0/0) - Update:</u> The judge, after the hearing in May, gave a one month extension as occupant has informed the judge that they are making progress. NHA has requested our office to perform an inspection just before the next court hearing and document conditions to provide to the judge. Next court date is scheduled for the 2nd week of June. – <u>Seabed's Way (0/1)</u> – Complaint received from occupant about fine dust forming on floors in unit creating unsafe air quality in their unit and causing health issues. <u>Update:</u> NHA facilities manager will schedule a follow-up date with the occupant to re wax the flooring in the unit. They will contact our office once completed to perform a reinspection. – <u>Captain Cook Dr. (0/1)</u> – Complaint received about mold in occupants bathroom and signs of mouse activity in unit. Orders to correct were sent to the NHA. <u>Update:</u> Outdoor stairs were repaired. There was a small leak observed by kitchen sink and the occupant was still observing signs of mouse activity in the unit. This was relayed to NHA. Follow-up with NHA is needed. – <u>Seabed's Way (0/4)</u> – Fruit fly infestation in at least two units in building. <u>Update:</u> A reinspection was performed after NHA tried to treat with trapping the flies, however, many fruit flies were still present. Health agent required NHA to use pest control company to treat. After investigating, one of the vacant units refrigerators went out of order, which caused fruit flies to breed in room infesting neighboring rooms and in common hallway. This unit was cleaned out and reinspection was performed confirming that fruit flies were no longer in either unit. No further action is needed. – <u>Linden St. (0/0)</u> – Complaint about water in unit being unsafe. Reportedly water was oily and had a foul smell. Black residue was appearing on plumbing fixtures. Water department personnel were called in and had water tested and found no issues with the water quality. Tenant still has issues with water the water and requested an inspection. Inspection is scheduled to take place in early May. <u>Update:</u> Occupant canceled inspection. They were still complaining to NHA and NHA requested information from our office on how they can help the occupant test their water. No other reports of water issues in this building was noted and no further action is needed at time.

	– <u>Barrett St. (1/1)</u> – Neighbors were concerned about their neighbor and about plumbing and roof at the house. This was a property with issues also reports in November 2024. A letter was sent to try to get access, however occupant never reached back out to our office. In May, two visits were made to try to get in contact with the occupant and health agent left a note. After two weeks of no one answering, health agent requested police department to perform a wellness check, and they confirmed occupant was present and police would try to get contact information for son. Health agent will attempt to follow again. – <u>Pickering St. (1/1)</u> – EMS services reported extreme unsanitary and unsafe conditions during responding to an emergency at a property. Per records pulled from police and fire, this has been a long term case where occupants are collecting items and reports of living in poor living conditions. Attempt to access property was performed in May and health agent met with one of the occupants. Occupants admitted conditions in house were poor and said he was working on it but needed time and said they did not want anyone inside at that time. Health agent said they would return in two weeks to check in with them in early June.
Housing Pre-occupancy inspections	0 – Housing pre-occupancy inspections conducted.
Nuisance complaints/Follow-ups	(5/5) – New Nuisance Complaints/Follow-ups: - <u>Central Ave. (1/2)</u> – Complaint received about plastic tote with various junk left in front of house for multiple days collecting water. Health agent spoke with homeowner to remove it within a two week time frame. Health agent checked in after two weeks and tote with items were removed. No further action is needed. - <u>Moseley Ave. (1/1)</u> – Anonymous complaint about water being pumped from flooded basement in wetlands in rear of house. The complaint was referred to the Conservation Commission who said that it was a sump pump and they were already involved with the issue. No further action was needed. - <u>Dedham Ave. (1/1)</u> – This has been a repeating issue for a year where renters are piling trash bags on the rear deck and grass is not being mowed. Trash has frequently been seen with holes in the bags showing that wildlife is getting to trash. The property owner is out of the country and is non-responsive and renters are non-cooperative in providing information about the property owner but said they would handle the issue. Another incident was reported where trash was being stored improperly on rear deck. Inspection performed and orders to correct were sent out. - <u>Central Ave. (1/1)</u> – Trash and junk was being piled up on property which was removed from a barn that was potentially in an unsafe structural condition per neighbor. Site visit was performed in late May and conditions were confirmed however occupant was not home. Health agent will attempt another visit and if contact cannot be made then orders to correct will be formally sent out. - <u>Highland Ave. (1/0)</u> – Caller reported rats running around the property and noted that abutting property had an unkempt landscaping pile where they believed rats were nesting under. Follow-up will be performed in early June.

Indoor/Outdoor Pool plan reviews/ spot checks and annual permit renewal inspections	8 – Indoor/Outdoor plan reviews and pool inspections/spot checks conducted. - Charles River Landing - The Kendrick - Modera - Needham Pool & Racquet Club (2x) - Pools at RRC (2x) - Rosemary Ridge Inspections were performed for each pool noted above and all seven seasonal pools were granted seasonal permits. One unannounced routine inspection will be performed during the season.
Planning Board Special Permit reviews	1 - Planning Board review conducted: - <u>#1407 Central Ave. (Jack Cogswell Bldg.)</u> – Addition amendment comments sent.
Septic Certificate of Compliance (COC)	0 – Septic Certificate of Compliance final signoffs issued.
Septic – Construction Repair permit issued	2 – Septic Construction Permits issued: - <u>#1266 South St.</u> - <u>#243 Hunting Rd.</u>
Septic Failure Letters	0 – Septic system failure letters sent.
Septic Installation inspections	3 – Septic installation inspections conducted. - <u>#243 Hunting Rd.</u> (final inspection performed and okayed to cover)
Septic Deed Restrictions	0 – Septic Deed Restrictions received.
Septic Installer Exam/Permit Issued	0 - Septic System Installer exam and permits issued.
Septic Addition/Reno. to a Home on a Septic reviews	0 – Addition/Reno. to a Home on a Septic reviews conducted.
Septic Plan Reviews/Approvals issued	0 – Septic Plan reviews conducted/approvals issued.
Septic – Soil/Perc Tests	0 – Septic Soil/Perc Tests conducted.
Septic Trench permit issued	3 – Septic Trench permits issued: - <u>#1695 Central Ave.</u> (D-box replacement, perc test for ADU) - <u>#1266 South St.</u> - <u>#243 Hunting Rd.</u>

Septic – Abandonment Forms	1 – Septic abandonment/connection to sewer forms received: - <u>#106 Windsor Rd.</u>
Tobacco Compliance Checks/Hearing Scheduled/Retail inspections	6 – Tobacco retail routine compliance checks conducted at all permitted establishments: - Speedway (Fail-reinspection required as store had no current DOR license posted and did not have manufacturers letters for all their products present.) - Shell - Needham Service Center - Needham Center Fine Wines - 7-Eleven (Failed-Reinspection required as some of the manufacturers letters were missing.) - Great Plain Gas
Well Permit online plan reviews/ inspections	1 – Well permit online application plan review conducted: - <u>#1407 Central Ave.</u> – Irrigation well permit application review.
Zoning Board of Appeals plan reviews	1 – Zoning Board of Appeals plan review conducted for: - <u>#6 Brook Rd.</u> – Comments sent.

FY 25 Priority FBI Risk Violations of Interest

Establishment	Date	Violation(s)	Corrective Action/Follow-up
Broadmeadow Elementary	May 6, 2025	-Handwashing was not observed after staff had used restroom and after warewashing prior to wear gloves. - One tray of chicken drum sticks was at improper hot holding temperatures. - Self-service exposed cut cucumbers and pears were left out unprotected without a sneeze guard.	- Health agent mentioned this PIC, who then had training with staff about when and where to wash hands. This was checked at a reinspection. - Tray of chicken was put back into oven to reheat to 165f. - Cucumbers were moved to under the sneeze guards. Proper storage of unprotected foods on self-service line was observed at reinspection.

Elliot House- Riverside	May 6, 2025	-Milk and cooked rice in one of the fridges was held at unsafe temperatures because fridge was too warm.	-Both products and all TCS products in unit were discarded to correct violation on site. Colding holding unit was serviced and invoice for work performed was sent to our office.
Mitchell Elementary	May 8, 2025	-Cooked beans on counter were held at 100F instead of at 135f or above.	-Green beans were reheated and staff for the rest of the year would switch to half pans to keep foods at proper hot holding temperatures. School is planning on installing new hot holding wells next year.
Blue on Highland	May 12, 2025	-Raw shelled eggs were stored above pizza dough in a walk-in fridge in basement. -Bar dish machine was not dispensing sanitizer at time of inspection, even though a log shows it was dispensing earlier in the day. -Fresh pasta in one of the under the counter fridges was warm. Entire unit was too warm.	- Eggs were moved to an appropriate location. -PIC primed dish machine and demonstrated dispensing sanitizer. Logs will continue to be filled out by bar tender documenting their testing. -All TCS products in warm fridge were moved into the walk-in.
High Rock School	May 14, 2025	-A tuna salad sandwich on the service line was out of temperature. Buffalo chicken wraps in a cold holding unit (that was out of temperature) were between 48-50f and another bin of buffalo chicken filling in another unit was also at 50f. Wraps were made with 1.5 hours of the inspection.	-All warm items were moved into the walk-in fridge to cool down. TCS foods in warm unit were moved into the walkin fridge.
Roche Brothers	May 15, 2025	-Sanitizer in one of the pot sinks was less than 150 ppm. -Crab meat in seafood department was at unsafe holding temperatures	- Pot sink was remade with fresh sanitizer before it was used. - Crab meat that was out of temperature was voluntarily discarded. Air flow in that part of the case was blocked and packaged were stacked properly to allow proper air flow.

Mandarin Cuisine	May 17, 2025	-Slicing machine had visible debris on the underside after it was claimed to have been cleaned and ready to use.	- Reinspection was performed and slicer was still soiled. PIC described how slicer gets cleaned and the existing process was not removing all debris from the slicer. PIC will be adding a step to more thoroughly clean the slicer before it gets sanitized and covered.
Just Salads	May 17, 2025	-Cooked chicken and pork on service line were at unsafe hot holding temperatures. - The drain tube for one of the hot holding steam well was not appropriately plumbed to a floor drain.	-Products were voluntarily discarded. At time of reinspection, PIC stated that they have started to take frequent internal temperatures of items on their service lines and take corrective actions and are logging them. -Plumbing was redone so steam well was draining appropriately.
The Farmhouse	May 20, 2025	-Five large hotel pans of bolognas was out of temperature that were made 3 days prior to inspection. One large bin of veal stock was also at unsafe holding temperatures.	-Health inspector was unable to determine the cause of why items were out of temperature as the units were all working other than maybe a breaker was tripped in one of the coolers overnight. Bolognas was not entered into cooling log as mandated by our office. Bolognas and veal stock were both voluntarily discarded.
Needham High School	May 21, 2025	- Buffalo chicken wraps and sandwiches on new display case were out of safe temperature ranges. Covered sliced watermelon in another unit was also at an unsafe holding temperature. - Baked cookies and grated parmesan cheese were both exposed and displayed without any coverings and were on self-service line for students.	-Watermelon had been sliced that morning, and health agent had PIC uncover the watermelon to allow it to cool faster. Health agent recommended that sandwiches and wrap after they get made are kept in walkin fridge uncovered after they are prepared to bring down temperature before they are wrapped. Reinspection was performed to confirm this process. -Parmesan was moved before sneeze guards on salad bar and wrapped apples were moved out. At reinspection baked cookies were plastic wrapped to help protect them and kept by register where staff could partially lift plastic wrap and serve cookies upon request. This process would continue until appropriately sized sneeze guards are acquired.

Avita	May 27, 2025	- Hot holding temperature of dumplings on steam table was at unsafe temperature in kitchenettes where food is served.	-This was observed at end of service and in that case, the steam tables were never turned on by staff. Excess dumplings were discarded.
Hazel's Bakery	May 27, 2025	- American cheese and corned beef and other TCS foods in service line fridge next to flat top griddle were all at unsafe temperatures and unit itself was warm. This was a repeat violation.	-Inspection was performed at end of service and PIC agreed to try to make adjustments to cooler. Reinspection to check on cooler and what changes are made is planned to occur within a week of inspection date.
Dominos	May 31, 2025	- All food in the undercounter 3-door refrigerator was at unsafe temperatures.	-Health agent discovered that staff remove all food and store the food in the walk-in fridge overnight and this particular unit is switched off. Unit was turned back on too late so the ambient temperature was not at safe temperatures before it was stocked with food. Health agent requested they change this by either leaving food in this unit or confirming unit is at right temperature prior to stocking it with food.
Dunkin'- Chestnut St.	May 31, 2025	- All TCS products in one of the undercounter fridges were not at safe holding temperatures. Ambient temperature in fridges was in temperature danger zone.	-All TCS food in this unit were voluntarily discarded and unit was ordered not to be used again.
Little Spoon	May 3, 2025	- Garlic and oil mixture was stored at room temperature and at unsafe temperatures.	-Product was voluntarily discarded and then stored on ice.

Category	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	FY'25	FY'24	FY'23	FY'22	FY'21	FY'20	FY'19	FY'18
Biotech registrations/Plan rev./Insp.	0	0	0	0	0	0	0	0	0	2	2		4	15	3	3	0	1	1	1
Body Art Permits	0	0	0	0	0	0	1	0	0	0	0		1	-	-	-	-	-	-	-
Bodywork Estab. Insp.	0	0	0	0	0	6	0	0	0	0	1		7	8	5	5	6	7	14	11
Bodywork Estab. Permits	0	0	0	0	0	5	0	1	0	0	1		7	5	6	5	13	9	9	6
Bodywork Pract. Permits	0	0	0	0	0	7	0	0	0	0	1		8	10	5	8	12	23	21	22
Demo reviews	6	4	6	7	3	8	5	7	5	3	3		57	96	53	89	76	73	104	105
Domestic Animal permits	0	0	0	0	0	0	0	0	0	0	4		4	17	17	15	29	1	21	19
Domestic Animal Inspections	0	0	0	0	0	0	0	0	0	0	0		0	2	1	10	8	3	22	3
Dumpster Permits (NEW)	-	-	-	-	-	-	-	0	14	23	41		78	-	-	-	-	-	-	-
Food Service Routine insp.	17	24	17	10	26	27	20	15	19	17	27		219	224	214	194	134	149	200	225
Food Service Pre-oper. Insp.	0	2	5	0	1	2	3	2	0	1	4		20	23	22	22	16	48	12	32
Retail Food Routine insp. Or 6 month check in	0	0	0	0	0	0	0	0	0	0	0		0	4	13	11	12	33	46	60
Residential Kitchen Routine insp.	1	2	0	3	1	2	1	0	0	0	2		12	5	8	5	5	3	6	8
Mobile Routine insp.	0	0	0	0	0	0	1	0	0	0	2		3	5	10	10	10	4	17	13
Food Service Re-insp.	17	19	19	7	2	9	22	11	7	7	13		133	114	37	27	7	21	28	53
Food Establishment Annual/Seasonal Permits	0	1	1	0	44	71	5	1	1	0	0		124	128	130	138	134	155	140	171
Frozen Dessert Permits (NEW)	-	-	-	-	-	-	-	0	4	0	0		4	-	-	-	-	-	-	-
Temp. food permits	2	4	6	2	5	1	4	1	2	5	11		43	51	33	37	9	67	134	163
Temp. food inspections	7	2	0	1	1	0	0	0	2	0	3		16	24	16	9	3	10	37	29
Farmers Market permits	1	1	1	0	0	0	0	0	0	1	3		7	15	11	16	15	14	14	14
Farmers Market insp.	10	0	3	0	0	0	0	0	0	0	0		13	65	73	149	124	158	229	127
Food Complaints	3	3	1	0	1	3	3	1	3	4	0		22	25	11	13	7	49	18	20
Follow-up food complaints	3	2	1	0	1	3	1	0	3	3	0		17	18	12	15	8	48	21	21
Food Service Plan Reviews	1	1	2	0	1	1	4	0	0	0	0		10	21	75	13	12	14	20	42
Food Service Admin. Hearings	0	0	0	0	0	0	0	0	0	0	0		0	0	0	2	1	3	0	0
Funeral Home Director (NEW)	-	-	-	-	-	-	-	0	0	2	0		2	-	-	-	-	-	-	-
Grease/ Septage Hauler Permits	0	0	0	3	9	16	0	0	0	0	0		28	25	29	22	13	20	21	24
Housing (Chap II Housing) Annual routine inspection	0	0	0	0	7	0	0	0	0	0	1		8	13	9	10	7	7	0	14
Housing Follow-up insp.	0	1	1	2	1	2	3	5	3	7	1		26	26	13	3	2	0	0	5
Housing New Complaint	2	2	2	0	0	2	2	2	2	4	2		20	38	26	41	40	41	22	22
Housing Follow-ups	5	3	5	3	2	4	4	3	3	2	9		43	81	69	65	63	56	28	24
Hotel Annual inspection	0	0	0	0	2	1	0	0	0	0	0		3	3	3	3	3	3	3	3
Hotel Follow-ups	0	0	0	0	0	1	0	0	0	0	0		1	2	2	0	1	15	0	0
Nuisance Complaints	5	3	4	8	2	2	4	2	1	2	4		37	53	36	35	45	34	55	42
Nuisance Follow-ups	7	4	9	11	8	2	3	4	2	2	5		57	89	58	41	60	55	69	42
Pool inspections	1	6	0	1	5	1	0	0	1	0	7		22	30	14	15	15	13	20	12
Pool Follow up inspections	0	4	0	0	1	5	0	0	0	0	1		11	6	5	4	5	3	12	7
Pool permits	0	0	0	0	0	6	0	0	1	0	7		14	14	14	15	17	11	19	12
Pool plan reviews	0	0	0	0	0	0	0	0	0	0	0		0	0	5	0	5	0	3	44
Pool variances	0	0	0	0	0	5	0	0	1	0	1		7	5	7	6	5	6	5	7
Septic Abandonment	0	0	0	0	0	0	0	0	0	0	1		1	4	4	9	17	21	9	5
Addition to a home on a septic plan rev/approval	0	0	0	0	1	0	0	0	3	0	0		4	1	2	15	5	5	2	2
Septic Install. Insp.	0	4	0	3	0	6	2	1	0	0	3		19	26	22	19	11	13	21	28
Septic COC for Component	0	0	0	0	0	2	2	0	0	0	0		4	1	2	3	2	5	3	1
Septic COC for complete septic system	0	0	1	1	0	0	1	0	0	0	0		3	6	3	4	1	3	4	3
Septic Info. requests	3	4	3	6	5	7	3	5	3	2	4		45	60	62	64	86	61	62	51
Septic Soil/Perc Test.	1	1	0	0	0	0	0	0	0	1	0		3	6	6	5	8	1	1	2
Septic Const. permits	0	0	1	0	0	3	0	0	0	0	2		6	4	5	6	6	6	6	5
Septic Installer permits	1	0	1	0	0	6	0	0	0	1	0		9	7	16	11	8	6	8	9
Septic Installer Tests	1	0	0	0	0	0	0	0	0	1	0		2	5	9	4	3	2	5	3
Septic Deed Restrict.	0	0	0	1	1	0	0	0	0	0	0		2	3	0	0	4	1	1	3
Septic Plan reviews	0	0	0	1	2	0	1	0	1	0	0		5	13	29	21	14	8	9	23
Septic Trench permits	1	1	0	0	0	3	1	1	0	0	3		10	9	11	12	-	-	-	-
Disposal of Sharps permits	0	0	0	1	0	8	0	1	0	0	0		10	10	10	7	8	7	7	9

