



Town of Swampscott Department of Public Works

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Swampscott, Massachusetts 01907
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Gino A. Cresta Jr., Director
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March 1, 2020

Mr. Neil Handler
Senior Enforcement Officer
Water Technical Unit
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

**SUBJECT: Consent Decree Compliance Report
Period 8/1/2019 to 1/31/20**

Dear Mr. Handler:

Pursuant to Paragraph 66 of the Consent Decree between the U.S. EPA and the Town of Swampscott, MA, I am providing the following certification statement with regard to the preparation and submittal of: **Compliance Reporting – Period 8/1/2019 to 1/31/2020**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Gino A. Cresta, Jr.
Director of Public Works



MEMORANDUM

TO: Neil Handler | US EPA

CC: Gino Cresta, Kelly Stevens | Town of Swampscott
Mark Thompson, Cecilia Carmona, Dan Scott | Kleinfelder

FROM: David Peterson | Kleinfelder

DATE: March 01, 2020

**SUBJECT: COMPLIANCE REPORTING - CASE 1:15-CV-13388-DJC
SWAMPSCOTT, MASSACHUSETTS**

Purpose:

This Compliance Report is provided pursuant to Paragraph 33 of the subject Consent Decree between the United States of America and the Town of Swampscott, MA. This report covers the reporting period noted below:

Reporting Period: August 1, 2020 through January 31, 2020
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Through this reporting period, activities primarily included the completion of the construction of the Phase 1B sewer rehabilitation within the Stacy's Brook area and the completion of an Illicit Discharge Detection and Elimination (IDDE) program and preliminary design report (PDR) in areas outside of Stacy's Brook (Article 19 of Consent Decree). The following report summarizes the activities performed during the Reporting Period.

Phase 1B Construction Update

The Phase 1B comprehensive sewer rehabilitation occurred in specific neighborhoods in the Stacy's Brook catchment area, with the majority of the project scope located within the drain catchment that converges at the intersection of Stetson Avenue and Norfolk Avenue. The Town issued Substantial Completion for the Phase 1B construction contract to Rapid Flow on January 21, 2020. The final contract price, including all change orders, is \$1,455,407, which is \$143,677 below the awarded contract price of \$1,599,084. The final quantities for the major sewer rehabilitation items include the cured in place pipe (CIPP) lining of 17,000 linear feet of mainline sewer, CIPP lining of 214 laterals and cementitious lining of 168 manholes and 16 Type 2 underdrain manholes. A comprehensive table of the Phase 1B Contract quantities from the balancing change order is included in Appendix A.



The Town anticipates completing two rounds of wet weather and two rounds of dry weather post construction water quality monitoring in 2020. The water quality monitoring will be performed consistent with the IDDE procedure detailed in the Consent Decree between the Town and the US EPA. The post construction monitoring will be completed in the drainage manhole immediately upstream of the intersection of Stetson Avenue and Norfolk Avenue and at the King's Beach outfall during low tide.

Design of Improvements Beyond Stacy's Brook

In May of 2019, Kleinfelder and the Town began planning an IDDE program to inform a design to remove non-stormwater discharges to the MS4 within areas not tributary to Stacy's Brook. On July 16, 2019, Dan Scott of Kleinfelder submitted to Neil Handler, a memorandum outlining the specific details of the IDDE program. This memorandum is a detailed follow up to the September 29, 2017 memorandum from Kleinfelder to Neil Handler required by paragraph 18 of the Consent Decree.

The IDDE program consisted of sewer, drain and underdrain investigations, water quality testing of drain manholes/outfalls, targeted drain manhole inspections and stormwater quality testing, smoke testing of the drainage system, building inspections/dye testing, and CCTV of sewer and drain mainline CCTV.

During the prior reporting period (ending July 31, 2019), Kleinfelder completed the sewer, drain and underdrain investigations and performed 2 rounds of dry weather and 1 round of wet weather water quality testing of drain manholes/outfalls.

During this reporting period Kleinfelder completed 1 round of dry weather a 1 round of wet weather water quality testing, 7,678 linear feet of smoke testing of the drainage system, 3,071 linear feet of sewer mainline CCTV, 2,263 linear feet of drainage mainline CCTV and the inspection and dye testing of five homes. The IDDE program obtained sufficient information to inform the preliminary and final design for the improvements beyond Stacy's Brook.

The Town will submit the final design of the improvements beyond Stacy's Brook to EPA prior to April 1, 2020



Tracking Data Tables:

In accordance with Paragraph 33 of the Consent Decree, a series of tracking tables are presented furnishing the information requested.

- a) Chronology of SSO Events Occurring during Reporting Period
- b) Catchment Area Inspections completed during Reporting Period
- c) Percentage of Catchment Area Investigated and Addressed
- d) Listing of Illicit Discharges Verified during Reporting Period
 - i) Illicit Connections
 - ii) Sanitary Sewer Defects
- e) Map of Location of Each Illicit Discharge Verified during Reporting Period
- f) Chart of Inspections Completed and Enforcement Actions Taken during Reporting Period
- g) List of Plans, Reports and other Submissions Required by this Consent Decree made during the Reporting Period
- h) Copies of Sampling Results Received during Reporting Period
- i) Planned Activities during the 6 Months Following the Reporting Period
- j) Summary of Non-Compliance with this Consent Decree during the Reporting Period



a) Chronology of SSO Events Occurring during Reporting Period

i.	i.	i.	ii.	iii.	iii.	iii.	iv.	iv.	v.	vi.	vii.	vii.	viii.	ix.	ix.	xi.	xii.
Date/Time Reported	Date/Time Event Stopped	Date Reported to EPA and DEP	Location	Final Disposition	Property Backup (address)	Receiving Drainage Structure	Receiving Surface Water	Location Release Reached Surface Water	Source of Notification	Cause(s) of Release	Cause = Blockage	Cause = Capacity Issue	Measures Take to Stop Discharge	Volume of Release (Gallons)	Basis of Estimate	Measures Taken to Prevent Future SSOs	Date of Last SSO at this Location
8/10/2019 11:30	8/11/2019 13:30	8/12/2019	Intersection of Superior Street and Duncan Terrace	Town jetted main and washed the street.	None	None	None	None	Resident	Blockage in Town side of sewer.	✓	N/A	Town jetted main and washed the street.	50	Visual Estimate	None required, as a point repair was completed.	None Known
9/23/2019 14:30	8/23/2019 17:00	9/24/2019	35 Atlantic Ave - rear	Town contractor jetted line and cut roots from interior of pipe.	None	None	None	None	Resident	Blockage in Town side of sewer.	✓	N/A	Town contractor jetted line and cut roots from interior of pipe.	10	Visual Estimate	Pipe will be re-lined.	None Known

xiii. GIS Map Locating each Illicit Discharge and SSO Event
See attached map in Appendix C



b) Catchment Area Inspections completed during Reporting Period

c) Percentage of Catchment Area Investigated and Addressed

Note that this reporting is in relation to meeting the Remedial Measures stipulated in Section VII of the consent decree. In order to meet the objectives of the consent decree, the Town’s scope of work is not specifically following an IDDE Plan, but rather, is directly following the Remedial Measures themselves, and the Scope of Work for the Stacy’s Brook drainage area that was submitted to the EPA on 10/26/2015.

33.b.i, ii	Sub-Catchment Area ID	Number of Drain Manholes in Sub-Catchment	Number of Drain Manholes Inspected						Number of Drain Manholes Addressed					
			Previous Reporting Periods		This Reporting Period		To-Date		Previous Reporting Periods		This Reporting Period		To-Date	
			QTY	%	QTY	%	QTY	%	QTY	%	QTY	%	QTY	%
1	Stacey's Brook	236	21	9%	0	0%	21	9%	6	3%	0	0%	6	3%
2	Other	372	69	13%	0	0%	69	13%	0	0%	0	0	0	0
		TOTAL	90		0		90		6		0		6	

33.b.iii, 33.c	Sub-Catchment Area ID	Length of Drain in Sub-Catchment	Length of Drain Inspected						Length of Drain Addressed					
			Previous Reporting Periods		This Reporting Period		To-Date		Previous Reporting Periods		This Reporting Period		To-Date	
			FT	%	FT	%	FT	%	FT	%	FT	%	FT	%
1	Stacey's Brook	55,600	21,000	38%	0	0%	21,000	38%	650	1%	0	0%	650	1%
2	Other	95,000	0	0	2,263	2%	0	0	0	0%	0	0	0	0
		TOTAL	21,000		0		23,263		650		0		650	