Disposal of Sharps Inspections	0	0	0	1	1	4	0	0	0	2	2	10	8	12	8	8	7	7	7
Rat Nuisance Complaints	1	2	3	10	1	1	0	1	0	0	1	20	20	5	6	2	2	1	-
RMD	0	0	0	0	0	0	0	0	0	0	0	0	3	2	-	-	-	-	-
Planning Board Subdivision Sp Permit Plan reviews/Insp. of lots	0	2	2	0	6	3	1	0	0	0	1	15	10	19	21	20	4	1	1
Subdivision Bond Releases	0	0	0	0	5	0	0	0	0	0	0	5	2	1	0	1	0	1	0
Special Permit/Zoning	2	1	1	3	4	2	2	0	2	1	1	19	16	19	21	18	17	34	15
Tobacco permits	0	0	0	0	1	5	0	0	0	0	0	6	6	7	6	7	10	10	11
Tobacco Routine insp	0	0	0	0	3	3	0	0	0	0	6	12	12	7	12	7	8	14	18
Tobacco Follow-up insp.	0	0	0	0	0	6	0	0	3	0	0	9	3	0	0	1	8	3	3
Tobacco Compliance checks	6	0	0	0	6	0	0	0	0	6	0	18	12	6	6	6	30	30	41
Tobacco complaints	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	2	3	4
Tobacco Compl. follow-ups	1	0	2	0	0	0	0	0	0	0	0	3	0	6	0	0	1	3	4
Trash Hauler permits	0	0	0	0	0	0	0	4	10	7	1	22	16	20	23	16	15	17	14
Medical Waste Hauler permits	0	0	0	2	2	3	0	2	0	0	0	9	6	6	2	2	2	2	1
Well - Plan Reviews, Permission to drill letters, Insp.	0	1	0	0	0	2	0	0	3	1	1	8	11	14	10	11	2	6	2
Well Permits	0	0	0	0	0	0	0	0	2	0	1	3	0	1	4	1	1	1	0
Monthly Totals	105	104	97	87	161	256	99	70	101	107	183	1370	1540	1357	1355	1195	1405	1642	1668



Unit: Accreditation

Date: May 2025

Staff: Lynn Schoeff and Alison Bodenheimer

Activities and Accomplishments

Activity	Notes
Responding to PHAB feedback	- Reviewed PHAB feedback regarding 26 documents that have to be modified and resubmitted. - Assignments to appropriate staff member - Beginning modification.
Performance Management	- Ongoing progress tracking in the performance management dashboard in collaboration with staff
Quality improvement	- Working with staff to ensure smooth processes for food permit and farmers market permit applications applying QI processes.
Policies	Activating PH Staff in an Emergency Reportable Diseases Program Evaluation Septage and Waste Hauler Permits Residential Kitchens Asbestos Removal in Demolition of Residential & Commercial Properties Expense Reimbursement (HHS) Duty to Warn (HHS) Student Interns (HHS) Racial and Health Equity (HHS)

Other Public Health Division activities this month:



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Unit: Traveling Meals Program

Date: May 2025

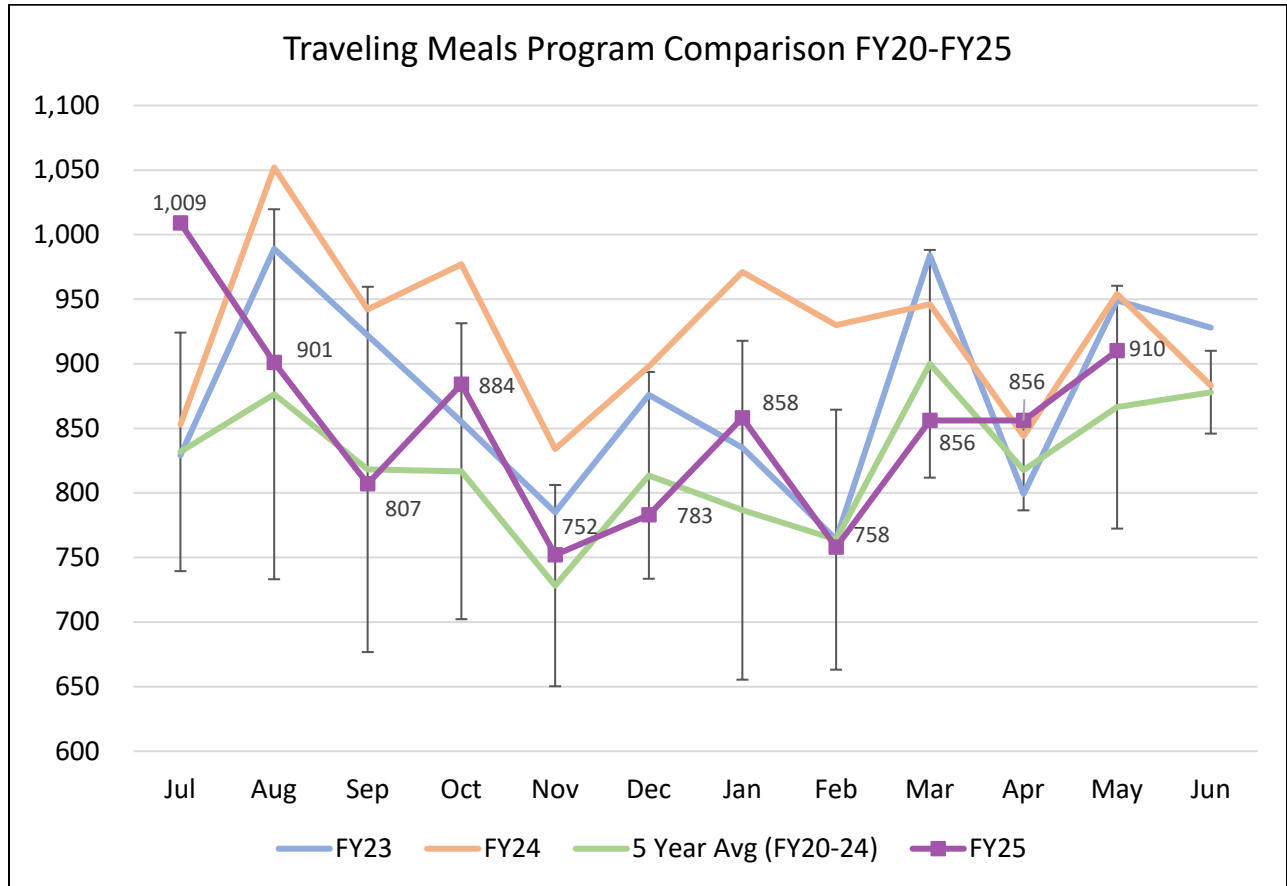
Staff: Rebecca Hall

Activities and Accomplishments

Activity	Notes
<i>Volunteers and Seasonal Drivers delivered meals to homebound Needham residents in need of food.</i>	<i>Meal delivery for month by 29 Volunteer Drivers and Community Partners</i>
<i>910 Meals delivered in May 2025</i> <i>52 Clients at end of May:</i> <i>42 Springwell Consumers</i> <i>10 Private Pay Consumers</i> <i>5 New Clients (3 Springwell, 2 Private)</i> <i>1 Cancelled Program (1 Springwell)</i>	<i>No 911 calls initiated</i>
<i>Included stroke informational flyers from BIDN in meal bags</i>	<i>Flyers included information about “Is it a stroke?” and How to Lower Stroke Risk from MADPH</i>
<i>Completed hiring of 3 Seasonal Drivers and 2 Substitute Drivers for summer</i>	<i>Summer delivery will begin on 6/16/25</i>
<i>Attended Mental Health First Aid Training for Older Adults</i>	<i>7 Volunteer Drivers also attended training</i>

Other Public Health Division activities this month:

Summary overview for the month: Graph of Meal Deliveries for the month May 2025





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Unit: Substance Use Prevention MassCALL3 grant: Dedham, Needham, Walpole, Westwood

Date: May 2025

Staff members: Carol Read, M.Ed., CAGS, CPS & Lydia Cunningham, MPH, CHES®, CPS

Activity	Notes
Jessica Goldberg, MPH, MSW, Education Development Center- 5/1, 5/12, 5/22	-Creation and review of substance use and mental health youth survey data graphs for MassCALL3 region. -Preparation for annual regional MassCALL3 meeting: data review, content review and preparation, logistics.
Norfolk County District Attorney Morrissey: Substance Use and Medical Review- 5/6 Dr. Dan Muse	-Review of information: synthetic cannabinoids and other synthetic drugs. -Synthetic cannabinoids: very strong affinity for brain receptor sites; response in body can include drowsiness, dizziness, lethargy, confusion, anxiety, delirium, seizures, convulsions; mostly used by young males; often used due to belief that it will not appear on drug test; no accepted medical use.
Bridget Gough, Superintendent of Schools, Walpole Public Schools- 5/6, 5/13	Outreach: request for advice/support in setting up a meeting to discuss MassCALL3 grant goals and review current health education curriculum regarding substance and mental health in Walpole Public Schools.
BSAS: The Montana Institute Session 6: Implementation of Positive Community Norms -5/7 Ben Tanzer & Sara Thompson, The Montana Institute	-Communication planning: Value of creating a communication plan around existing community events, holidays, etc. Include: audience, media type, publicity, opportunities for conversations, tools for others, dosage. -HEAR strategy for addressing pushback or misinformation: hear health, explain evidence, ask questions, relay resources.
Needham Public Health Division Staff Meeting- 5/13 Timothy McDonald, Director of Health and Human Services, Tara Gurge, Assistant Public Health Director	Agenda: Upcoming BOH meeting dates and topics; staff changes and updates: four positions open; building updates and physical changes: new space in front desk area; federal and state grant funding updates; upcoming Mental Health First Aid for Older Adults training; tentative Excel training; International Overdose Awareness Day preparation.
Dedham Organization for Substance Awareness (DOSA)- 5/14, 5/28 Mae Mears, Program Director & Tae Averett, Program Coordinator	-Review of individual and overlapping strategies for substance use prevention and mental health promotion. -Preparation for MassCALL3 adult social marketing campaign and social norms campaign. -Dedham Public Health and DOSA staff transitions.
Middlesex County District Attorney Ryan: Anti-Hate Anti-	-Recognition of Mental Health Awareness Month and Asian American & Pacific Islander Heritage Month.



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Bias Taskforce- 5/15 Dan Berger, Cornell University, Sgt. Matthew Owens & Jessie Barbosa, MA State Police Hate Crime Awareness and Response Team (HART)	-Update on Deferred Action for Childhood Arrivals (DACA) program: Texas vs. United States lawsuit challenging the legality of DACA, timing of final decision uncertain. In 2023, 580,000 people with DACA nationwide. Employers and employees should prepare for possible termination. -HART Unit: created in 2023 to confront and deter hate crimes. Hate crimes are criminal offence motivated by hate. Most commonly: vandalism/defacement of property, intimidation, destruction of property, and assault.
CADCA: Competencies in Focus- Evaluation- 5/15 Andrea Avendano-Jurado, Jessica Price, Abby Nellis, Madeline Drapp, Jaidan Adams, Katie Wiedeman & Terisha Friedmann, CADCA	-Overview of Prevent+Ed programs: school-based education and professional development. Programs provide assessment/referrals, peer support specialists, community coalitions, naloxone trainings, medication disposal, leadership programs. -Conducting program evaluation and interpreting results: evaluate to determine needs for adaptation, partner for evaluation, host follow up conversation with participants. Embedding evaluation into everyday activities.
Dr. William Hahn, Assistant Superintendent of Schools & David Wall, Director of Wellness, Walpole Public Schools (WPS)- 5/16	-Overview of MassCALL3 and Drug-Free Communities grants. -Review of information provided regarding time-in-learning and substance use/mental health focused curriculum taught in grades K-12. -Review of two programs: Alcohol Education: Safe and Smart and Stanford's Smart Talk: Cannabis Prevention & Awareness curriculum. Feasibility of implementing the two programs into WPS curriculum for middle and high schoolers. Support available through MassCALL3 grant.
MA Dept. of Public Health Bureau of Substance Addiction Services (BSAS) Regional Grantee Meeting- 5/20 Andrew Robinson, Prevention Program Manager; Jose Morales, Director of Prevention; Sarah Ruiz, Deputy Director for Strategy & Community Health, BSAS	-Evolution of BSAS: shift in focus from strictly preventing harms to promoting positive and growing protective factors. New mission and vision statements focusing on health and well-being. -HOPE model/framework's four building blocks: relationships, environment, engagement, emotional growth. Focus on growing these positive areas for young people and communities in the state. -Grant and capacity building update: HRiA grants and webinars focused on capacity building and leadership in community-based organizations.



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County Health Rankings and Roadmaps: Harnessing power to drive policy change- 5/20 Ericka Burroughs-Girardi; Joanne Lee; Jami Crespo; McKenzie Cowlbeck	-CHR&R annual report and new model including power. Power and societal rules shape community conditions which impact population health and well-being. -Power building strategies: determine your legal authority, follow Act for Public Health, build relationships with decisionmakers. -Balancing public health authority and individual liberty: common good vs individual rights (due process, equal protection, freedom of speech). -Building relationships with policymakers: connect authentically, connect before you need them (outside of session), avoid burning bridges, use framing to make a difference.
Needham Board of Health- 5/20 Timothy McDonald, Director of Health and Human Services, Tara Gurge, Assistant Public Health Director	Agenda: Welcome & public comment; Board reorganization; review of April minutes; April staff reports; designations of agents; Public Health Division charge; nicotine pouches; proposed new fee schedule, permit free calculator, and risk-based fee.
MetroWest Adolescent Health Survey (MWAHS) District Meeting- 5/22 Shari Kessel Schneider, Education Development Center	-Preparation for 2025 MWAHS administration; specifically providing information to parents/guardians regarding the survey. -New guidelines for making the survey available for parents/guardians to view in advance of administration and how to respond to pushback and misinformation.
Community Conversations on Race: Becoming an Inclusive Community- 5/22 Dr. Gary Bailey, MSW Program Director, School of Social Work, Simmons University	-Recognition and discussion of the impact of privilege on our daily lives. -Discussion: opportunities for dialogue about race/diversity in our daily lives; acting on these opportunities; discussing race with people like you. -The danger of the “single story” narrative: how we have experienced/perpetrated this, and how we can change.
MetroWest Substance Awareness & Prevention Alliance- 5/27 Amy Turncliff, PhD, Rockfern Scientific, Chair	-Cannabis policy: public-health related cannabis bills filed Jan. 2025 discussed at Joint Committee on Cannabis Policy Hearing 5/7. -Nicotine Free Generation: state Senate bill sponsored by Senator Lewis and House bill sponsored by Rep. Vitolo. -Opioid settlement funds: CARE conference for municipal leaders held 5/27.
Massachusetts Alcohol Policy Coalition- 5/28 Elizabeth Parsons, Chair	-Local alcohol policy: mandating responsible beverage service training for licensees, limiting sale of alcohol at public events (farmers markets, concerts). -Coalition members presenting at CADCA Mid-Year conference in July on empowering youth to advocate for



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	policy change. Detailing efforts from this group and other trainings/events. -Dr. Jernigan meeting with Needham (SPAN) to provide technical assistance to students on alcohol policy before they meet with legislators.
Bright Solutions Peer Mentoring Call- 5/29 Amanda Decker, Bright Solutions LLC	-Group sharing: current success and challenges in local prevention work. -Strategies for hosting meetings: preparing by reaching out to participants, creating action-based agendas, personally inviting individuals to meetings, start meetings with “why,” follow up with those who are unable to attend.
CHEI Data & Action Workshop: Combining Qualitative & Quantitative Data to Advance Equity for Immigrants- 5/29 Metropolitan Area Planning Council	-Language access on Cape Cod among residents who are immigrants: mixed-methods research conducted. Barriers to health care discovered and recommendations provided. -Immigrants’ Assistance Center: using data-driven storytelling to eliminate barriers and create systems change. -Using qualitative and quantitative data to fill gaps and answer questions where more information is needed.

*NPHD April Report- monthly activities

*Time dedicated to in-person collaboration and capacity building in cluster communities
This report is part of a larger quarterly report to BSAS and is not considered finalized for purposes of the BSAS report. A later version will be available.