d) Listing of Illicit Discharges Verified during Reporting Period

									Total Volume Removed (Gallons)							
									Prior Reporting Periods	181,416						
									Reporting Period	87,600						
									Cumulative To Date	269,016						
Discharge Type	Date Verified	Location / Address	SOURCE: Building Type	SOURCE: Sewer Exfiltration	Estimated Flow (GPM)	Actions Taken to Remove	Date Removed	Cost to Remove	Volume Removed (Reporting Period)	Actively Discharging > 60 Days	Explanation	Schedule for Removal	Private Discharges Persisting > 90 days	Town's Legal Enforcement Actions	Reasons for Delay	
Paragraph->	i.	i.	i.	i.	ii.	iii.	iv.	v.	vi.	vii.	vii.	viii.	ix.	ix.	x.	
Sewer Defect	11/22/2019	77 Pine Street	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	11/22/2019	unknown	unknown	No	n/a	completed	No	None	n/a	
Sewer Defect	10/31/2019	133 Puritan Rd	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	2/9/2019	unknown	unknown	No	n/a	completed	No	None	n/a	
Sewer Defect	10/29/2019	3 Phillips Circle	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	10/29/2019	unknown	unknown	No	n/a	completed	No	None	n/a	
Sewer Defect	9/18/2019	47 Prospect Ave	Residential	Sewer Service Repair	not estimated	Private contractor performed repair	9/18/2019	unknown	unknown	No	n/a	completed	No	None	n/a	
Sewer Defect	9/10/2019	Intersection of Marshall St and Puritan Rd	n/a	Leaking Sewer Mainline into Drain Manhole	1 GPM	Private contractor performed repair	12/7/2019	\$25,000	87,600	Yes	Contractor delayed work	Completed	No	None	Contractor delayed work	



e) Map of Location of Each Illicit Discharge Verified during Reporting Period

Illicit discharges reported in Section d) are illustrated on the map in Appendix C.

f) Chart of Inspections Completed and Enforcement Actions Taken during Reporting Period

Number of Routine Inspections	Number of Complaint-Response Related Inspections	Number of Total Construction Inspections
266	1	12

Enforcement Actions Taken (Type)	Enforcement Actions Taken (Number)
Notifications to Property Owner	0
Entry To Perform Duties	0
Penalty (Fines)	0
Orders	0
Civil Relief	0
Town Resolved using own means (no enforcement)	0



g) List of Plans, Reports and other Submissions Required by this Consent Decree made during the Reporting Period

Submission Description	Date Completed	Consent Decree Paragraph Reference
Bi-Annual Progress Report	7/1/2019	33
Annual GIS Mapping Update	2/1/2020	26

h) Copies of Sampling Results Received during Reporting Period

Stormwater water quality sampling from the IDDE project area are provided in Appendix B.

i) Planned Activities during the 6 Months Following the Reporting Period

During the period February 1, 2020 through July 31, 2020 the following activities are anticipated:

- Complete the final design for the areas outside of Stacy’s Brook as referenced in Paragraph 19 of the Town’s Consent Decree and submit to the EPA prior to 4/1/2020. The findings of the IDDE program will be summarized in a preliminary design report.
- Completion of two rounds of wet weather and two rounds of dry weather Phase 1B post construction water quality monitoring in the Spring. The results of the testing will be submitted to the US EPA in the report for this period.

j) Summary of Non-Compliance with this Consent Decree during the Reporting Period

There has been no non-compliance during this report period.

Attachment A
Phase 1B Construction
Quantities Summary

Attachment A - Phase 1B Quantities Summary (Balancing Change Order)

STACEY'S BROOK PHASE 1B - BALANCING CHANGE ORDER

BID ITEM	Description	Unit	Unit Price	Quantity (as Bid)	Quantity (completed)	Quantity (difference)	Value (Contract)	Value (Completed)	Value (difference)
BASE BID									
1	Mobilization/Demobilization	LS	\$23,774.00	1	1	0	\$23,774.00	\$23,774.00	\$0.00
2	Heavy Cleaning 6" to 12" Pipeline	LF	\$3.00	1,700	0	(1,700.00)	\$5,100.00	\$0.00	-\$5,100.00
3A	6" Cured-In-Place Pipeline	LF	\$160.00	100	97	(3.00)	\$16,000.00	\$15,520.00	-\$480.00
3B	8" Cured-In-Place Pipeline	LF	\$23.00	13,480	13,864	384.00	\$310,040.00	\$318,872.00	\$8,832.00
3C	10" Cured-In-Place Pipeline	LF	\$31.00	3,080	2,495	(585.00)	\$95,480.00	\$77,345.00	-\$18,135.00
3D	12" Cured-In-Place Pipeline	LF	\$38.00	700	559	(141.00)	\$26,600.00	\$21,242.00	-\$5,358.00
4	Point Repair within Town Right-of-Way (Mainline and Service Laterals)	EA	\$500.00	30	11	(19.00)	\$15,000.00	\$5,500.00	-\$9,500.00
5	Cutting Intruding Laterals	EA	\$250.00	18	11	(7.00)	\$4,500.00	\$2,750.00	-\$1,750.00
6	Service Lateral Cured-In-Place Pipeline Set-up (first 10 lf)	EA	\$2,000.00	182	202	20.00	\$364,000.00	\$404,000.00	\$40,000.00
7	Service Lateral Cured-In-Place Pipeline	LF	\$50.00	5,500	4,732	(768.00)	\$275,000.00	\$236,600.00	-\$38,400.00
8	Point Repair within Private Property (Service Laterals)	EA	\$500.00	20	1	(19.00)	\$10,000.00	\$500.00	-\$9,500.00
9	Heavy Cleaning of Service Lateral	LF	\$5.60	1,000	5,120	4,120.00	\$5,600.00	\$28,672.00	\$23,072.00
10	Service Lateral Clean Out	EA	\$2,000.00	5	1	(4.00)	\$10,000.00	\$2,000.00	-\$8,000.00
11	Type 2 Underdrain Manhole Rehabilitation	EA	\$300.00	16	16	-	\$4,800.00	\$4,800.00	\$0.00
12A	Manhole Cementitious Lining - Brick	VF	\$120.00	1,100	943	(156.90)	\$132,000.00	\$113,172.00	-\$18,828.00
12B	Manhole Cementitious Lining - Precast	VF	\$120.00	110	71	(38.80)	\$13,200.00	\$8,544.00	-\$4,656.00
12C	Manhole Chimney Seal	EA	\$750.00	153	160	7.00	\$114,750.00	\$120,000.00	\$5,250.00
12D	Inside Drop Manhole Rehabilitation	EA	\$1,500.00	2	0	(2.00)	\$3,000.00	\$0.00	-\$3,000.00
12E	Manhole Frame and Cover - Raise to Grade	EA	\$1,250.00	1	0	(1.00)	\$1,250.00	\$0.00	-\$1,250.00
12F	Sewer Manhole Frame and Cover	EA	\$1,500.00	14	0	(14.00)	\$21,000.00	\$0.00	-\$21,000.00
Subtotals							\$1,599,084.00	\$1,393,407.00	-\$205,677.00
ALTERNATE BID									
A1	Service Lateral Cured-In-Place Pipeline Set-up (first 10 lf)	EA	\$2,000.00	37	-	(37.00)	\$74,000.00	\$0.00	-\$74,000.00
A2	Service Lateral Cured-In-Place Pipeline	LF	\$50.00	1,100	-	(1,100.00)	\$55,000.00	\$0.00	-\$55,000.00
A3	Point Repair within Private Property (Service Laterals)	EA	\$500.00	3	-	(3.00)	\$1,500.00	\$0.00	-\$1,500.00
A4	Point Repair within Town Right-of-Way (Mainline and Service Laterals)	EA	\$500.00	3	-	(3.00)	\$1,500.00	\$0.00	-\$1,500.00
A5	Heavy Cleaning of Service Lateral	LF	\$5.60	150	-	(150.00)	\$840.00	\$0.00	-\$840.00
A6	Sewer Manhole Lining - Brick Manhole	VF	\$120.00	70	59.30	(10.70)	\$8,400.00	\$7,116.00	-\$1,284.00
A7	Manhole Chimney Seal	EA	\$750.00	9	4.00	(5.00)	\$6,750.00	\$3,000.00	-\$3,750.00
Subtotals							\$1,599,084.00	\$1,393,407.00	-\$205,677.00
CHANGE ORDERS									
CO#1	1' CIPP T-Liners	EA	\$1,000.00	5.00	5.00	-	\$5,000.00	\$5,000.00	\$0.00
CO#3	1' CIPP T-Liners	EA	\$1,000.00	7.00	7.00	-	\$7,000.00	\$7,000.00	\$0.00
CO#5	Manhole Bench and Invert Rehabilitation	EA	\$2,000.00	7.00	7.00	-	\$14,000.00	\$14,000.00	\$0.00
CO#5	Lateral Lining from Inside Home (Cleanout)	EA	\$3,000.00	10.00	10.00	-	\$30,000.00	\$30,000.00	\$0.00
CO#6	Lateral Lining from Inside Home (Cleanout)	EA	\$3,000.00	2.00	2.00	-	\$6,000.00	\$6,000.00	\$0.00
Subtotals							\$62,000.00	\$62,000.00	\$0.00
TOTAL							\$1,661,084.00	\$1,455,407.00	\$205,677.00