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END



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Unit: Substance Use Prevention

Date: May 2025

Staff: Karen Shannon, Karen Mullen, Monica De Winter, Angi MacDonnell, Vanessa Wronski

Activities and Accomplishments

Activity	Notes
SPAN Projects & Events	SPAN in the community: SPAN at Mitchell Elementary School event: on May 8, Caryn Bello, Psy.D., a SPAN Mental Health Action Team member, was a panelist for the event, "The Anxious Generation," hosted by the Mitchell Elementary School Parent Council. Caryn was accompanied on the panel by Jessica Downey, High Rock Middle School Principal, Sara Shine, Director of Needham Youth & Family Services, Chris Gosselin, Director of Technology and Digital Learning for the Needham Public Schools, a Needham High School 12th grade student, and a Mitchell School parent. SPAN received an invitation to participate in the event when a Mitchell Parent Council member read a recent post in the SPAN <i>Rethinking Success</i> campaign, "Raising Children in a Wealthy Community," https://www.spanneedham.org/rethinking-success. Jog for Joy 5k: on Saturday, May 10, SALSA and SPAN attended the annual Jog for Joy road race hosted by the High Rock Metro West Church. The event raises funds for mental health, and this year the church chose to donate race proceeds to SALSA. Needham Overdose Awareness Day: the Prevention Team is leading the planning for the 4th annual Needham Overdose Awareness Day vigil. The planning committee met on May 14 with representation from stakeholders in healthcare, addiction treatment centers, public safety, non-profit groups (Learn to Cope and Becca Schmill Foundation), students and the recovery community. The vigil will occur on Thursday evening, August 28, at the Town Common. Prevention Team staff worked on nicotine pouch regulation, and teamed with the Environmental Health staff to research product testing protocols, regulation by other MA communities, and consulted with MAHB and MMA leadership on regulation language for Needham BOH Article 1. SPAN social media: https://www.facebook.com/SPANNeedham/ SPAN Committees:

	Steering Committee met on May 13 to finalize updates to the SPAN Strategic Plan for Coalition, Goal 1: Establish and strengthen collaboration among community stakeholders and organizations to address youth substance use. Education Action Team met on May 8 to plan prevention programming for the upcoming Coalition year.
Needham Public Health Peer Recovery Coach	During May, Angi MacDonnell, Peer Recovery Coach engaged in the following: Worked with 10 people (phone, in person, and text contacts) Average Age of those receiving services: 53 years. Angi and Karen Shannon attended Mental Health First Aid for Older Adults on May 20, and the BSAS Opioid Settlement Funds Conference on May 27. Angi conducted Narcan training for the Center at the Heights clinical staff. Angi receives award: Natick 180 recognized Angi at their spring coalition meeting for her work in Peer Recovery Coaching. Angi is a Natick resident and contributes her personal time to Natick 180, a community coalition that focuses on addiction education, prevention and recovery.
STOP Act grant	SAMHSA grant: STOPing Underage Access and Use of Alcohol: Codifying Youth, Parent and Retailer Education and Compliance in Needham, MA: Alcohol compliance – Closeout reports for the completion of the STOP Act grant continue. Grant staff learned last month that SAMHSA is requiring the submission of three additional reports as part of a new reporting system implemented in late April.
SALSA	During the month of May, 48 SALSA members contributed 150 hours of service in Needham. May highlights include: - Isabel Tashie/NHS SALSA leader was recognized for her prevention work on Nicotine Free Generation in Somerville by the city's "Somerville Cares about Prevention" (SCAP) on 5/29/25. We're proud of Isabel's accomplishments in Needham and in MA. - SALSA member Amiyah Fernandes led the Vaping Awareness Team in a "Safe Vape Disposal Recycling" event on 5/17 at Memorial Field. They collected used e-cigarettes and safely disposed of them at the Needham Recycling & Transfer Station. This event was in partnership with Matt DeMarrais at the Needham Recycling/Transfer Station.

	- 21 SALSA members taught refusal skills to 60 Pollard Middle School 8th graders. They debunked myths about alcohol and other drug use among NHS students. The classes were taught over 2 days on 5/22 & 5/23 at Pollard MS. - 4 SALSA students volunteered at the Jog for Joy 5k event on 5/10 to benefit Mental Health.

Summary for May 2025: Focus this month included research on nicotine pouch regulation for the Needham Board of Health, preparation for the SPAN Spring Coalition Meeting on June 10 and for responsible beverage service training on June 2, STOP Act grant reporting, and SPAN participation in community events.



Unit: Emergency Preparedness

Date: May 2025

Staff: Taleb Abdelrahim

Activities and Accomplishments

Activity	Notes
Medical Reserve Corps (MRC)	Conducted a volunteer survey using a shelter activation scenario. Compiled the results into a report and shared it with the Emergency Operations Center (EOC) team during EOC Activation Exercise.
Emergency Preparedness	- Organizing the RRC's basement: disposed of expired/unusable items and began inventorying retained supplies. - Attended the Region 4AB Disaster Debris and Public Health seminar focused on disaster debris as a health hazard. - Participated in an Emergency Operations Center (EOC) Functional Exercise. Represented ESF #6 – Mass Care (sheltering), emergency supply distribution, MRC support roles, and more.
Accreditation	- Completed and submitted the After-Action Report (AAR) for the last September flu clinic to meet the PHAP requirement. - Continued working on remaining documents that should be revised and resubmitted.



Unit: Epidemiology

Date: May 2025

Staff: Julie McCarthy

Upcoming respiratory virus season updates:

- Covid-19 levels across the country are low at the moment, but last year we had a decent summer wave. The WHO added a new strain, NB.1.8.1 to its variant monitoring watchlist. No current evidence to indicate this variant leads to more severe illness than other variants in circulation.
- The FDA recommended drugmakers update the Covid vaccines to target the LP.8.1 strain. The FDA vaccine advisory committee had recommended not updating the Covid-19 vaccine strain for this fall. Huge and confusing changes to Covid-19 vaccine eligibility. Currently, 65+ are eligible and under 65 must have certain health conditions to be eligible and/or may be eligible with shared clinical decision-making (might not be covered by insurance). ACIP to meet later this month (hopefully).

Misc. Mass Dept of Public Health notifications (also posted to social media):

- Anyone who dined at The Red Inn at 15 Commercial Street in Provincetown between April 30 and May 15 [may have been exposed to hepatitis A](#) and should contact their healthcare provider.
- Cluster of botulism cases linked to [cosmetic Botox injections at Rodrigo Beauty](#) (464 Granite Ave in Milton). Anyone who received Botox injections at Rodrigo Beauty between May 1 and June 4 this year is urged to contact us or MA DPH immediately, even if not experiencing symptoms. If experiencing symptoms, go to nearest Emergency Dept.

Activities and Accomplishments

Activity	Notes
Rats!	We appreciate all resident responses to the survey for residents to report rat sightings! We have already received >20 responses since the end of April and will continue to make link available on website and social media. Continuing to build and edit rat education website .
Ticks/ arbovirus season	Mass Department of Public Health Arbovirus updates begin in June with mosquito surveillance and testing.



Unit: Public Health Nursing

Date: May 2025

Staff: Hanna Burnett and Ginnie Chacon-Lopez

Activities and Accomplishments

Activity	Notes
Community Outreach	Hannah: attended Great Bear Run and had over 200 people come and learn hands-only CPR and how to use an AED.
Education	Ginnie: various webinars; attended MAPHN Conference; attended MEHA's Annual Seminar.
DVAC	- The last episode of the 5-part series was recorded with The Needham Channel. - Mother's Day drive for REACH with strong community support. Items collected included baby wipes and bedding for shelter occupants. Mother's Day lunch was sponsored for shelter occupants.
HEARTSafe	- Interviews for CPR instructors were conducted. - Brainstorming how to meet Element 9: Establish a 911-Integrated AED Registry on the HEARTSafe Community application.
Additional Notes	- Camp applications and binders reviewed. - Announced Cepheid COVID-19, Flu A, Flu B, and RSV PCR testing to community.

Potential Foodborne Illnesses	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2025	2024	2023
Calicivirus/Norovirus						<5	6	<5	<5				9	5	5
Campylobacteriosis Confirmed/Probable	<5	<5	<5				<5			<5			6	10	9
Cryptosporidiosis													0	<5	0
Cyclosporiasis													0	<5	<5
Enterovirus	<5				<5								<5	0	0
Giardiasis													0	0	<5
Salmonellosis		<5						<5					<5	<5	5
Shiga Toxin Producing Organism	<5							<5					<5	<5	<5
Shigellosis		<5											<5	0	0
Vibrio spp													0	<5	<5
Arbovirus	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2025	2024	2023
Babesiosis								<5					<5	<5	<5
HGA/Anaplasmosis			<5	<5									<5	<5	<5
Lyme Disease Suspect	6			<5	<5								9	45	58
Lyme Disease Probable		<5	<5	<5		<5	<5						7	35	19
Other Communicable Illnesses	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2025	2024	2023
Group A streptococcus						<5				<5			<5	0	0
Group B streptococcus													0	<5	<5
Haemophilus influenzae		<5											<5	<5	0
Hepatitis B Confirmed/Probable				<5		<5	<5				<5		5	5	<5
Hepatitis C Confirmed/Probable	<5	<5							<5		<5		5	<5	0
Influenza Confirmed			<5	<5	7	25	106	126	53	19	8		346	155	193
Malaria													0	<5	-
Legionellosis													0	<5	<5
Novel Coronavirus Confirmed	24	34	27	13	<5	14	32	13	16	9	<5		187	308	980
Novel Coronavirus Probable	14	7	8	7	<5	8	10	<5	<5	<5	<5		65	54	188
Pertussis (Bordetella spp.)		<5	<5										<5	0	<5
Streptococcus pneumoniae							<5						<5	0	<5
TB Infection Confirmed	<5	5	<5		<5								12	45	44
TB Infection Contact	<5												<5	<5	-
Varicella					<5								<5	6	<5
Totals	55	55	45	26	19	53	158	146	73	31	14	0	675	690	1520

Immunizations/Injections	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2024	2024	2023
B12	2	1	1	1	2	2	1	1	2	1	2		16	8	3
Influenza			332	115	76	8	2						533	771	719
Tdap						1			1				2	0	1
Covid-19				30	31	15							76	208	461
VFC						3			3	4			10	0	0
Other						5			4	4			13	3	0
Total	2	1	333	146	109	34	3	1	10	9	2	0	2	990	1184

Animal-to-Human Bites	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2024	2024	2023
Dog													0	3	3
Cat													0	1	0
Bat					1			3					4	0	0
Total Bites	0	0	0	0	1	0	0	3	0	0	0	0	4	4	3

Assistance Programs	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2024	2024	2023
Food Pantry													0	0	4
Friends	1												1	0	0
Gift of Warmth	0	2	1	5	4	0	2	2	0	0	0		16	29	51
GoW Amount	0	1400	300	2394	1877	0	1404	500	0	0	0		7875	16843	25921
Parks & Rec													0	0	0
Self Help													0	2	6

Education	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	2024	2024	2023
CPR Education			88	17	11	14	22	0	44	39	200		435	243	197
Matter of Balance Graduates					5				11				16	15	34
Narcan	3	69	13	8	9	0	5	8	20	13	12		160	174	25

Donations:	\$0
Gift Cards Distributed:	0

May 2025 Report

Unit: Public Health Excellence - Shared Services, Contact Tracing & Local Public Health Training Hub

Date: 6/6/2025

Staff members: Kerry Dunnell, Jennifer Casey, Jennifer Gangadharan & Padraig Martin

Activities and Accomplishments

Activity	Notes
Shared Services- Charles River Public Health District (Towns of Dover, Medfield, Needham, and Sherborn)	Staff members: Kerry Dunnell, Jennifer Casey, Jennifer Gangadharan Staff Updates We have completed a review of job descriptions for the two open positions: Regional Environmental Health Agent and Assistant Manager for Shared Services & Training Hub. We will solicit support from the Charles River communities in interviewing candidates. Community Support & Engagement <i>Environmental Health -- Regional environmental health agents support environmental health activities and conduct inspections in all member communities as requested</i> Inspections in communities are on hold until positions are filled. <i>Public Health Nursing--</i> Jenn Gangadharan continues to cover MAVEN for Medfield and provided MAVEN coverage for Needham May 15-19. Coordinated meeting with American Heart Association and PHNs within CRPHD on 5.27 to discuss Free Blood Pressure Stations which would be set up in communities in places like libraries or councils on aging. Reached out to Middlesex Essex Regional Public Health Nurse to discuss creation of nursing web page and educational materials. Meeting set for June. Collaborated with lead school nurse in Medfield on 5.20 and 5.21 steps to take after cucumber recall on cucumbers that were distributed to and served in schools in MA. Also shared information with Dover Sherborn PHN who reached out to schools there. Letters sent out to parents to alert them of the recall and signs and symptoms of salmonella.

Met with Tamara Bedard PHN Consultant UMASS on 5.21 to discuss cucumber recall and also how to engage communities within the training hub.

Created Standard Operating Procedure Policies for Disease Investigation and MAVEN coverage for CRPHD advisory board to review. This will guide our work as we standardize our disease investigation protocols.

Created MAVEN Coverage Standard Operating Procedure. This document serves to ensure that Charles River Public Health District has a standardized protocol for MAVEN coverage so that each town always has a person able to check MAVEN daily.

Vaccination -- Shared the most up to date information available regarding MMR vaccination if families with young children (6-11 months) are traveling. This is a valuable resource for all LBOHs and members of the CRPHD communities. It is timely as we enter the summer months when many people travel.

Medication information provided to a Needham resident in need who stopped by the nursing office with questions.

Projects

Strategic Planning

- A draft report of the Strategic Planning work was shared with Advisory Board members and staff. The final meeting of the project will occur June 26, 2025.

Foundational Public Health Services Assessment

- Final results of all communities' assessments have been compiled into a 97-page presentation that includes detail about combined results for each area of assessment. These combined results will be a guide for the work of the shared services collaborative in the years ahead. Each community may also request to receive their individual results.

Staff Continuing Education & Training updates

Jenn Gangadharan participated in **Immunization Webinars** May 7th and May 21st. These webinars provide nurses the most up to date immunization guidance as well as strategies to use with vaccine hesitancy. This is an important education to share with all of our communities.

Jenn Gangadharan attended session on May 28th of a series **"Dismantling Racism in Nursing"** put on by American Nurses Association. This series focuses on equity within

the profession of nursing and the people we serve. As we strive for health equity in all our communities, listening to a variety of perspectives/experiences allows Public Health Nurses to plan approaches and strategies that are inclusive. Everything I am learning at these meetings contributes to my ability to strive for equity in all our communities.

Jenn Gangadharan attended the **Annual MA Association of Public Health Nurses (MAPHN) Conference** on May 14th & 15th. This conference provided up to date information on a variety of issues. I met a representative from the American Heart Association where I learned about the Free Blood Pressure Station Program which supplies communities with free equipment and education. I organized a meeting with the current Public Health Nurses in our SSA and the representative to discuss how to implement this program if there is interest from our communities. I also met another Regional PHN at this meeting who I have a follow up meeting with in June to discuss website content and educational materials for our communities.

Jenn Ganghadaran and Kerry Dunnell attended **Mental Health First Aid for Older Adults** May 5th, 2025. Organized by Rebecca Hall, Needham Traveling Meals Coordinator, 5.2025, this training teaches a framework and provides valuable strategies, insights and resources about working with older adults. Both Kerry and Jenn are now certified as a Mental Health First Aiders and will use the strategies learned here when considering programming needs and interactions with older adult members of Charles River Public Health District communities.

Training Hub- North Central & MetroWest Local Public Health Training Hub Serving the 40 communities in the Charles River Health District, Greater Boroughs, MetroWest Public Health Coalition, Nashoba Associated Boards of Health, Norfolk County-8 Public Health shared services arrangements, and the communities of Bellingham, Holliston and Marlborough.	Staff members: Kerry Dunnell, Jennifer Casey, Jennifer Gangadharan, Padraig (Pat) Martin Training Delivery Updates <i>Local Public Health Intensive Training (LPHIT) Food Inspection Training Tier 3</i> Pat Martin continues to work with two individuals to complete their on-site Tier 3 requirements. Tier 3 Food trainees are assessed by trainers on their work during five different types of inspections. Some trainees may meet all requirements after five inspections; some may require more than five inspections to do so. Once this step is complete, trainees are eligible to receive certification of completion. <i>Local Public Health Intensive Training (LPHIT) Food Inspection Training Tier 2</i> <i>Documentation Review</i> • No new requests in May. <i>LPHIT Housing Tier 3</i> Due to the departure of Sam Menard, we have had to postpone our June Tier 3 Level 1 offering. We are working with other training hubs and with OLRH to be able to offer this training during the summer. Additionally, we are working with OLRH to ensure that Pat Martin and Jenn Gangadharan receive their final certifications so that they may offer the training independently. <i>LPHIT Pools (developing)</i> Course development continues at the state level. We are all eagerly anticipating release of the curriculum. <i>LPHIT Wastewater/Title V (developing)</i> • MA Department of Environmental Protection (MA DEP) has filled one full-time position for a subject matter expert and trainer. This role enables the development of a training curriculum. Training Hub outreach, communication & support activities The North Central Metrowest Training Hub will offer a De-escalation for Inspectors training in June. We have been working with the instructor to develop accurate and

effective scenarios that will be used to teach participants how to respond effectively in the face of disagreement during inspections.

Staff have been developing a survey for all environmental health staff in the forty-three communities we serve. The results of the survey will yield information about priorities and staffing in each community and be used to guide our understanding of community priority areas.

Funder Communication & Collaboration

MA DPH OLRH has organized a work group to develop a mission, vision and values for something called the Public Health Training Academy. The Academy will include offerings from the training hubs, and other public health training needs. The workgroup will meet nine times over four months to identify what the training needs are, and whose training needs will be met by the Academy. Workgroup participants include representatives from each of the ten local public health training hubs, each of the six professional public health organizations, the Coalition for Local Public Health (CLPH) and members of MA DPH staff from Office of Local and Regional Health, Bureau of Climate and Environmental Health and others.

Pat Martin will represent the North Central Metrowest Training Hub. Kerry Dunnell also will participate representing the MA Environmental Health Association.

Staff Continuing Education & Training updates

TRAINING FOR THE TRAINER

Both Pat Martin and Jenn Gangadharan continue to pursue eligibility to conduct LPHIT Housing Tier 3 trainings.

Pat conducted a Tier 3, Category 2 Housing Inspection with MA DPH staff from the Bureau of Climate and Environmental Health.

Jenn Gangadharan completed her final class LPHIT Housing Tier 3 session in preparation to co-host housing trainings for our training hub.

Both Jenn Gangadharan attended Bob Pike Train-the-Trainer Boot Camp this month. Pat attended an in person offering and Jenn attended a virtual offering. Participants learn about a variety of trainer-led/participant-centered training techniques that will help enable trainers to organize more engaging sessions that increase student learning and strengthen the quality of our hub training.

CONTINUING PROFESSIONAL EDUCATION

	Pat Martin attended the Massachusetts Environmental Health Association Annual Seminar in Southbridge, MA on May XX. The daylong seminar offers inspectors, agents and environmental health staff insight into developments in the field and opportunity to connect with other professionals from around MA. Session topics included West Nile Virus and EEE; Body Art Regulation and Enforcement; Advocacy for public health; and Food Protection Guidance. The panel on West Nile Virus and EEE including information on how one community responded to a EEE outbreak last year, and remarks from Dr. Cathleen Brown, State Epidemiologist, about what the data from previous years show, and what that may mean for the current year. Pat Martin completed the annual MA Association of Health Boards certificate training. This annual training served as a valuable refresher on Board of Health authority, responsibilities, and current challenges faced by LBOHs. Jenn Gangadharan attended a meeting of the MAPHN Southeast Chapter on May 22nd. This meeting offered a presentation by Kerry Wagner, Environmental Analyst at MA DPH Community Sanitation Program in the Bureau for Climate and Environmental Health. The presentation “Minimum Standards for Recreational Camps for Children, State Sanitary Code IV” provided informative and very useful information as camp season begins. The presentation provided details about the inspection process as well as the code which I will use as I review camp binders in Needham and prepare for camp inspections.



Board of Health Town of Needham AGENDA FACT SHEET

MEETING DATE: June 20, 2025

Agenda Item	Feedback to Select Board about FY 2026 Goals and Beyond
Presenter(s)	Timothy McDonald, Director of Health & Human Services

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED
Mr. McDonald will lead the Board in a discussion about the feedback it would like to provide to the Select Board as that board considers updates and revisions to its goals for Fiscal Years 2026 and FY 2027.	
2.	VOTE REQUIRED BY BOARD OF HEALTH
Discussion Only.	
3.	BACK UP INFORMATION:
• Needham Select Board Goals FY25-26 • Needham Public Health Division Strategic Plan 2024 – 2028 • Needham Community Health Improvement Plan 2024	

Select Board Goals

FY 2025-26

August 13, 2024

FY 2025-2026 Goals

Goal #1: Healthy and Socially Thriving

Needham residents enjoy plentiful recreational, cultural, and educational opportunities in an environment that upholds human rights, celebrates diversity, and fosters a sense of connection among neighbors, thus strengthening their bond to the community they proudly call home. Needham:

- Cultivates a wide range of recreational, cultural, educational, civic, and social opportunities for all socioeconomic and age groups;
- Supports the physical and mental well-being of its community members;
- Fosters inclusion, diversity, and equity in order to become a culturally responsive, anti-racist, and anti-biased community; and
- Values public art.

Goal #2: Economically Vital

Needham welcomes investment in local businesses and has a thriving local economy that contributes to a growing local tax base to support desirable community amenities and programs. Needham:

- Has a growth mindset and encourages business development and redevelopment;
- Supports an environment for creativity, innovation, and entrepreneurship;
- Promotes a well-educated, skilled, and diverse work force that meets employers' needs;
- Fosters a collaborative and resource-rich regional business climate;
- Attracts, sustains, and retains a diverse mix of businesses, entrepreneurs and jobs that support the needs of all community members; and
- Supports financial security and economic opportunity.

Goal #3: Livable

Needham values diversity and a broad spectrum of housing options. The community is supported by well-maintained public infrastructure and desirable amenities that accommodate a variety of community needs. Needham:

- Promotes and sustains a secure, clean, and attractive place to live, work and play;
- Supports an increase of housing, including a variety of types and price points;
- Provides high-performing, reliable, affordable public infrastructure and Town services;
- Encourages and appropriately regulates sustainable development; and
- Supports and enhances neighborhood livability and accessibility for all members of the community.

Goal #4: Accessible and Connected

In Needham, people can easily and affordably travel to their desired destinations without relying solely on cars. Needham:

- Supports a balanced transportation system that reflects effective land use, manages congestion, and facilitates strong regional multimodal connections;
- Offers and encourages a variety of safe, comfortable, affordable, reliable, convenient, and clean mobility options;
- Applies Complete Street principles to evaluate and prioritize bicycle and pedestrian safety;
- Coordinates with state and federal leaders to ensure access to safe, reliable, and efficient public transit;
- Provides effective infrastructure and services that enables people to connect with the natural and built environment; and
- Promotes transportation options to remain an age-friendly community.

Goal #5: Safe

Needham is a welcoming and inclusive community that fosters personal and community safety. Needham:

- Provides public safety in a manner consistent with community values;
- Provides comprehensive advanced life support level care;
- Plans for and provides equitable, timely and effective services and responses to emergencies and natural disasters;
- Fosters a climate of safety in homes, businesses, neighborhoods, streets, sidewalks, bike lanes, schools, and public places; and
- Encourages shared responsibility, provides education on personal and community safety, and fosters an environment that is welcoming and inclusive.

Goal #6: Responsibly Governed

Needham has an open and accessible Town government that fosters community engagement and trust while providing excellent municipal services. Needham:

- Models stewardship and sustainability of the Town's financial, human, information, and physical assets;
- Invests in making Town-owned buildings safe and functional;
- Supports strategic decision-making with opportunities for engagement and timely, reliable, and accurate data and analysis;
- Enhances and facilitates transparency, accuracy, efficiency, effectiveness, and quality service in all municipal business;
- Supports, develops, and enhances relationships between the Town and community and regional partners;
- Proactively reviews and updates Town policies and regulations and ensures compliance;

- Promotes collaboration between boards and committees;
- Values the local government workforce;
- Identifies and implements strategies to hire, support and retain diverse staff at every level of the organization; and
- Prioritizes acquisition of strategic parcels.

Goal #7: Environmentally Sustainable

Needham is a sustainable, thriving, and equitable community that benefits from and supports clean energy; preserves and responsibly uses the earth's resources; and cares for ecosystems. Needham:

- Combats the climate crisis;
- Prioritizes sustainability, including transitioning from fossil fuels to clean, renewable energy;
- Encourages the efficient use of natural resources; and
- Protects and enhances the biodiversity and vitality of ecological systems.

FY2025-2026 Initiatives

Legend:

Top Priority

Select Board Identified Priorities

Currently Operationalized

Initiatives to Begin Now & *Currently Operationalized* (0-18 months)

- Healthy and Socially Thriving
 - o Develop and plan community celebration to take place on the Town Common.
 - o Outreach to various identity network groups and ask to meet with them and attend events to understand the work they do and the community they serve.
 - o Create an action plan for transitioning all Town Buildings to having all-gender bathrooms.
 - o Establish clear guidelines for public art proposals for the Town of Needham, including an outline of the existing process for approval from the appropriate committees to develop a consistent public arts program to serve the Needham community.
 - o *Make intentional efforts and identify creative ideas for community outreach to diversify the candidate pool for all appointed Boards and Committees, measure progress.*
 - o *Complete the Equity Audit, clarify objectives, and determine next steps.*
 - o *Conduct Board and Committee member orientation sessions to include the Town's race equity vision statement and NUARI principles.*

- o *Conduct Board and Committee member orientation sessions to include the Town's race equity vision statement.*
- o *Develop a plan for a community observance of Juneteenth.*
- o *Implement Valor Act and consider aligning the administrative process for both the Valor Act and the Senior Corps programs.*
- o *Convene NUARI to discuss progress on strategies for ensuring that all members of the community feel welcome as outlined in the NUARI vision statement and guiding principles.*
- Economically Vital
 - o *Gather community data from Placer.ai to look at movement and time in location (duration) to target future businesses and amenities (parking lots, parks, etc.).*
- Livable
 - o **Work with the Planning Board on next steps related to the MBTA Communities Act.**
 - o **Evaluate next steps for use of the Stephen Palmer Building.**
 - o *Evaluate the role of the Affordable Housing Trust.*
 - o *Evaluate expansion of off-leash dog areas.*
 - o **Encourage and participate in the Planning Board's large house review.**
 - o *Explore renaming Hemlock Gorge to Nehoiden's Grant.*
 - o *Identify funding for School Master Plan projects and participate in the planning process.*
 - o *Evaluate RTS Service Delivery Model to guide long-term investment and review operational efficiencies in the short-term.*
 - o *Upgrade Town Seal to improve graphic quality and historical accuracy.*
 - o *Identify opportunities for expanded active and passive recreation facilities including but not limited to an action sports park and pickleball.*
 - o *Improve trailhead access to ensure clear and accessible access.*
- Accessible and Connected
 - o **Complete Quiet Zone feasibility and design and seek funding for noise reduction/Quiet Zone construction.**
 - o *Evaluate the feasibility of a shared use way between Needham Heights and the City of Newton.*
 - o *Evaluate expansion of snow and ice removal efforts, including sidewalk plowing strategies.*
 - o *Update parking payment technologies to allow for credit card and/or app-based payments.*
 - o *Evaluate and make a final determination of the appropriate plan for Downtown Redesign Phase 2.*

- Responsibly Governed
 - o **Collaborate with the Finance Committee about the Town's** policies regarding the use of free cash and debt.
 - o Evaluate the possibility of developing a Community Master Plan. Develop an inventory of Town long-range plans and identify overlaps and conflicts, including other Boards of jurisdictions.
 - o Capital Facilities: CATH upgrades (including additional parking).
 - o Evaluate ways to increase minority and women-owned business participation in construction, building maintenance projects, and other Town programs.
 - o Evaluate enhanced benefits to assist in the Town's recruitment and retention efforts.
 - o Review and update the Sign Bylaw.
 - o Review and update Select Board policies as appropriate.
 - o Evaluate options for enhanced data collection by Town Departments to assist the Board in reviewing and evaluating progress toward goals.
 - o Explore options for evaluating Town Counsel.
 - o *DPW phased renovation/construction.*
 - o *Capital Facilities: Library phased renovations.*
 - o *Implement successor agreements for expiring contracts.*
- Environmentally Sustainable
 - o Identify and implement strategies **to protect the Town's tree** canopy.
 - o Develop Town Zero Emission First policy.
 - o Explore the option of enabling Commercial Property Assessed Clean Energy (PACE) program through MassDevelopment Program and develop supporting programs to drive participation.
 - o ***Strengthen the Town's Stormwater By-Law and prioritize efforts to improve stormwater quality and capacity***
 - o Establish a comprehensive Climate Communications Strategy to engage community members and organizations in the implementation of climate actions and continuous evolution of the Climate Action Roadmap.
 - o Establish regulations to prohibit non-electric vehicles parking in EV charging spots.
 - o *Recommend community energy aggregation*

Initiatives to Begin: Next (18-36 months)

- Healthy and Socially Thriving
 - o Launch a Civics Academy to introduce Needham residents to all facets of local government

- Accessible and Connected
 - o Pilot converting some on-street parking spaces for more active curb use (e.g., short customer visits, active loading areas).
 - o Update the Town's parking regulations and permit program (including permit rules, time/day regulations, and pricing).
 - o Evaluate funding options for the Rail Trail extension from High Rock Street to Needham Junction.
- Environmentally Sustainable
 - o Consider further opportunities for reducing plastic use in Needham.

Initiatives to Begin: Near (36+ months)

- Economically Vital
 - o Evaluate Chestnut Street redevelopment.



NEEDHAM PUBLIC HEALTH DIVISION

2024 – 2028 STRATEGIC PLAN

**APPROVED DECEMBER 12, 2023
FOR BOARD OF HEALTH REVIEW FEBRUARY 9, 2024**

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EXECUTIVE SUMMARY

CONTEXT

The Needham Public Health Division engaged in a comprehensive strategic planning process to support its application to the Public Health Accreditation Board (PHAB). This strategic plan establishes the division's 2024 – 2028 priorities, provides a roadmap for the work, and is a tool to aid leadership and staff decision-making. The process was led by the Needham Strategic Planning Team and supported by the consulting team of [BME Strategies](#) and [Copper Strategic](#). It began in June 2023 and concluded in December 2023.

MISSION

The Needham Board of Health and its Public Health Division promote and protect the public health and social well-being of all Needham's residents, especially the most vulnerable. The division seeks to prevent and control the spread of disease, address environmental issues, promote healthy lifestyles, and embrace its role in regional health initiatives.

STRATEGIC PRIORITIES

The following six priorities will guide the work of the division:

	1	Ensure equitable access to care.
	2	Address the impacts of social determinants of health on the Needham community.
	3	Use lessons learned during the pandemic to improve emergency preparedness and response.
	4	Collaborate closely with other Town departments and regional partners to address intersecting community needs.
	5	Prioritize responses to and prevention of mental health crises, substance use, and chronic conditions.
	6	Invest in workforce development.

GOALS, OBJECTIVES, AND DELIVERABLES

A detailed set of measurable and time-bound targets has been established to operationalize the strategies outlined above. Each strategy is linked to an overarching Board of Health governance priority, broken down into defined tasks, and assigned to an owner.

IMPLEMENTATION AND PERFORMANCE MANAGEMENT

Implementation planning began with an analysis of the division's strengths and weaknesses, an assessment of external trends, events, and other factors that may impact community health or the health division, and consideration of the division's capacity needs.

The first step upon formal adoption of the plan is to build out a detailed performance management plan. This will serve as the division's primary tool for managing workflow, driving accountability, and celebrating success. The Performance Management Plan will follow the fiscal year and be synchronized with the division's CHIP (Community Health Improvement Plan) timeline.

STAKEHOLDER INVOLVEMENT

Feedback and input from the Board of Health and division staff was sought throughout the process. In addition, focus groups were conducted with representatives of community and advocacy groups, other Town departments, partner organizations, and elected officials.

SECTION 1: THE PLANNING PROCESS

A. Participants

Needham's strategic planning process was directed by the Needham Strategic Planning Team (see below) and supported by the consulting team of BME Strategies and Copper Strategic. The planning team represented knowledge and perspectives from across the health division.

The group met monthly and conducted work in between meetings. The process began in June 2023 and concluded in December 2023.

Timothy McDonald and Tiffany Benoit were in frequent communication with the Needham Board of Health about the process. The strategic plan was discussed at the June 9, July 14, September 8, October 13, and December 8, 2023 Board of Health meetings. In addition, an in-depth discussion was conducted with Board Chair Tejal Gandhi, M.D., MPH, and Board member Kathleen Ward Brown, Sc.D., on November 27, 2023. In each case board feedback was solicited and incorporated into the development of the plan.

Strategic Planning Team:

Timothy McDonald, Director of Health and Human Services

Tiffany Benoit, Assistant Director of Public Health

Tara Gurge, Assistant Director of Public Health

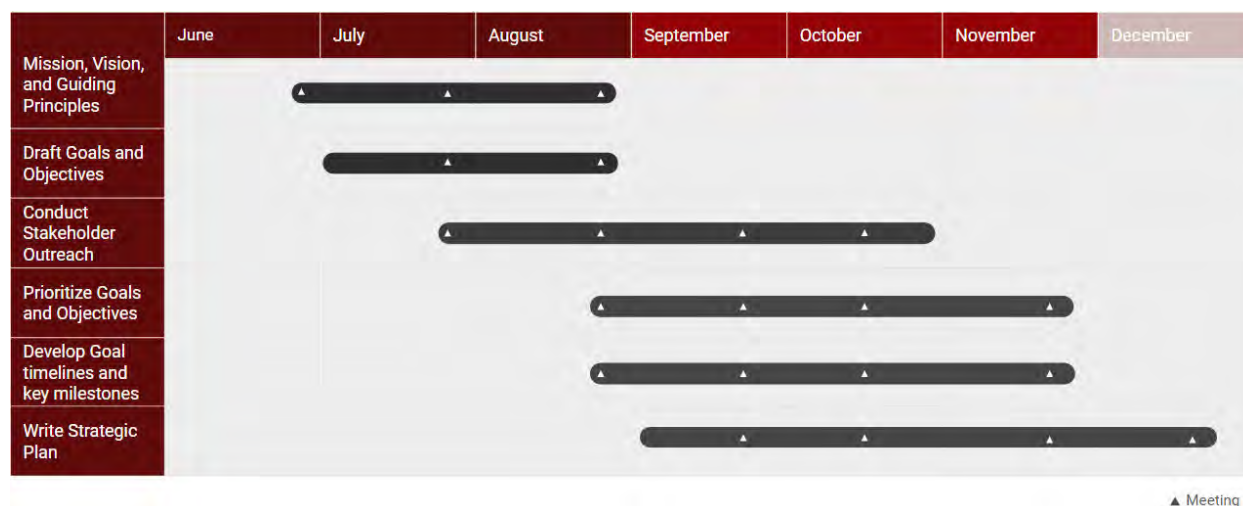
Lynn Schoeff, Accreditation Coordinator

Julie McCarthy, Epidemiologist

Kerry Dunnell, Program Manager

B. Sequence of the Process

The team began by crafting an outline informed by PHAB standards. From there, they built out iterative drafts in the following sequence:



C. Stakeholder Engagement

Key stakeholders were engaged throughout the process.

- As noted above, the Board of Health was kept apprised of progress regularly and was asked for input.
- In addition, focus groups were conducted with representatives of:
 - Community and advocacy groups
 - Other departments in the Town of Needham
 - Partner organizations
 - Elected officials
- Finally, the plan was developed to ensure it is widely understood by staff. In addition to informal discussions with staff throughout the process, an all-hands meeting was held on November 30, 2023, dedicated to discussion of the plan. The strategic plan was updated based on feedback generated during this meeting.