Original Contract	\$1,599,084.00
Approved COs	\$62,000.00
<i>Subtotal: Contract Price w/ COs</i>	<i>\$1,661,084.00</i>
Completed Contract Value	\$1,455,407.00
Balancing Value	(\$205,677.00)

Attachment B
Stormwater Water Quality
Testing Results



ANALYTICAL REPORT

Lab Number:	L1935170
Client:	Kleinfelder One Beacon Street Suite 8100 Boston, MA 02108
ATTN:	Doris Jenkins
Phone:	(617) 497-7800
Project Name:	SWAMPSCOTT
Project Number:	Not Specified
Report Date:	08/19/19

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

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

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



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1935170-01	KLF-1-SB	WATER	Not Specified	08/07/19 08:55	08/07/19
L1935170-02	KLF-1-ABSB	WATER	Not Specified	08/07/19 07:30	08/07/19
L1935170-03	KLF-3-ABSB	WATER	Not Specified	08/07/19 09:40	08/07/19
L1935170-04	KLF-4-SB	WATER	Not Specified	08/07/19 09:16	08/07/19
L1935170-05	KLF-4-ABSB	WATER	Not Specified	08/07/19 10:50	08/07/19
L1935170-06	KLF-5-ABSB	WATER	Not Specified	08/07/19 10:10	08/07/19

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Case Narrative

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

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

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

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

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

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

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Case Narrative (continued)

Report Submission

August 19, 2019: This final report includes the results of all requested analyses.


August 13, 2019: This is a preliminary report.

Enterococcus

L1935170-05: The result is estimated due to the elevated concentration in the sample. Due to the expiration of the method required holding time, re-analysis could not be performed.

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 08/19/19

INORGANICS & MISCELLANEOUS

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935170-01
Client ID: KLF-1-SB
Sample Location: Not Specified

Date Collected: 08/07/19 08:55
Date Received: 08/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	5000		col/100ml	100	--	100	-	08/07/19 14:50	23,1600	JT



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935170-02
Client ID: KLF-1-ABSB
Sample Location: Not Specified

Date Collected: 08/07/19 07:30
Date Received: 08/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	240		col/100ml	10	--	10	-	08/07/19 14:50	23,1600	JT



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935170-03
Client ID: KLF-3-ABSB
Sample Location: Not Specified

Date Collected: 08/07/19 09:40
Date Received: 08/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	940		col/100ml	9.0	--	9	-	08/07/19 14:50	23,1600	JT
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.111		mg/l	0.075	--	1	08/08/19 05:15	08/08/19 21:39	121,4500NH3-BH	AT
Surfactants, MBAS	ND		mg/l	0.050	--	1	08/08/19 04:30	08/08/19 07:17	121,5540C	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	107.		mg/l	2.50	--	5	-	08/12/19 19:58	44,300.0	AT



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935170-04
Client ID: KLF-4-SB
Sample Location: Not Specified

Date Collected: 08/07/19 09:16
Date Received: 08/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	420		col/100ml	10	--	10	-	08/07/19 14:50	23,1600	JT



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935170-05
Client ID: KLF-4-ABSB
Sample Location: Not Specified

Date Collected: 08/07/19 10:50
Date Received: 08/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	>20000		col/100ml	100	--	100	-	08/07/19 14:50	23,1600	JT
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	1.35		mg/l	0.075	--	1	08/08/19 05:15	08/08/19 21:40	121,4500NH3-BH	AT
Surfactants, MBAS	0.050		mg/l	0.050	--	1	08/08/19 04:30	08/08/19 07:18	121,5540C	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	1120		mg/l	50.0	--	100	-	08/13/19 00:47	44,300.0	AT



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935170-06
Client ID: KLF-5-ABSB
Sample Location: Not Specified

Date Collected: 08/07/19 10:10
Date Received: 08/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	220		col/100ml	10	--	10	-	08/07/19 14:50	23,1600	JT
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.107		mg/l	0.075	--	1	08/08/19 05:15	08/08/19 21:41	121,4500NH3-BH	AT
Surfactants, MBAS	ND		mg/l	0.050	--	1	08/08/19 04:30	08/08/19 07:19	121,5540C	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	54.8		mg/l	2.50	--	5	-	08/12/19 20:17	44,300.0	AT