Please see the Appendix for stakeholder lists.

D. Board Approval

On February 9, 2024, the plan will be introduced to the Needham Board of Health for approval.

SECTION 2: OUR PRIORITIES & DIRECTION 2024 - 2028

A. Mission, Vision, Values, and Guiding Principles

Mission

The Needham Board of Health and its Public Health Division promote and protect the public health and social well-being of all Needham's residents, especially the most vulnerable. The division seeks to prevent and control the spread of disease, address environmental issues, promote healthy lifestyles, and embrace its role in regional health initiatives.

Vision

The vision of the Needham Board of Health and its Public Health Division is a community where all residents can live, work, play, and grow in an environment conducive to optimal health and well-being through all stages of life.

Values

- Integrity, Reliability, and Trust: We are a trusted resource, communicating accurate and concise information. We are professional, direct, honest, and flexible, listening and responding to community concerns with patience and respect. Our services are based on evidence and best practices. We are responsible stewards of limited resources.
- Dedication and Collaboration: We advocate for the health and well-being of the community. We demonstrate dedication, passion, and empathy while collaborating with community partners. We are motivated by the belief that people are empowered by knowledge that allows them to make informed decisions.
- Professional and Supportive: We provide a professional, collaborative, and respectful work environment. Staff members act as team players, supporting each other by sharing the work and being considerate of others.

Guiding Principles

1. We are guided by the fundamental belief that everyone has the right to live a healthy, safe lifestyle.
2. As public health professionals, we view it as our responsibility to:
 - Protect the public, especially the most vulnerable;
 - Prevent when possible, respond when necessary;
 - Contribute to individual and societal well-being;
 - Ensure people can live to their fullest capacity;
 - Make government work better, more efficiently, and more responsively.
3. We approach our work:
 - Acknowledging the social determinants of health, i.e., the conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks, as defined in Healthy People 2030;
 - With a commitment towards advancing racial and health equity;
 - Promoting evidence-based health practices and data-driven program management;
 - In partnership with residents, community organizations, other Town departments, and federal, regional, state, and local agencies;
 - As good stewards of public resources, using Town operating funds, grant resources, and donations efficiently;
 - Striving to provide as many public health resources as possible to residents and community organizations.

B. Strategic Priorities

The division's priorities were selected based on a current understanding of community needs. They were developed to reflect Needham's Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP). In consultation with the Board of Health, governance and oversight priorities were established in alignment.

		Needham Public Health Division Strategic Priority	Needham Board of Health Governance & Oversight Priority
	1	Ensure equitable access to care	Utilize all legal and regulatory actions available to improve and protect the public's physical and mental health
	2	Address the impacts of social determinants of health on outcomes	Augment the knowledge and information staff has to help inform best approaches to addressing social determinants of health
	3	Use lessons learned during the pandemic to improve emergency preparedness and response	Build confidence and trust of public health officials within the community; act as a champion for the division
	4	Collaborate closely with other Town departments and regional partners to address intersecting community needs	Promote community activities that increase health and wellness, including building community partnerships
	5	Prioritize responses to and prevention of mental health crises, substance use, and chronic conditions	Support the strategic use of remediation funds as determined by the division's strategic planning process
	6	Invest in workforce development	Support the budget process with the Select Board; ensure the necessary resources for staff, services, and training

C. Goals and Objectives

To operationalize these strategic priorities, the Needham team will execute a detailed set of measurable and time-bound targets. These goals were developed to be:

Strategically cohesive, i.e.:

- Logically linked to the strategic priorities
- Developed through the lens of social determinants of health
- Consistent with our Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP)
- Specific, measurable, and time-bound
- Matched to an owner, with specific deliverables and deadlines identified

and anchored on:

- Closing gaps between residents' needs and the division's current efforts
- Connecting residents to physical and mental health care resources
- Refining standard operating procedures to respond to emerging needs
- Developing a Behavioral Health Emergency Response Plan in collaboration with other Town departments and community organizations
- Developing health promotion/health education campaigns with other Town departments and community partners
- Expanding training opportunities for NPHD staff

Board Priority	Divisional Strategic Priority	Goal	1-Year Strategies and Deliverables (additional years to be developed by NPHD as the strategic plan is implemented)	Deadline (subject to change)	Owner (subject to change)
1. Utilize all legal and regulatory actions available to improve and protect the public's health.	Ensure equitable access to care	Conduct a gap analysis of Standard Operating Procedures (SOPs)/protocols to identify missing and outdated plans or protocols that do not reflect the current procedures of Needham Public Health	Update existing insurance enrollment and school vaccine protocols with Needham Public Schools (NPS) to prepare for large numbers of migrant families/children	Late summer 2024	Nursing Staff working with Needham Public Schools (NPS)
		Better connect residents to physical and mental health care resources	Host "health fairs" at various community locations with access to an interpreter to educate and connect residents to physical and mental health resources Promote local shuttle services that can help decrease barriers to healthcare access such as the Needham Community Council and Aging Services Division amongst others	Late summer 2024	NPHD Staff with Community Based Organizations (CBOs)
		Develop SOPs and educational materials to respond to migrant family public health needs (mental and physical health) from notice to referral	Develop an SOP to respond to arriving migrant families and their needs Develop a "welcome" one-pager prepared in different languages that can be distributed to new arrivals.	Early summer 2024	NPHD Staff with community-based organizations (and NPS)
2. Augment the knowledge and information staff have to help inform best approaches to addressing social determinants of health (SDOH).	Address the impacts of social determinants of health on outcomes	All goals will be developed with the SDOH in mind	As determined in other strategic planning goals	-	NPHD staff
3. Build confidence and trust within the community in NPHD; act as a champion for the division.	Use lessons learned during the pandemic to improve emergency preparedness	Develop a Behavioral Health Emergency Response Plan by working with other Town of Needham departments and community organizations	Identify training needs that can help Needham Medical Reserve Corps (MRC) to respond effectively to community mental health needs during an emergency.	Late summer 2024	NPHD/HHS mental health staff, emergency management personnel / leadership, Riverside - mental health clinicians

Board Priority	Divisional Strategic Priority	Goal	1-Year Strategies and Deliverables (additional years to be developed by NPHD as the strategic plan is implemented)	Deadline (subject to change)	Owner (subject to change)
4. Promote community activities that increase health and wellness, including building community partnerships.	Collaborate closely with other Town departments and regional partners to address intersecting community needs	Develop health promotion/health education campaigns with other Town departments and community partners	Continue and expand partnership with Police for tobacco product and substance use prevention Advocate for the hiring of another clinician to work with Needham youth in various community settings to connect to resources, such as the interface referral system, and perform screenings	Winter 2024	NPHD Staff, HHS, community-based organizations, other Town of Needham departments, Charles River Regional Staff
5. Use remediation funds strategically as determined by the division's strategic planning process.	Prioritize response to mental health, substance use, and chronic conditions	Design opioid-specific programming using public engagement feedback from various ongoing outreach efforts.	Connect with members of the community to identify which community resources or interventions would make the most impact on residents to address the opioid crisis	Starting in spring 2024	NPHD leadership
6. Support the budget process with the Select Board; ensure the necessary resources for staff, services, and training.	Encourage and facilitate workforce development	Expand training opportunities for NPHD Staff and equip NPHD staff with Mental Health-specific skills	Update the Workforce Development Plan Offer Adult Mental Health First Aid training to NPHD staff and offer the training to municipal partners.	Winter 2024 Winter 2024	NPHD leadership

D. External Factors

External trends, events, or other factors that may impact the health division include:

- Reliability of funding streams
- Statewide efforts to transform local public health infrastructure in Massachusetts through the Public Health Excellence grant program and additional legislation pending in the Massachusetts State House
- Lingering impact of the COVID-19 pandemic in terms of residents' perception (positive and negative) of public health officials as trusted messengers
- Tight job market, impacting recruitment and retention
- Imperfect tools to ensure all community members are aware of the range of services provided by the division
- Nationwide mental health and opioid crises and their impacts on Needham residents
- The tight housing market and increased cost of living make it difficult for elderly residents to stay in their homes and increases the support needed from NPHD
- Due to the recent influx of migrants to the state of Massachusetts, hotels across the state have been used as temporary housing. While no hotels in Needham are in use right now, the NPHD needs to prepare for this eventual likelihood and the public health needs that will arise from it.

Other constraints exist within the Town but are outside the purview of the Health Division:

- Capacity of Town-wide services that the division does not have control over, such as human resources and information technology
- Restrictions on the use of indirect grant funding
- Lack of data, and access to and ease of use of data collected by other Town departments and local hospital partners

E. Divisional Strengths and Weaknesses

Strengths / Key Assets

- Degree of commitment and mission-alignment across leadership and staff
- Staff capabilities and skill level; depth of experience and subject matter expertise
- Team culture and cohesion
- Strong foundation built over time to access a breadth of funding sources
- Political and policy-maker relationships
- Relationships and collaboration with other Health and Human Services (HHS) divisions and Town of Needham departments
- Orientation toward long-range planning, transparency
- Dual assistant directors' structure which increases capacity and continuity
- Established infrastructure to bring in grant funding, increase the division's resources and capacity

Gaps to address / opportunities for improvement

- Staff capacity – people are stretched across multiple projects
- Inconsistent practices around document sharing and knowledge management
- Program management capacity – both people-power and technical tools
- Lack of full visibility into what is happening enterprise-wide with respect to IT
- Speed of hiring
- Need to synchronize and be more cohesive division-wide (esp. with stakeholder outreach, but not limited to that) (some silo effect)
- Need an internal dashboard to show progress and/or better tools to improve project integration
- Stakeholder networks – we often go back to the same well
- Opportunity to turn temporary funding sources into permanent, sustainable funding sources
- Additional way to assess and evaluate the needs of the community beyond online surveys

F. Linkages

This strategic plan was designed to complement and build upon other guiding documents, plans, initiatives, and coalitions already in place to improve the health of Needham residents. Rather than conflicting with or duplicating the recommendations and actions of existing frameworks and coalitions, the participants of the strategic planning process identified potential partners and resources wherever possible. This was done explicitly with the Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP), Substance Prevention Alliance of Needham (SPAN), Massachusetts Collaboration for Action, Leadership, and Learning (MassCALL3), and opioid abatement work underway, along with other initiatives.

SECTION 3: IMPLEMENTATION AND CAPACITY PLANNING

As we transition to implementation planning, we have reviewed our existing capacity and our capacity needs.

A. Information Management

The Needham Public Health Division currently utilizes three different document-sharing functionalities – a shared drive, Microsoft Teams, and OneDrive. The need is to better coordinate the use of these systems to share information more efficiently and effectively.

The Town of Needham plans to remove the shared drive in the coming years, leaving in place Microsoft Teams and OneDrive. NPHD is currently devising a staff survey to better understand how each staff member uses the current systems. This will provide the baseline data to develop a plan to organize a standardized and consistent approach to information management.

B. Workforce Development

The Needham Public Health Division participated in the 2021 – 2022 PH WINS workforce development survey. This survey provided data on NPHD staff training needs. Through this survey NPHD developed a set of goals to increase the type and amount of training each employee attends on an annual basis. These are detailed in the Workforce Development Plan. NPHD plans to participate in the PH WINS workforce survey each cycle that it is offered to track progress against these training goals.

C. Communications and Branding

The Needham Public Health Division has retained the services of MORE Advertising to develop a comprehensive brand strategy, including a logo update, brand and style guide, and standardized templates for documents and social media posts.

Improving internal communications remains an area of need and opportunity. Specific to strategic planning implementation, discussions with staff are underway to update the meeting and reporting cadence and to more broadly evaluate and improve how information is shared internally.

D. Financial Sustainability

The Needham Public Health Division is well-resourced through a combination of funds provided by the annual municipal budget, revolving funds, donations, trust funds, and grants. Approximately half of the Public Health Division's spending comes from its operating budget, with the other 50% supported by non-profit, foundation, state, and federal sources. NPHD also relies upon other types of accounts – donation accounts, revolving funds, trust funds, and financial warrant articles – to support smaller programs or very targeted activities.

Our fiscal strategy includes spending non-durable sources first, maximizing potential earnings, and limiting costs. Two specific needs moving forward are:

- Increased support from the Board of Health in pursuing new funding opportunities, especially those that can be made permanent rather than temporary
- Greater flexibility in using indirect grant funds.

SECTION 4: PERFORMANCE MANAGEMENT

The division will track progress in achieving its goals using a methodical process, a tracking tool, and quarterly in-person status review meetings.

The forthcoming Performance Management Plan will follow the fiscal year, will align CHIP and Strategic Plan timelines, and will establish:

- Individual and team priorities aligned with overall organizational priorities
- Priorities broken down by quarter
- An effective pattern of well-organized weekly, monthly, quarterly, and annual meetings to monitor progress toward achieving objectives, maintain alignment, and drive accountability
- What data sets will be reviewed and at what intervals
- Key activities by owner
- Deliverables and timelines
- Resource allocation
- The system/platform used to track progress, including:
 - Identifying the primary owner(s) or user(s) of the system
 - How data is entered into the system
 - How data will be used to guide decision-making, programming decisions, and continuous quality improvement

APPENDIX: STAKEHOLDER FOCUS GROUPS

Advocacy Groups – October 30, 2023

Hanna Burnett, Domestic Violence Action Committee (NPHD staff)
Nancy Irwin, Friends of Needham Board of Health
Sandra Robinson, Needham Community Council
Lt. Belinda Carroll, Police DVAC Co-Chair (invited)
Colleen Schaller, Council on Aging (invited)
Tatiana Swanson, Disability Commission (invited) (Town staff)

Peer Departments – October 31

Deputy Chief Chris Baker, Community Crisis Intervention Team
Chief Thomas Conroy, Fire Department
Lee Newman, Planning & Community Development
Sara Shine, Youth & Family Services
Stacey Mulroy, Parks and Recreation (invited)
Lt. John McGrath, Police Department (invited)
LaTanya Steele, Aging Services (invited)

Customers – October 31

Laurie Blake, Needham Housing Authority
Steve Volante, Volante Farms

Community Partners - November 1

Jill Carter, Beth Israel Lahey Hospital
Susannah Hann, Needham Public Schools
Emily Turnbull, Needham Police (invited)

Elected Officials – To Be Scheduled

Denise Garlick – 13th Norfolk

KEY THEMES:

Appreciated the outreach and being involved in the process

Compliments:

- Very thorough, logical, covers all the pillars of public health
- Priorities are well thought out
- Reads as inclusive doc; the priority around people and compassion, caring for each other – that value really came through
- Mission statement captures what the department is trying to do
- Really liked and understood the mission, vision, and values (esp. “prevent when possible, respond when necessary”)

Questions / Curious for more information

- How much of this is new? How much is ongoing/continuation of existing work?
- Hadn’t seen BOH/staff areas of focus divided so starkly in the past

Encouragements

- ID any gaps in awareness of public health services within the general public
- Communications are good between our divisions – keep doing this!
- ID how some of the goals overlap between departments
- Involve other departments in the goal-planning process
- Mental health cannot be emphasized enough
- Involve staff to a greater degree and make it readable/accessible to them
- Consider naming the schools as a key partner

Executive Summary

The Needham Public Health Division (NPHD) presents the Needham community with this Community Health Improvement Plan (CHIP) for 2024-2028. The CHIP was developed based on data collected in the Community Health Assessment (CHA), which included demographic information as well as valuable information collected via surveys and focus groups, in partnership with other town divisions, community organizations, and agencies within the town.

The full CHA document as well as an executive summary translated into Russian, Mandarin, and Spanish can be found at <https://needhamma.gov/health> under Public Health Education> Data and Reports.

The CHIP is designed to provide a framework for implementing strategies to the health concerns and problems identified in the CHA, but it is meant to be modified as these concerns or community priorities change, resources shift, or other external factors are identified. The priority areas for the CHIP were selected based on many variables, including the feasibility of the solutions and the potential impacts on the community, with health equity as a cross cutting factor. The CHIP provides focused, targeted solutions to the identified health concerns and thus, must only address a select few priority areas. Therefore, not all goals identified in the CHA were chosen as priority areas to be addressed in the CHIP. By targeting only a few priority areas, the Health Division can focus community efforts and resources to provide the greatest opportunity for improvement of health. The priority areas of the CHIP are:

- Mental Health and Wellness
- Substance Use Prevention
- Physical Health and Wellbeing

Background

The Needham Public Health Division (NPHD) began a comprehensive health assessment and planning process with the aim of understanding and improving the health of the residents. The two major components of this are the Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP). The CHA is used to identify health issues, needs, and disparities in Needham, while the CHIP determines the Needham Public Health Division's overarching priority areas as well as specific strategies to be implemented to address the health issues identified in the CHA.

The CHIP was finalized in 2024, using findings from the 2024 CHA. The full CHA document as well as an executive summary translated into Russian, Mandarin, and Spanish can be found at <https://needhamma.gov/health> under Public Health Education> Data and Reports.

What is a Community Health Improvement Plan (CHIP)?

The CHIP is meant to be a framework for implementing action towards the goals identified from data in the CHA. The CHIP includes broad, overarching priority areas and goals, as well as specific objectives and activities aimed at addressing these priority areas to improve the health of the community. The document will be reviewed frequently and modified in accordance with changing resources within the Public Health Division, shifting community priorities, new and emerging health concerns, and other factors.

Strategic Alignment

The CHIP was created to align with, and complement, other guiding documents from NPHD. It is intended to highlight existing coalitions and initiatives and identify resources within NPHD and throughout Needham that will be utilized to improve the health of the community. The intention of the CHIP is not to supersede or duplicate recommendations from other plans, such as the Strategic Plan, but rather build upon them and identify specific strategies to accomplish NPHD's goals.