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-06 Batch: WG1269681-1										
ENTEROCOCCUS	ND		col/100ml	1.0	--	1	-	08/07/19 14:50	23,1600	JT
General Chemistry - Westborough Lab for sample(s): 03,05-06 Batch: WG1269937-1										
Surfactants, MBAS	ND		mg/l	0.050	--	1	08/08/19 04:30	08/08/19 07:13	121,5540C	MA
General Chemistry - Westborough Lab for sample(s): 03,05-06 Batch: WG1270300-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	08/08/19 05:15	08/08/19 21:24	121,4500NH3-BH	AT
Anions by Ion Chromatography - Westborough Lab for sample(s): 03,05-06 Batch: WG1271890-1										
Chloride	ND		mg/l	0.500	--	1	-	08/12/19 18:15	44,300.0	AT

Lab Control Sample Analysis Batch Quality Control

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
General Chemistry - Westborough Lab Associated sample(s): 03,05-06 Batch: WG1269937-2								
Surfactants, MBAS	90		-		65-126	-		
General Chemistry - Westborough Lab Associated sample(s): 03,05-06 Batch: WG1270300-2								
Nitrogen, Ammonia	107		-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 03,05-06 Batch: WG1271890-2								
Chloride	95		-		90-110	-		

Matrix Spike Analysis Batch Quality Control

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03,05-06 QC Batch ID: WG1269937-4 QC Sample: L1935270-01 Client ID: MS Sample												
Surfactants, MBAS	ND	0.4	0.380	95	-	-	-	-	52-157	-	-	32
General Chemistry - Westborough Lab Associated sample(s): 03,05-06 QC Batch ID: WG1270300-4 QC Sample: L1935359-01 Client ID: MS Sample												
Nitrogen, Ammonia	2.88	4	6.49	90	-	-	-	-	80-120	-	-	20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 03,05-06 QC Batch ID: WG1271890-3 QC Sample: L1934319-16 Client ID: MS Sample												
Chloride	4.29	4	8.02	93	-	-	-	-	90-110	-	-	18

Lab Duplicate Analysis

Batch Quality Control

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03,05-06 QC Batch ID: WG1269937-3 QC Sample: L1935270-01 Client ID: DUP Sample						
Surfactants, MBAS	ND	ND	mg/l	NC		32
General Chemistry - Westborough Lab Associated sample(s): 03,05-06 QC Batch ID: WG1270300-3 QC Sample: L1935359-01 Client ID: DUP Sample						
Nitrogen, Ammonia	2.88	2.96	mg/l	3		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 03,05-06 QC Batch ID: WG1271890-4 QC Sample: L1934319-16 Client ID: DUP Sample						
Chloride	4.29	4.29	mg/l	0		18

Project Name: SWAMPSCOTT**Lab Number:** L1935170**Project Number:** Not Specified**Report Date:** 08/19/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1935170-01A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-01B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-02A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-02B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-03A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-03B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-03C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		CL-300(28)
L1935170-03D	Plastic 500ml H2SO4 preserved	A	<2	<2	5.3	Y	Absent		NH3-4500(28)
L1935170-03E	Plastic 950ml unpreserved	A	7	7	5.3	Y	Absent		MBAS-5540(2)
L1935170-04A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-04B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-05A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-05B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-05C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		CL-300(28)
L1935170-05D	Plastic 500ml H2SO4 preserved	A	<2	<2	5.3	Y	Absent		NH3-4500(28)
L1935170-05E	Plastic 950ml unpreserved	A	7	7	5.3	Y	Absent		MBAS-5540(2)
L1935170-06A	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-06B	Bacteria Cup Na2S2O3 preserved	A	NA		5.3	Y	Absent		ENTRO-MF(.33)
L1935170-06C	Plastic 120ml unpreserved	A	7	7	5.3	Y	Absent		CL-300(28)
L1935170-06D	Plastic 500ml H2SO4 preserved	A	<2	<2	5.3	Y	Absent		NH3-4500(28)
L1935170-06E	Plastic 950ml unpreserved	A	7	7	5.3	Y	Absent		MBAS-5540(2)

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

GLOSSARY

Acronyms

- DL** - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- EDL** - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
- EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD** - Laboratory Control Sample Duplicate: Refer to LCS.
- LFB** - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LOD** - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- LOQ** - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- MDL** - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
- MSD** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NDPA/DPA** - N-Nitrosodiphenylamine/Diphenylamine.
- NI** - Not Ignitable.
- NP** - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
- RL** - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
- SRM** - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
- STLP** - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
- TEF** - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
- TEQ** - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
- TIC** - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

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

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935170
Report Date: 08/19/19

REFERENCES

- 23 Method 1600: Membrane Filter Test Method for Enterococci in Water, EPA-821-R-97-004a, May 1997.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

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

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

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

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

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

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

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

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

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

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

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

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

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

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

Mansfield Facility:

Drinking Water

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

EPA 522.

Non-Potable Water

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

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

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE _____ OF _____

Date Rec'd in Lab: 8/7/19

ALPHA Job #: 11935170

8 Walkup Drive
Westboro, MA 01581
Tel: 508-896-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Swampscott

Project Location:

Project #:

Project Manager:

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due:

Report Information - Data Deliverables

ADEx EMAIL

Billing Information

Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

Client Information

Client: Kleinfelder

Address: 1 Beacon St
Boston MA

Phone:

Email: djenkins@kleinfelder.com

Additional Project Information:

ANALYSIS		SAMPLE INFO
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8	
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	
PCB: <input type="checkbox"/> PEST	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	
<u>Enterococcus</u>		
<u>Surfactants</u>		
<u>Chlorine</u>		
<u>Ammonia</u>		
Sample Comments		
TOTAL # BOTTLES		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
35170-01	KLF-1-SB	8/7/19	8:55		DJ
-02	KLF-1-ABSB	8/7/19	7:30		DJ
-03	KLF-3-ABSB	8/7/19	9:40		DJ
-04	KLF-4-SB	8/7/19	9:16		DJ
-05	KLF-4-ABSB	8/7/19	10:50		DJ
-06	KLF-5-ABSB	8/7/19	10:10		DJ

Container Type	Preservative
P= Plastic	A= None
A= Amber glass	B= HCl
V= Vial	C= HNO ₃
G= Glass	D= H ₂ SO ₄
B= Bacteria cup	E= NaOH
C= Cube	F= MeOH
O= Other	G= NaHSO ₄
E= Encore	H= Na ₂ S ₂ O ₃
D= BOD Bottle	I= Ascorbic Acid
	J= NH ₄ Cl
	K= Zn Acetate
	O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
<u>T. Hurd</u>	8/7/19 10:50	<u>T. Hurd</u>	8/7/19 10:50
<u>T. Hurd</u>	8/7/19 12:00	<u>[Signature]</u>	8/7/19 12:00

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



ANALYTICAL REPORT

Lab Number:	L1935270
Client:	Kleinfelder One Beacon Street Suite 8100 Boston, MA 02108
ATTN:	Doris Jenkins
Phone:	(617) 497-7800
Project Name:	SWAMPSCOTT
Project Number:	Not Specified
Report Date:	08/19/19

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

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

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



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1935270-01	KLF-7-ABSB	WATER	Not Specified	08/07/19 12:40	08/07/19

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

Case Narrative

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

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

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

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

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

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

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

Case Narrative (continued)

Report Submission

August 19, 2019: This final report includes the results of all requested analyses.

August 13, 2019: This is a preliminary report.

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

Authorized Signature:  Kelly Stenstrom

Title: Technical Director/Representative

Date: 08/19/19

INORGANICS & MISCELLANEOUS

Project Name: SWAMPSCOTT

Project Number: Not Specified

Lab Number: L1935270

Report Date: 08/19/19

SAMPLE RESULTS

Lab ID: L1935270-01

Client ID: KLF-7-ABSB

Sample Location: Not Specified

Date Collected: 08/07/19 12:40

Date Received: 08/07/19

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	76		col/100ml	2.0	--	2	-	08/07/19 18:35	23,1600	CW
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	0.159		mg/l	0.075	--	1	08/08/19 17:05	08/08/19 20:48	121,4500NH3-BH	AT
Surfactants, MBAS	ND		mg/l	0.050	--	1	08/08/19 04:30	08/08/19 07:19	121,5540C	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	51.6		mg/l	2.50	--	5	-	08/12/19 20:26	44,300.0	AT



Project Name: SWAMPSCOTT

Lab Number: L1935270

Project Number: Not Specified

Report Date: 08/19/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1269792-1										
ENTEROCOCCUS	ND		col/100ml	1.0	--	1	-	08/07/19 18:35	23,1600	CW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1269937-1										
Surfactants, MBAS	ND		mg/l	0.050	--	1	08/08/19 04:30	08/08/19 07:13	121,5540C	MA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1270103-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	08/08/19 17:05	08/08/19 20:43	121,4500NH3-BH	AT
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1271890-1										
Chloride	ND		mg/l	0.500	--	1	-	08/12/19 18:15	44,300.0	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: SWAMPSCOTT