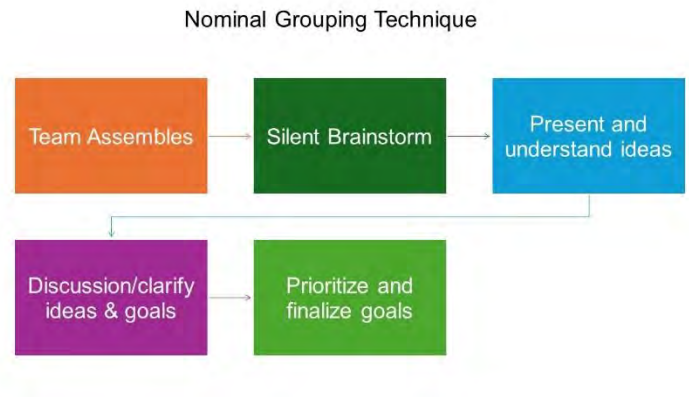
Methodology

The CHA was published in 2024, which provided the health division with demographic data, health outcome data, and information on community concerns. Using this data, priority areas were identified to address specific health concerns. The priority areas were based on the priority areas identified in Beth Israel Deaconess-Needham's 2022 Community Health Needs Assessment. While the BID-N priority areas covered data collected among all the towns in the hospital's catchment area, NPHD was able to narrow down more specific priority areas which encompassed issues identified in Needham:

Community Health Assessment Priority Areas				
Beth Israel Deaconess Hospital – Needham Priority Areas	Equitable Access to Care	Social Determinants of Health	Mental Health and Substance Use	Complex and Chronic Conditions
NPHD Priority Areas	Access to transportation resources for healthcare needs.	Cost of living burden.	Mental health and substance use.	Physical health, cardiovascular disease, and other risk factors.

The CHIP Committee, formed in Fall 2023, was composed of representatives from Needham Public Health Division, Needham Aging Services Division, Needham Community Council, Needham Community Farm, and the Needham Commission on Disabilities. Key findings from the CHA were presented to the CHIP Committee, including demographic information and information on social determinants of health including income, poverty, education, and housing. Critical disparities identified in the data were highlighted to demonstrate how the CHA priority areas were formed. Nominal group technique was utilized in the selection of goals for the CHIP, where the structure and purpose of the CHIP was introduced, the CHA findings and priority areas were reviewed and discussed, the Committee members shared their input and asked questions about the reviewed data and potential impact of the priority areas, and the following criteria were discussed and used to choose final priority areas:

- o Is the goal measurable either with data or deliverables?
- o Can it be accomplished within the 5-year timeframe?
- o Does it connect to the Community Health Assessment?
- o Is it feasible based on existing Public Health Division resources and influence in regulatory affairs in other departments or town agencies?
- o What is the impact of the problem within the 5 years?
- o What is the impact of the solution (both immediate and future)?



These same criteria were used in selecting the Strategic Planning Goals for the Public Health Division.

Health equity is a cross-cutting factor in all work done by the Needham Public Health Division. Each priority area will be addressed with a health equity lens.

The priorities for the Community Health Improvement Plan are:

❖ **Priority area 1: Mental Health and Wellness**

- o **Goal:** Ensure Needham residents have access to knowledge, education, and resources to support their mental health and wellness.

❖ **Priority area 2: Substance Use and Prevention**

- o **Goal:** Decrease substance use while providing harm reduction services and education to the community.

❖ **Priority area 3: Physical Health and Wellbeing**

- o **Goal:** Ensure that all Needham residents have access to the preventative services which can address cardiovascular disease as well as the resources to support a healthy lifestyle.

Mental health and substance use was identified as a singular goal in the CHA, and the division acknowledges that this is a very broad goal which encompasses two very complex and multi-faceted public health issues. As the CHIP outlines very specific, focused strategies to better the health and wellbeing of the community, it was decided that these two issues must be separated. However, when selecting strategies, it was determined that both issues were of high community importance, have a vast impact on the community currently and into the future, have available solutions and resources, and have a great impact on health equity. Therefore, mental health and substance use were both included as separate priority areas in this CHIP.

While Needham Public Health Division felt it was crucial to acknowledge the very significant problems surrounding transportation as a barrier to health care access and the burden of housing costs and the downstream impacts on health

and wellbeing, it was determined that the solutions to these problems were not feasible for the health division to implement. However, the Public Health Division and Board of Health will continue to advocate for solutions to these complex problems, including promoting existing transportation resources in the town, and referring residents to healthcare resources supported by the Health and Human Services Department and other community partners and organizations.

Priority Area 1: Mental Health and Wellness

Goal: Ensure Needham residents have access to knowledge, education, and resources to support their mental health and wellness.

Why is mental health a priority area for the Needham Public Health Division?

- The percentage of Needham High School and Middle School students reporting having seriously considered attempting suicide in their lives increased dramatically from 2018 to 2021 (MWAHS, 2018-2021).
- 42% of Needham High School students reported feeling nervous, anxious, or on edge more than half the days/nearly every day in the past 2 weeks (MWAHS, 2021).
- Female Needham High School students reported stress, anxiety, and depression symptoms at significantly higher rates than their male peers (MWAHS, 2021).
- Just under a third of respondents of the Survey on Healthy Aging reported feeling isolated sometimes or often (Healthy Aging Assessment, 2023).
- Over a third of respondents of the Survey on Healthy Aging reported feeling a little more or much more isolated or lonely in comparison to before the COVID-19 pandemic (Healthy Aging Assessment, 2023).
- Needham Public Health Division is lacking local data related to mental health and wellness, especially for adults in the population aged 18-59.
- Throughout the state, 25% of emergency department beds in October 2021-September 2022 were occupied by persons awaiting behavioral health treatment, as there are not enough behavioral health providers to meet the growing need¹.

Priority Area 1: Mental Health and Wellness
Objective 1: Develop a greater understanding of the mental health needs and services in Needham.
Strategy 1: Survey residents on mental health and wellness.
Strategy 2: Improve collection of mental health data from Police, Fire/Emergency Medical Services, and hospitals.
Objective 2: Ensure community members are knowledgeable of and have access to mental health resources.
Strategy 1: Promote mental health awareness and proactive community engagement
Strategy 2: Provide resources to the community on mental health and wellness.
Objective 3: Implement or continue partnerships with town departments or community organizations to prevent and/or react to mental health crises
Strategy 1: Equip Needham community with skills to identify, understand, and respond to signs of mental illnesses.
Strategy 2: Advocate for hiring of additional clinicians in Health and Human Services.

¹ "An Acute Crisis: How Workforce Shortages are Affecting Access and Costs", a report from the Massachusetts Health & Hospital Association, October 2022. Accessed via <https://mhalink.informz.net/mhalink/data/images/An%20Acute%20Crisis%20-%20MHA%20Workforce%20Report.pdf>.

Priority Area 2: Substance Use and Prevention

Goal: Decrease substance use while providing harm reduction services and education to the community.

Why is substance use a priority area for the Needham Public Health Division?

- Needham High School students reported current alcohol use (31%) and binge drinking (19%) at higher rates than MetroWest High School students (25% and 15%, respectively).
- The percentage of Needham High School students who reported having ever used alcohol in their lifetimes increased significantly from 8th grade (10%) to 9th grade (34%) and continues to increase gradually through 12th grade (69%).
- Perceived risk of using marijuana once or twice a week decreases by grade in High School (64% of 9th graders reported there is moderate/great risk while 38% of 12th graders reported there is moderate/great risk).
- Over a third of Needham Parent Survey respondents reported that youth drinking alcohol occasionally was not at all wrong or a little bit wrong.
- Needham adults aged 18+ report binge drinking at a higher rate (17.70%) than adults aged 18+ in Massachusetts (16.76%) and the United States (15.50%).
- Needham Public Health Division is lacking local data related to substance use, especially adults in the population aged 18-59.

Priority Area 2: Substance Use and Prevention
Objective 1: Develop a greater understanding of needs related to substance use in adult residents.
Strategy 1: Collect information on needs and priorities of the community related to substance use and harm reduction.
Strategy 2: Improve collection of substance use data from Police, Fire/Emergency Medical Services, and hospitals.
Objective 2: Ensure community members have access to resources and substance use services.
Strategy 1: Increase awareness and availability of Narcan.
Strategy 2: Collaborate with other town departments and community organizations to provide referrals to intervention, treatment, and recovery options.
Strategy 3: Introduce and promote recovery coaching.
Objective 3: Use education and health promotion efforts as a tool for prevention and harm reduction.
Strategy 1: Educate youth, parents, other adult caregivers, and Needham community on the health harms related to alcohol, cannabis, and other drug use.
Strategy 2: Continue and expand upon partnership with Police for tobacco product use and substance use prevention.
Strategy 3: Shift community norms away from the inevitability of alcohol, cannabis and other drug use for adolescents and young adults.

Priority Area 3: Physical Health and Wellbeing

Goal: Ensure that all Needham residents have access to the preventative services which can address cardiovascular disease as well as the resources to support a healthy lifestyle.

Why is physical health a priority area for the Needham Public Health Division?

- Heart disease is consistently in the top 2 leading causes of death in Needham residents.
- There is a high incidence of obesity in Needham residents.
- There is a high incidence of high cholesterol and high blood pressure in Needham residents.
- Half of the respondents of the Assessment of Housing Authority Residents reported having difficulty walking or climbing stairs (Assessment of Housing Authority Residents, 2020)
- Needham Public Health Division is lacking local data related to physical health and wellbeing, including access to and use of health care resources and chronic conditions.

Priority Area 3: Physical Health and Wellbeing
Objective 1: Identify incidence of cardiovascular disease and other risk factors which may impact the health of residents and promote heart safe activities
Strategy 1: Collect health information from Needham residents using a community health survey or similar tool.
Strategy 2: Increase access to healthy and affordable food options.
Strategy 3: Work towards becoming a HEARTSafe community.
Objective 2: Empower residents to make healthy lifestyle choices.
Strategy 1: Create a central hub for health-related resources, assets, and services in town.
Strategy 2: Promote healthy eating choices in the community.
Strategy 3: Provide health events and opportunities to the community, with a focus on access for the most vulnerable populations.
Objective 3: Increase access to disease prevention tools.
Strategy 1: Advocate for increased transportation options and promote existing transportation options in town to improve access to health care.
Strategy 2: Educate and inform the community about food safety practices.
Strategy 3: Provide education to community members about the genetic and lifestyle factors which may improve their physical health, including heart health.

Implementation, Monitoring, and Evaluation

Each year, members of the Accreditation Team and/or Accreditation Steering Committee will meet with the groups within the Public Health Division responsible for accomplishing each priority area. Strategies and specific activities will be prioritized for the upcoming fiscal year and an action plan will be created outlining the timeline, responsible staff members, collaborators and resources required for each activity.

An example of the first fiscal year action plan has been included in **Appendix A**. This document is subject to change as, throughout the fiscal year, those responsible for each activity or strategy will meet to review progress. Quarterly, this progress will be formally reviewed, tracked, and documented in VMSG, a project management software. Changes to the specific activities will be made in VMSG.

Creating an action plan annually allows the Public Health Division the opportunity to evaluate the CHIP progress and assess resources within the Division, staff capacity, town priorities, emerging health issues, and other variables which may lead the Division to adjust the objectives, strategies, or activities.

Acknowledgements

Prepared by: Needham Public Health Division

Needham Public Health Division Accreditation Steering Committee

Timothy McDonald, Director of Health and Human Services

Tiffany Benoit, Assistant Director of Public Health

Tara Gurge, Assistant Director of Public Health

Lynn Schoeff, Accreditation Manager

Alison Bodenheimer, Sr. Public Health Associate

Julie McCarthy, Epidemiologist

Karen Shannon, Substance Use Prevention Coordinator

Kerry Dunnell, Shared Services Program Manager

CHIP Steering Committee

Tiffany Benoit, Needham Public Health Division

Julie McCarthy, Needham Public Health Division

Anna Aguilera, Needham Community Farm

Karen Morales, Needham Commission on Disabilities

Jessica Moss, Needham Aging Services Division

Sandra Robinson, Needham Community Council

LaTanya Steele, Needham Aging Services Division

Year 1 Action Plan

Objective 1: By June 2028, NPHD will analyze Needham-specific mental health data from new or improved data sources, such as a community health survey and EMS data system, to develop a greater understanding of the mental health needs and services in Needham.

Strategy 1.1.1 Survey residents on mental health and wellness.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
Gather/analyze costs for providing Community Health Survey (survey deployment target goal would be before CHA 2028)	Feb – June 2024	Administration	When we have a price list or rough budget	Not Started	Price out different modes of delivery, survey length Develop budget requests and place in budget for FY26-FY27
Connect with other communities that have developed and deployed surveys	Feb – March 2024	Administration	Learnings from 3-5 communities	Not Started	Possible communities to connect with: Cambridge, Worcester Understand best model for survey development and delivery informed by other communities:

NEEDHAM COMMUNITY HEALTH IMPROVEMENT PLAN 2024

					Contract externally completely? Or combined external and internal?
Strategy 1.1.2 Improve collection of mental health data from Police, Fire/Emergency Medical Services, and hospitals.					
Gain access to EMS data system	9/2023-11/2023	Epidemiology	Login information Successful login	Complete	Identify and explore mental health data available in EMS system in FY25

Resources Required for this Objective

- Funding
- Online survey platform & paper version
- Consultant to support survey design and development
- Staff time - research on what other communities have done
- Community support

Potential Partners for this Objective

- Different communities
- Youth and families
- Mental Health – Riverside Community
- HHS Partners
- Community-led groups
- Previous vendor who has worked on surveys for Needham

NEEDHAM COMMUNITY HEALTH IMPROVEMENT PLAN 2024

Objective 2: By June 2026, NPHD will develop, provide, and promote ## mental health resources on social media and other internal and external distribution channels to ensure community members are knowledgeable of and have access to mental health resources in multiple languages

Strategy 1.2.1 Promote mental health awareness and proactive community engagement.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
SOP for migrant families: Write SOP	Feb -April 2024	Emergency Preparedness	Draft SOP	In progress	
SOP for migrant families: Provide SOP to Tim and Lynn for review	Feb -April 2024	Emergency Preparedness	SOP sent to Tim & Lynn	Not yet started	
SOP for migrant families: Incorporate feedback and make some changes after SOP is reviewed by relevant stakeholders	Feb -April 2024	Emergency Preparedness	SOP ready for approval	Not yet started	
SOP for migrant families: Approval by Tim	April 2024	HHS Director	SOP approved	Not yet started	
One-pager for migrant families: Develop a "welcome" one-pager prepared in different languages that can be distributed to new arrivals	July 2023-April 2024	Emergency Preparedness	Completed	Completed	
One-pager for migrant families: Translate into Spanish and Creole	February 2024	Translation service	Receiving translation pages	In Progress	
One-pager for migrant families: Make it available to internal users/staff for use/dissemination to public	April 2024	Emergency Preparedness	Distribute to internal users	In Progress	

Strategy 1.2.2 Provide resources to the community on mental health and wellness.

Identify relevant mental health and wellness materials to post on social media accounts	7/1/23-6/30/24	Public Health Nursing, Epidemiology	Posts on Instagram, Facebook, X	In progress	
Post on Instagram, Facebook, X	7/1/23-6/30/24	Public Health Nursing, Epidemiology	Posts on Instagram, Facebook, X	In progress	
Track analytics on platforms	7/1/23-6/30/24	Public Health Nursing, Epidemiology	Number of interactions (including clicks, likes, comments, etc.)	In progress	

Resources Required for this Objective

- Canva access
- Translation services

Potential Partners for this Objective

- Social Work from Center at the Heights and Youth and Family, Community Council, Interfaith Clergy
- Police/Fire and other town departments
- Other LBOHs

NEEDHAM COMMUNITY HEALTH IMPROVEMENT PLAN 2024

Objective 3: From FY24 - FY28, NPHD will increase town capacity to respond to mental health crises by implementing or continuing partnerships with town departments or community organizations by providing ## trainings to prevent and/or react to mental health crises and by hiring additional clinicians in Health and Human Services by June 2024.

Strategy 1.3.1 Equip Needham community with skills to identify, understand, and respond to signs of mental illnesses.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
MRC: Identify training needs that can help Needham Medical Reserve Corps (MRC) to respond effectively to community mental health needs during an emergency	March - May 2024	Emergency Preparedness	List of trainings identified	Not Started	
MRC: Discuss plan with Assistant Director of Public Health	March 2024	Assistant Director of Public Health, Substance Use Prevention	Training Delivery Plan & Start Date	Not Started	Determine how to conduct the training – outsource or train a staff member. If so, which staff member and how many. Determine target date to start offering training.
MRC: Research vendors and identify costs associated with each one	April – June 2024	Emergency Preparedness	List of potential vendors and costs associated	Not Started	Depending on conversation, this is either vendor for whole training or train the trainer
MRC: Do necessary prep to be able to conduct training – train a staff	April – June 2024	Emergency Preparedness	Staff member is trained or	Not Started	

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member or identify an outsourced trainer			outsourced trainer is identified		
MRC: Confirm funding source – current grant from NC-8 or other source	March-April 2024	Emergency Preparedness	Funding source is determined	Not Started	
Adult MHFA: Identify process for providing Adult MHFA training incl. number of participants to be trained, identifying trainer, and calendar for training.	February 2024-June 2024	Substance Use Prevention	Training Delivery Plan	Not Started	Expected to continue into Jan 2025 Identify process for providing Adult MHFA training incl. number of participants to be trained, identifying trainer, and calendar for training.
Adult MHFA: Discuss plan with Tiffany and Taleb for training NPHD staff and emergency response staff in Adult MHFA	March 2024	Substance Use Prevention	Training Delivery Plan & Start Date	Not Started	Determine how to conduct the training – outsource or train a staff member. If so, which staff member and how many. Determine target date to start offering training.
Adult MHFA: Do necessary prep to be able to conduct training – train a staff member or identify an outsourced trainer	April – June 2024	Substance Use Prevention	Staff member is trained or outsourced trainer is identified	Not Started	Completion of staff training is dependent on funding and scheduling of training opportunities
Adult MHFA: Identify a funding source to hold the training	April – June 2024	HHS Director, Assistant Director of Public Health	Funding source identified	Not Started	

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Youth Mental Health First Aid activities		Substance Use Prevention, Youth & Family Services	Minimum of 3 sessions offered per year by K. Shannon and Sara Shine	Ongoing	Need to increase # of staff certified to train course
Teen Mental Health First Aid activities		Substance Use Prevention, Youth & Family Services	Needham High 10 th grade class receives training –completed annually	Ongoing	Need to increase # of staff certified to train course
Strategy 1.3.2 Advocate for hiring of additional clinicians in Health and Human Services.					
Defending justification to hire new staff members (Warrant article)	September 2023	HHS Director	Complete defense meeting	Complete	
Town meeting authorized budget justification for hiring new staff members	October 2023	HHS Director	Authorized budget justification	Complete	
Submit budget justification to move grant-funded clinicians into town budget	October 2023	HHS Director	Budget justification submitted	Complete	
Present budget request to BOH	November 2023	HHS Director	Budget presented	Complete	
Defend budget request to town manager	November 2023	HHS Director	Budget meeting with town manager	Complete	
Defend request to Finance Committee	February 2024	HHS Director	Budget defended to Finance Committee	Complete	
Receive approval to get grant-funded clinicians into town budget	February 2024	Finance Committee/ HHS Director	Decision reached by Finance Committee	Complete	On-target to get clinicians into town budget; waiting for finance committee to

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					make a recommendation
Transition grant-funded clinicians into town budget for Youth and Family Services division and Aging Services division	Feb 2024 – Jan 2025	HHS Director	Transfer to operating budget to become permanent	In Progress	Grant-funded clinicians under ARPA funds until Dec 2024 (FY25)
Post job description for clinicians	Feb 24 - March 24	Director of Youth & Family Services	Job description posted	Not Yet Started	Two positions - Children's hospital grant-funded
Interview candidates	March - April 24	Director of Youth & Family Services	Candidates are interviewed	Not Yet Started	
Hire Clinicians	May 2024	Director of Youth & Family Services	Offer Letters Start Date for Clinicians	Not Yet Started	Dependent on town meeting approval in May

Resources Required for this Objective

- Funding for train the trainer or access to attend online training
- Funding for trainings, including MHFA
- Staff resources for event logistics
- Canva, Google Docs, etc. to create flyers
- Translation, interpretation services for trainings and materials (e.g. Russian, Chinese)
- Staff time to justify, present, document past success with hiring additional staff

Potential Partners for this Objective

- National Council for Mental Wellbeing (MHFA organization)
- NC-8 Coordinator
- Needham Public Schools
- Community organizations – interfaith clergy, etc.
- Town manager

- Finance committee
- Board of Health
- Other Municipal departments

Year 1 Action Plan

Objective 1: By June 2028, NPHD will analyze Needham-specific substance use data from new or improved data sources, such as qualitative data from people with lived experiences, key stakeholder data and EMS data system, to develop a greater understanding of needs related to substance use in adult residents.

Strategy 2.1.1 Collect information on needs and priorities of the community related to substance use and harm reduction.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
Identify and hold Key stakeholder interviews to identify which community resources or interventions would make the most impact on residents to address the opioid crisis	Nov 23 –Jan 2024	Contractor	Key Stakeholder Interview Results	In Progress	
Connect with people with lived experience and families and complete small group interviews to identify which community resources or interventions would make the most impact on residents to address the opioid crisis	Jan- Feb 2024	Contractor	Small Group Interview Results	In Progress	
Hold a large community forum to get feedback on which community resources or	April 2024	Contractor	Forum Feedback data	In Progress	

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interventions would make the most impact on residents to address the opioid crisis					
Final report from contractor	End of Jun 2024	Contractor	Final Report	Not Started	
Strategy 2.1.2 Improve collection of substance use data from Police, Fire/Emergency Medical Services, and hospitals.					
Gain access to EMS data system	9/2023-11/2023	Epidemiology	Login information Successful login	Complete	Identify and explore mental health data available in EMS system in FY25

Resources Required for this Objective
• Contractor help • Funding to pay contractor • Interpreters as needed

Potential Partners for this Objective
• Town Managers office • Police and Fire Dept

Objective 2: By June 2026, NPHD in partnership with other town department and community organizations will develop, provide, and promote substance use & prevention resources on social media and other internal and external distribution channels to ensure community members have access to resources and substance use services, including increasing awareness and availability of Narcan, 15 installed SAMBOXes, and recovery coaching program.					
Strategy 2.2.1 Increase awareness and availability of Narcan.					
Year 1 Activities	Date Range	Lead Contact	Process Indicator(s)	Progress Status	Progress Notes & Next Steps

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<i>What activities are needed to accomplish the strategy in Year 1?</i>	<i>Set start/end dates for each activity. This should be within one fiscal year.</i>	<i>Who is responsible for the completion of this activity?</i>	<i>How will we know we successfully completed the activity?</i>	<i>What is the status of this activity?</i>	<i>Describe progress and next steps beyond Year 1, if applicable.</i>
Develop Narcan training	Prior to current fiscal year	Public Health Nursing	Training in place	Complete	(training was developed prior to this fiscal year)
Promote opportunities for Narcan training to the community	Ongoing	Public Health Nursing, Epidemiology	Posts going on social media, newsletters, article in local online newspaper, flyers	Complete / ongoing	
Develop SOP for Narcan training / distribution	October 2023	Public Health Nursing	SOP developed	Complete	
Apply to BSAS Community Naloxone Program	October 2023	Public Health Nursing	Application sent	Complete	
Join BSAS Community Naloxone Program	November 2023	Public Health Nursing	Part of the program, able to order Narcan through them	Complete	
Order / obtain Narcan	Ongoing	Public Health Nursing	Narcan is obtained	Completed / Ongoing	
Set up / organize SAMBOXES	January 2024	Public Health Nursing	SAMBOXES ready to be mounted	Completed	
Develop an SOP for refilling Narcan and taking care of the boxes	February 2024	Public Health Nursing	SOP developed and utilized	In progress	
Set up SAMBOXES in town next to AEDs	June 2024	Public Health Nursing	15 SAMBOXES are placed near AEDs	In Progress	
Collaborate with building maintenance to set up SAMBOXES	June 2024	Public Health Nursing	15 SAMBOXES mounted in place	Not started	

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Create social media advertising for SAMBOXES	June 2024 / ongoing	Public Health Nursing, Epidemiology	Posts shared on Facebook, X/Twitter, Instagram, local newsletter	In progress	Narcan advertisement is ongoing, SAMBOXES will be added once fully set up
Strategy 2.2.2 Collaborate with other town departments and community organizations to provide referrals to intervention, treatment, and recovery options.					
Promote: Present recovery coach services program to departments and community orgs	Jan 2024-June 2024	Recovery Coach	Presentations given	Ongoing	Group or one-on-one presentations
Building relationships with town departments and comm orgs	Jan 2024-June 2024	Recovery Coach	Presentations given	Ongoing	New town depts and comm orgs are referring people
Advocating to town departments and community members – reducing stigma around substance misuse by having employee with lived experience share their experience	Jan 2024-June 2024	Recovery Coach, Human Resources	When community members are comfortable accessing substance use resources and sharing lived experiences	Ongoing	Town departments and community organization are advocating for reduced stigma HR – keep position, which requires person with lived experience to fill the role Will continue on beyond FY24
Educate other town departments to allow people with lived experiences to advocate for what they need – developing a recovery-oriented system of care	Jan 2024 – June 2024	Recovery Coach	Conversations with town departments	Ongoing	people with lived experiences advocate for what they need – developing a recovery system of care Will continue on beyond FY24

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Receiving TA from CATH social workers	Jan 2024 – June 2024	Recovery Coach	TA meetings	Ongoing	Working with senior population and community in general Will continue on beyond FY24
Strategy 2.2.3 Introduce and promote recovery coaching.					
Funds approved for this program	July 2023 – Oct 2023	HHS Director, Assistant Director of Public Health	Finance committee approval Passed by town meeting vote	Complete	Efforts to have prog covered under opioid settlement funds started before FY24
Preparation for program implementation: Development of materials for program - Consent for peer services, referral form; access to database for storing client records; create presentation for town departments	November 2023 – Dec 2023	Recovery Coach	Documents are completed	Complete	Develop infrastructure for providing a recovery-oriented system of care. Including: policies, procedures, client records, data tracking, promotional material, and build relationships with town partners.
Developed procedure for recovery coaching & approved by Tim	December 2023	Recovery Coach, Substance Use Prevention, HHS Director and Assistant Director of Public Health	Approved by Tim	Complete	
TA provider to supervise recovery coaching work	Dec 2023 – June 2024	Angi & TA Provider	Identified TA Provider	Ongoing	

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Promote program: to PHD, CCIT, CATH, Needham housing	December 2023 – June 2024	Recovery Coach	Number of presentations to community members	Ongoing	
Provide Angi with a cell phone	Jan 2024	Assistant Director of Public Health	Cell phone acquired	Complete	As part of implementation
Approval to increase hours of recovery coach up to 18 hours/week	January 2024 – June 2024	Assistant Director of Public Health, Human Resources	Hours increased	Complete	
Implementation of recovery coaching program	Mid-January – June 2024	Recovery Coach	Number served (peers) Number of presentations to community members Receiving referrals/month	Ongoing	
Empower people with lived experiences to access services for themselves (equity goal)	Mid-January – June 2024	Recovery Coach	Social workers and recovery coach become resource navigators	Ongoing	
Explore possibility of group coaching	June 2024	Recovery Coach & Recovery Coach supervisor		Not yet started	Currently only doing one-on-one

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Resources Required for this Objective

- Social Media
- Funding & Approval
- Flyers, Business Cards
- Cell Phone

Potential Partners for this Objective

- BSAS
- Select Board, BOH
- Police Dept
- Housing Authority
- Recovery Education Collaborative
- People with lived experience

Objective 3: From FY24 - FY28, NPHD will use education (e.g. Alcohol EDU or Smart Talk curriculums, parent/caregiver education events) and health promotion efforts (e.g. TIPS trainings, retailer alcohol & tobacco vendor compliance, and community norms campaigns) as tools for prevention and harm reduction among youth and chronic substance users in Needham.

Strategy 2.3.1 Educate youth, parents, other adult caregivers, and Needham community on the health harms related to alcohol, cannabis, and other drug use.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>

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MassCALL3 - AlcoholEDU or Smart Talk curriculums - Meet with school leaders to assess status of current health education curricula for 8 th and 9 th graders in each cluster community	May 2024	Substance Use Prevention (MassCALL3 team)	Meetings completed with appropriate middle and high school personnel in each cluster community	Not yet started	
MassCALL3 - AlcoholEDU or Smart Talk curriculums - Research DESE requirements for health education for how many hours of health ed, for middle and high schoolers to understand parameters around integrating new health curricula.	May 2024	Substance Use Prevention (MassCALL3 team)	Review of DESE requirements completed in designated timeframe	Not yet started	
MassCALL3 - AlcoholEDU or Smart Talk curriculums Curate/develop education materials to inform school leaders about the AlcoholEDU and Stanford Marijuana Curricula	May-June 2024	Substance Use Prevention (MassCALL3 team)	Education materials compiled	Not yet started	
MassCALL3 - AlcoholEDU or Smart Talk curriculums Meet with school administrators to educate about state requirements around health education (if necessary) and describe the value of these two programs	May- June 2024	Substance Use Prevention (MassCALL3 team)	Meetings conducted in each cluster community	Not yet started	
MassCALL3 - AlcoholEDU or Smart Talk curriculums Convene key community members (e.g., health directors from each time, youth serving counselors, school nurse	June 2024	Substance Use Prevention (MassCALL3 team)	Meeting with key community members conducted	Not yet started	

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leaders, health educators, etc.) from each cluster town as advisory group to strategize about integrating the curricula into standing 8 th and 9 th grade health curriculum.					
MassCall and SPAN to align AlcoholEDU curriculum	June 2024	Substance Use Prevention		Not yet started	
SPAN parent education event: SPAN Education Action Team meets to identify objectives for parent community education: provide parents with information on the impact of youth substance use on the teen brain, and how to have conversations with their children to convey disapproval of use.	April 2024	Substance Use Prevention, SPAN		In progress	Event logistics and promotion
SPAN Education Action Team identifies speakers, event date, and venue.	Feb 2024	Substance Use Prevention, SPAN		In Progress	
SPAN prevention staff create event flyer and work with SPAN Ed. Action Team to promote event.	Feb – April 2024	Substance Use Prevention, SPAN		In Progress	
SPAN prevention staff meets with speaker panelists to coordinate event program and prepare list of topic areas to be covered.	June 2024	Substance Use Prevention, SPAN		Not yet started	
Strategy 2.3.2 Continue and expand upon partnership with Police for tobacco product use and substance use prevention.					
Collaborate with police to develop new alcohol compliance checklist	Sept 2023	Substance Use Prevention & Police Dept	Alcohol Compliance checklist	Complete	Through this process gained buy-in from police dept

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Lead responsibility for recruiting underage operatives for alcohol compliance checks	July 2023	Substance Use Prevention & Police Dept	Identified operatives for each alcohol compliance check	Ongoing	Includes: Develop flyer for recruitment, work with college campuses to send out flyers, communicate with operatives and maintain list of student volunteers, buy gift cards for operative incentives, maintain list of student volunteers, coordinate of ushering process for operatives, build relationships with campus staff. Need to repeat for every compliance check
Discuss development of alcohol compliance check procedure with Needham Chief of Police	February	Substance Use Prevention, Needham Chief of Police	Responsibility for who will write the alcohol compliance check procedure will be resolved	In progress	Needham Police Dept. Will draft a Standard Operating Procedure for their role in conducting alcohol compliance checks. NPHD will draft a procedure for their role in the alcohol compliance check.
Modify policy for Tobacco checks/compliance	Jan. 2024	Environmental Health	Updated retail tobacco vendor inspection report	Incomplete	

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			and tobacco compliance check form with the state's suggested edits. Still need to update policy.		
Update Compliance Form before First Compliance Checks	Jan. –February 2024	Environmental Health	Compliance form was updated. There should be more details gathered with new form and thus more evidence.	Completed	Identify any other things that need to be added or removed from the form as the final policy is drafted
Meet with police chief to schedule annual alcohol compliance checks	Feb 2024	Substance Use Prevention, Needham Chief of Police	2024 alcohol compliance check schedule	In Progress	Trying to schedule meeting with NPD Chief to identify 2024 alcohol compliance check schedule.
Update Retail Inspection Form before First Retail Inspections. Combining old form (2017) and new form (2021) and incorporating comments from state Subject matter expert into a master form	January-March 2024	Environmental Health	Form is redone and sent to SME for additional thoughts	In progress	Update form as new products and regulations come out.
Conduct retail tobacco vendor compliance checks with Needham Police	February 2024, Every 3 months	Environmental Health	No sales of tobacco and/or nicotine dispensing products to minors.	On-going (Completed 1 in October 2023, next in Feb/ March, and May/June)	Change up how checks are performed to check different situations. (one vs. Two buyers, etc., asking for different products)
Train staff on new updated retail inspection form so inspections can be performed independently	March –June 2024	Environmental Health	Inspections can be assigned to other	Not started	Train staff on being able to identify new emerging tobacco

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			staff without oversight		products and the regulations afterwards.
Perform Retail Tobacco Inspections	March 2024, every 6 months	Environmental Health	Inspections can consistently be done at least twice a year and violations noted in the previous reports have been corrected going forward	Not started	
Update/Create Tobacco Retail Inspection SOPs	March-June 2024	Environmental Health	SOPs updated	Not Started	
Create email listserv for providing additional training/education to Tobacco retailers about tobacco sales and local and state regulations, required signage	March 2024	Environmental Health	Email listserv is created	Not started	Incorporate within the online permit in next fiscal year
Connect with Additional Officers from Needham Police to assist with Compliance Checks, create procedure on who and how to reach out	April – June 2024	Environmental Health	Up to date list of Needham police officers that can assist with drive arounds and enforcement is available.	Not started	
Strategy 2.3.3 Shift community norms away from the inevitability of alcohol, cannabis and other drug use for adolescents and young adults.					
Engage intern to support PhotoVoice project implementation	October 2023	Substance Use Prevention (MassCALL3 team)	Intern has been identified and committed to support PhotoVoice project	Complete	

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Develop information sheet and recruitment materials about PhotoVoice project	January 2024	Substance Use Prevention (MassCALL3 team)	Informational/promotional materials developed	Complete	
Recruit youth participants in Photovoice project	January-February 2024	Substance Use Prevention (MassCALL3 team)	Group of at least 8 youth from each cluster community recruited and committed to participating in PhotoVoice project	In Progress	
Schedule weekly PhotoVoice project meetings with youth from each town based on participant availability	January-March 2024	Substance Use Prevention (MassCALL3 team)	Meeting schedule confirmed	In Progress	
Begin PhotoVoice project, including 5 weekly meetings in each town with youth participants	January-March 2024	Substance Use Prevention (MassCALL3 team)	First PhotoVoice meeting held	Incomplete	
Determine and secure locations for photo displays in each cluster community	April 2024	Substance Use Prevention (MassCALL3 team)	Photo display locations secured in each community	Incomplete	
Host photo displays in each community	May 2024	Substance Use Prevention (MassCALL3 team)	Photo displays hosted in each community	Incomplete	
Convene a four-town gallery walk to display photos and recruit community members to participate in the positive social norms (PCN) campaign development process	May 2024	Substance Use Prevention (MassCALL3 team)	Gallery walk held	Incomplete	
MassCALL3 - Positive community norms campaign	June 2024	Substance Use Prevention		Incomplete	

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		(MassCALL3 team)			
MassCALL3 - Post Scope of Work and Request for Proposals (RFP) to hire social marketing consultant (SMC) to advise on message content and design	February 2024	Substance Use Prevention (MassCALL3 team)	Social marketing consultant RFP process initiated.	Incomplete	
MassCALL3 - Articulate objectives and desired process and outcome measures of social marketing campaign	March 2024	Substance Use Prevention (MassCALL3 team)	Objectives and evaluation measures agreed upon by LT	Incomplete	
MassCALL3 - Determine focus group timing and logistics (e.g., number of focus groups to hold locations to hold them).	March 2024	Substance Use Prevention (MassCALL3 team)	Key decisions are made, documented, and shared with LT regarding focus group implementation	Incomplete	
MassCALL3 - Draft parent focus group questions and interview guide	March 2024	Substance Use Prevention (MassCALL3 team)	Focus group interview protocol drafted and approved by responsible parties	Incomplete	
MassCALL3 - Develop and disseminate promotional materials (e.g., flyer, email) to recruit focus group participants	March 2024	Substance Use Prevention (MassCALL3 team)	Promotional materials are developed and have been delivered to community partners virtually and in hard copy for distribution	Incomplete	
MassCALL3 - Conduct parent focus groups	May 2024	Substance Use Prevention (MassCALL3 team)	Previously determined number of focus groups have been conducted	Incomplete	

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MassCALL3 - Determine status of parent surveys in each cluster community and modify existing services to include campaign related questions	May 2024	Substance Use Prevention (MassCALL3 team)	Existing parent surveys modified to include campaign-related questions	Incomplete	
MassCALL3 - Work with cluster communities without parent surveys to develop a brief parent survey specifically for collecting baseline information from parents	May 2024	Substance Use Prevention (MassCALL3 team)	Process for collecting baseline parent information in communities without a parent survey determined	Incomplete	
MassCALL3 - Review focus group data and summarize key themes	May 2024	Substance Use Prevention (MassCALL3 team)	Review complete and summary document finalized	Incomplete	
MassCALL3 - Present data back to focus group participants and community members in each community.	June 2024	Substance Use Prevention (MassCALL3 team)	Community presentations delivered to participants/community members in each cluster community	Incomplete	
Needham SPAN - Positive community norms campaign: continue distribution and marketing of PCN poster series in community. There are 6 posters.	July 2023 – January 2024	Substance Use Prevention	PCN messages developed in 2022 under guidance of consultant.	In progress	
Create list of locations to distribute PCN posters including town offices and private businesses.	July 2023	Substance Use Prevention	List was created.	Completed	
Recruit SALSA student volunteers to distribute PCN posters to designated locations. Posters are distributed monthly.	September 2023- January 2024	Substance Use Prevention	Students were recruited and posters were distributed.	Completed	

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Order vinyl banners for each of the 6 PCN posters.	December 2023	Substance Use Prevention	Banners were ordered from vendor and received.	Completed	
Meet with Director of Needham Park and Recreation to identify local parks and outdoor public spaces for hanging vinyl banners. Post banners.	March – June 2024	Substance Use Prevention	Locations will be identified in partnership with Dir. of Park and Recreation and banners will be hung in public outdoor spaces in Needham.	In progress	

Resources Required for this Objective

- State Tobacco Prevention Program (guidance for updating policies)
-

Potential Partners for this Objective

- Needham Police Department
- Local schools and colleges (partnering for tobacco & alcohol compliance checks)

Year 1 Action Plan

Objective 1: By June 2028, NPHD will identify incidence of cardiovascular disease and other risk factors which may impact the health of residents from new or improved data sources, such as a community health survey, and promote heart safe activities.

Strategy 3.1.1 Collect health information from Needham residents using a community health survey or similar tool.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
Gather/analyze costs for providing Community Health Survey (survey deployment target goal would be before CHA 2028)	Feb – June 2024	Administration	When we have a price list or rough budget	Not Started	Price out different modes of delivery, survey length Develop budget requests and place in budget for FY26-FY27
Connect with other communities have developed and deployed surveys	Feb – March 2024	Administration	Learnings from 3-5 communities	Not Started	Possible communities to connect with: Cambridge, Worcester Understand best model for survey development and delivery informed by other communities:

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					Contract externally completely? Or combined external and internal?
Strategy 3.1.2 Increase access to healthy and affordable food options.					
Advocate for increased pay for summer drivers to attract more applicants for Traveling Meals Program	March-June 2024	Traveling Meals Coordinator		Not Started	If it is found that rates are too low, then work on proposal to Finance Committee to increase Schedule C Rates for FY 2025. Currently spring/summer drivers are the only ones paid; look into interest in changing winter/fall volunteer model
Compile summary of summer employment positions in town and their corresponding pay rates to determine if we are competitive or not.	March-June 2024	Traveling Meals Coordinator	Compare rates found against 2024 Schedule C Rates. If our rates are more than 25% lower, then we should look to increase rates for FY2025.	Not Started	May continue through Dec 2024, must be in place by January 2025 when HR publishes rates
CATH kitchen funding: Completed year-long study of utilization of space with recs on how to improve facility to support in house meals for seniors and better meals for Travelling Meals	FY23 into FY24	HHS Director and Vendor	Utilization study complete	Complete	Learnings on improving space on usage and need

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CATH kitchen funding: Presented to Permanent Public Building Committee	August 23 - September 23	HHS Director	Presentations to committee	Complete	Presented twice
CATH kitchen funding: Submitted for capital budget - design money in FY26 and construction money in FY27	October 23	HHS Director	Capital Budget Request	Complete	Not yet chosen for funding into capital budget
CATH kitchen funding: Advocate for funding to be approved into next year's capital budget	Jan 24 - June 24	HHS Director	Finance Committee approval Town Meeting vote Capital Request is in Capital Plan (Feb 25)	In progress	Activity will continue into FY25: get community champions to advocate to get funded in next year's capital budget
CATH kitchen funding: Develop interim solution for Traveling Meals Program, including how to meet additional traveling meals clients beyond BID 75-meals/day quota	Feb 2024 – June 2024	Traveling Meals Coordinator, HHS Director, Assistant Director of Public Health	Vendor contracted to provide meals (Dec 2024 latest)	Ongoing	Develop plan for how to meet additional traveling meals clients beyond 75-meals/day quota Possibly partner with Community Council; Hearth as a back-up option Likely to continue after FY24

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Strategy 3.1.3 Work towards becoming a HEARTSafe community.

Identify AEDs in town and create a map of them on app PulsePoint.	Feb 2024- June 2024	Public Health Nursing	We might not be able to, we will not know if we don't find all. Hope is community will be aware of our efforts and will let us know as they get new AED's. Also, we (through FIRE) get reports from one Stryker about the machines they service.	In Progress	AED Scavenger hunt, Needham cable interview, Needham Observer article, outreach to larger businesses / facilities to inquire. Add from reports from Stryker. Educate Needham 911 Dispatch on PulsePoint
Share the AED map with community through Healthy Needham site.	By June 2024	Epidemiology	Resource hub with AED map available	In Progress	Healthy Needham site is already available
Increase public awareness of sudden cardiac arrest and importance of bystander intervention.	Feb 2024- June 2024	Public Health Nursing	# of CPR trainings # of education events Goal is to have 15% of population to know SCA, AED use and hands only CPR. We will use census data, track links viewed, collect data through our events.	In Progress	Multiple CPR classes available for community to sign up for, trainings for town staff, hands-only CPR walk-in clinics planned for several times a year throughout the community, Harvest Fair CPR training, AHA ultrashort video distribution (the views count towards our 15%). Outreach to schools for training

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					their staff and students with hands-only CPR and AED use.
Raise awareness of preventative measures each person can take	April 2024- June 2024	Public Health Nursing	# of education events Cholesterol screening 2x/year. BP clinic at NHA (by us) and CATH (by VNA). Longterm: BMI, BP, A1C Within normal limits	In planning / progress.	“Coffee w/ PHN” educational events, planned at CATH and NHA throughout the year. Cholesterol screening 2x/year. BP clinic at NHA (by us) and CATH (by VNA). Targeted campaigns around “topic months” (Feb, June, Oct, Dec)?
Create a formal process for recognizing bystander assistance in SCA	April 2024- June 2024	Public Health Nursing, Fire Department	When the process has been approved for use.	In planning	Create a certificate to use, create process (picture in paper / Town social media, select board notification), potential for annual lunch with survivors, bystanders, first responders?)
Use of social media, town media channels, newspaper, Needham channel to advertise training events, all HEARTSafe activities	July 1, 2023 – June 2024	Public Health Nursing, Epidemiology	Social Media Analytics	Ongoing	3-year HEARTsafe designation by December 2024 (FY25) - need to demonstrate

Resources Required for this Objective

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- Time to make connections with partners, plan and create content. Money for materials (from signs to mannequin supplies and CPR class materials). Money for “coffee with PHN”’s to entice residents to attend. Money for Bystander certificates, AED signs (this AED was used in saving a life), annual lunch/dinner with survivors?
- If we need to increase rates, will need additional funding
- Staff time to research, write materials, present, advocate, lobby

Potential Partners for this Objective

- Needham FIRE, NHA, CATH, NPS, daycares, medical provider offices, MRC, passionate community members. Everyone!
- Town Meeting, Finance Committee
- permanent public building committee (town body)
- Town manager
- Council on Aging
- Contractor to research food ops

Objective 2: By June 2026, NPHD will empower residents to make healthy lifestyle choices by developing and promoting a central resource hub of health-related resources, assets, and services in town and by connecting residents with tools and resources at health events (e.g. fairs), with a focus on access for the most vulnerable populations.

Strategy 3.2.1 Create a central hub for health-related resources, assets, and services in town.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
SOP for migrant families: Write SOP	Feb -April 2024	Emergency Preparedness	Draft SOP	In progress	

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SOP for migrant families: Provide SOP to Tim and Lynn for review	Feb -April 2024	Emergency Preparedness	SOP sent to Tim & Lynn	Not yet started	
SOP for migrant families: Incorporate feedback to make some changes after SOP being reviewed by relevant stakeholders	Feb -April 2024	Emergency Preparedness	SOP ready for approval	Not yet started	
SOP for migrant families: Approval by Tim	April 2024	HHS Director	SOP approved	Not yet started	
One-pager for migrant families: Develop a “welcome” one-pager prepared in different languages that can be distributed to new arrivals	July 2023-April 2024	Emergency Preparedness	Completed	Completed	
One-pager for migrant families: translation to Spanish and Creole	February 2024	Translation service	Receiving translation pages	In Progress	
One-pager for migrant families: Make it available to internal users/staff for use/dissemination to public	April 2024	Emergency Preparedness	Distribute to internal users	In Progress	
Contact Economic Development Manager for list of practitioners in town (physicians, specialists, dental, mental health, urgent care, etc)	February 2024	Epidemiology	List of businesses in town	Not started	

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Identify trails, parks, playgrounds, fields in town and relevant information to be included in site (amenities, parking, etc)	January-February 2024	Epidemiology	List of parks, playgrounds, field in town	In Progress	
Geocode businesses and outdoor resources	January- March 2024	Epidemiology	Excel sheets of geocoded locations for all businesses and resources to be included in site.	In Progress	
Create map layers/map	March-May 2024	Epidemiology	Map layers & Map created	Not started	
Build site	January-May 2024	Epidemiology	ArcGIS StoryMaps site	In Progress	
Publish site (available to public)	May-June 2024	Epidemiology	Published ArcGIS StoryMaps site	Not started	Publicize launch of site; Use Google Analytics or similar site to track visits to site. Maintenance plan – possible yearly review; crosswalk with Economic Development Manager

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Strategy 3.2.2 Provide health events and opportunities to the community, with a focus on access for the most vulnerable populations.

Host "health fairs" at various community locations with access to an interpreter to educate and connect residents to physical and mental health resources		Assistant Directors of Public Health		In Progress	how many health fairs?
Host booths at annual Needham Street Fair, first Saturday in June, and also at the Needham Harvest Fair, first Sunday in October. These annual fairs, presented by the Town of Needham and the Charles River Regional Chamber, showcase Needham-based businesses, and community organizations, which are well attended by the community.	Typically held on Saturday June 3 rd / Sunday Oct. 2 nd	Multiple Public Health Division staff members	Number of pamphlets distributed, etc.	In Progress	Two annually
Provide heart health educational fair.	May 2024	Public Health Nursing	Host fair	Not completed	
Provide cholesterol machine, BP check needs, educational materials	May 2024	Public Health Nursing	Material handed out	In progress	
Coordinate with EH team about healthy food options to discuss/present at fair	March 2024	Assistant Director of Public Health	Held meeting	Not Started	

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Before each event, identify translation needs to give notice to vendor for on-site translator	July 23 - June 24	Assistant Directors of Public Health	On-site translator at event	Ongoing	Vendor Contract already in place – currently working mostly on written materials but offers in-person translation/interpretation; need to provide notice in place for on-site translator
Standardize procedure for identifying translation/interpretation services	June 2024	HHS Director	SOP Created	Not Started	Standardized procedure – advertise events in advance, ensure community reach, build in opportunities to request translation services

Resources Required for this Objective

- Translation and interpretation services - contract
- ArcGIS license
- Staff time
- Vendor contract for the health fair

Potential Partners for this Objective

- Town Economic Development Manager
- Park and Recreation Department
- Needham Housing Authority
- Chamber of Commerce
- Health fair vendor

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- Other Health & Human Services groups (shared space in the past)

Objective 3: From FY24-FY28, NPHD will increase access to disease prevention tools, including transportation to access healthcare, information about food safety practices, education about genetic and lifestyle factors that may improve physical health.

Strategy 3.3.1 Advocate for increased transportation options and promote existing transportation options in town to improve access to health care.

Year 1 Activities <i>What activities are needed to accomplish the strategy in Year 1?</i>	Date Range <i>Set start/end dates for each activity. This should be within one fiscal year.</i>	Lead Contact <i>Who is responsible for the completion of this activity?</i>	Process Indicator(s) <i>How will we know we successfully completed the activity?</i>	Progress Status <i>What is the status of this activity?</i>	Progress Notes & Next Steps <i>Describe progress and next steps beyond Year 1, if applicable.</i>
Connect with Community Council to see what we can promote to residents about their programs to help decrease barriers to healthcare access	March 31, 2024	Public Health Nursing	Held a meeting	Not Started	
Connect with CATH about transportation offerings to help decrease barriers to healthcare access	March 31, 2024	Public Health Nursing	Held a meeting	Not started	Traveling meals included flyers about a Shopping Trip Program at the Center at the Heights (CATH) Aging Services Division, in her Traveling meals bags to her clients. She said that this program

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					offers round-trip rides on Wednesdays and Thursdays to local grocery and convenience stores.
Create handouts to provide to residents with concerns with transportation	April 30 th , 2024	Public Health Nursing	Handouts are complete and available to hand out	Not Started	
Create social media post about transportation offerings from the Community Council, CATH, etc.	April 30 th , 2024	Public Health Nursing, Epidemiology	Social media content is prepared and posted	Not started	Connect with Aging Services Division about transportation offerings
Strategy 3.3.2 Educate and inform the community about food safety practices.					
Revised 2022 policy internally & received approval from BoH on scoring and fining	July 2023	Environmental Health	BoH- approved Revised policy	Complete	
Minor revisions to policy	Nov 2023	Environmental Health	Revised policy	Complete	
Develop pamphlets for the public on food safety	Fall 2023	Environmental Health	Pamphlets developed	Complete	Will do again in FY25

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Distribute at local public venues (I.e., Farmers Markets, June Fair, etc.)	Fall 2023	Environmental Health	Venues shared	Complete	
Education for food establishments of Food Safety Excellence Program	Oct 2023	Environmental Health	Food establishment attendance at trainings	Complete	
Pilot Food Safety Excellence Program with restaurants	Nov 2023 – June 2024	Environmental Health	Participating restaurants	In Progress	
Develop standardized feedback survey for food establishments to provide thoughts on program	Feb 2024	Environmental Health	Results	Not Yet Started	
Working with town economic development manager to promote getting feedback	April - May 2024	Environmental Health	Town Economic Development Manager supporting feedback efforts	In Progress	
Gather feedback from food establishments after each inspection, through survey, through town economic development manager	Nov 2023-June 2024	Environmental Health	Feedback gathered	Not Yet Started	
Use feedback to inform score adjustment if needed and understand if this certificate program will work in Needham	June 2024	Environmental Health	BoH – group discussion on whether this will work in Needham	Not Yet Started	Also happening during pilot, figure out fair scoring

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Post-pilot program feedback from food establishments	June 2024	Environmental Health	Feedback gathered	Not Yet Started	
Inform public - Post food safety and recall info. on social media and on Public Health Division website	June 2024	Environmental Health, Public Health Nursing, Epidemiology	Tracking venues, information channels, PSA video views, reposts	Not Yet started	Additional public information dissemination: July FY25: Do PSA with Needham Cable Channel on food safety related topics. Write articles on food safety and post on Observer or Needham Patch; News to You Needham Newsletter; News e-Needham(?); Would happen after finalization/enaction of certification program Continue to educate the public by developing pamphlets and distributing them at local venues in town. Continue to educate our food establishments on common food safety violations that are observed during our inspections at our

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					annual restaurant forum trainings. Share recorded trainings with the public, etc.
					Activities beyond FY24: Implementation of certificates and fines - Less P, Pf and Core Food Code violations. Higher routine food establishment inspection scores/issuance of Certificate of Excellence for scores >90. Decrease in food establishment related complaints.
Strategy 3.3.3 Provide education to community members about the genetic and lifestyle factors which may improve their physical health, including heart health.					
Identify relevant physical health and wellbeing materials to post on social media accounts	7/1/23-6/30/24	Public Health Nursing, Epidemiology	Posts on Instagram, Facebook, X	In progress	
Post on Instagram, Facebook, X	7/1/23-6/30/24	Public Health Nursing, Epidemiology	Posts on Instagram, Facebook, X	In progress	

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Track analytics on platforms	7/1/23-6/30/24	Public Health Nursing, Epidemiology	Number of interactions (including clicks, likes, comments, etc.)	In progress	

Resources Required for this Objective

- Canva access
- Paper
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Potential Partners for this Objective

- Community Council
- Center at the Heights staff
- Media outlets
- Restaurant/food establishments