Project Number: Not Specified

Lab Number: L1935270

Report Date: 08/19/19

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1269937-2								
Surfactants, MBAS	90		-		65-126	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1270103-2								
Nitrogen, Ammonia	102		-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1271890-2								
Chloride	95		-		90-110	-		

Matrix Spike Analysis Batch Quality Control

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1269937-4 QC Sample: L1935270-01 Client ID: KLF-7-ABSB												
Surfactants, MBAS	ND	0.4	0.380	95	-	-	-	-	52-157	-	-	32
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1270103-4 QC Sample: L1935201-01 Client ID: MS Sample												
Nitrogen, Ammonia	ND	4	3.47	87	-	-	-	-	80-120	-	-	20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1271890-3 QC Sample: L1934319-16 Client ID: MS Sample												
Chloride	4.29	4	8.02	93	-	-	-	-	90-110	-	-	18

Lab Duplicate Analysis

Batch Quality Control

Project Name: SWAMPSCOTT

Project Number: Not Specified

Lab Number: L1935270

Report Date: 08/19/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1269937-3 QC Sample: L1935270-01 Client ID: KLF-7-ABSB						
Surfactants, MBAS	ND	ND	mg/l	NC		32
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1270103-3 QC Sample: L1935201-01 Client ID: DUP Sample						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1271890-4 QC Sample: L1934319-16 Client ID: DUP Sample						
Chloride	4.29	4.29	mg/l	0		18

Project Name: SWAMPSCOTT

Project Number: Not Specified

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1935270-01A	Bacteria Cup Na2S2O3 preserved	A	NA		2.6	Y	Absent		ENTRO-MF(.33)
L1935270-01B	Bacteria Cup Na2S2O3 preserved	A	NA		2.6	Y	Absent		ENTRO-MF(.33)
L1935270-01C	Plastic 120ml unpreserved	A	7	7	2.6	Y	Absent		CL-300(28)
L1935270-01D	Plastic 500ml H2SO4 preserved	A	<2	<2	2.6	Y	Absent		NH3-4500(28)
L1935270-01E	Plastic 950ml unpreserved	A	7	7	2.6	Y	Absent		MBAS-5540(2)

Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

GLOSSARY

Acronyms

- DL** - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- EDL** - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
- EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCSD** - Laboratory Control Sample Duplicate: Refer to LCS.
- LFB** - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LOD** - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- LOQ** - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
- MDL** - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
- MSD** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NDPA/DPA** - N-Nitrosodiphenylamine/Diphenylamine.
- NI** - Not Ignitable.
- NP** - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
- RL** - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
- SRM** - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
- STLP** - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
- TEF** - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
- TEQ** - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
- TIC** - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

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

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name: SWAMPSCOTT
Project Number: Not Specified

Lab Number: L1935270
Report Date: 08/19/19

REFERENCES

- 23 Method 1600: Membrane Filter Test Method for Enterococci in Water, EPA-821-R-97-004a, May 1997.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

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

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

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

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

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

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

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

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

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

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

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

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

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

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

Mansfield Facility:

Drinking Water

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

EPA 522.

Non-Potable Water

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

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

EPA 245.1 Hg.

SM2340B

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



ANALYTICAL REPORT

Lab Number:	L1939330
Client:	Kleinfelder One Beacon Street Suite 8100 Boston, MA 02108
ATTN:	Doris Jenkins
Phone:	(617) 497-7800
Project Name:	1B ABSB
Project Number:	Not Specified
Report Date:	09/06/19

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

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

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



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939330-01	KLF-1-ABSB	WATER	SWAMPSCOTT	08/29/19 08:30	08/29/19
L1939330-02	KLF-3-ABSB	WATER	SWAMPSCOTT	08/29/19 10:05	08/29/19
L1939330-03	KLF-4-ABSB	WATER	SWAMPSCOTT	08/29/19 11:45	08/29/19
L1939330-04	KLF-5-ABSB	WATER	SWAMPSCOTT	08/29/19 11:22	08/29/19
L1939330-05	KLF-6-ABSB	WATER	SWAMPSCOTT	08/29/19 10:52	08/29/19

Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

Case Narrative

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

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

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

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

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

Authorized Signature:

 Lisa Westerlind

Title: Technical Director/Representative

Date: 09/06/19

INORGANICS & MISCELLANEOUS

Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939330-01
Client ID: KLF-1-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 08:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	270		col/100ml	10	--	10	-	08/29/19 16:25	23,1600	CW



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939330-02
Client ID: KLF-3-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 10:05
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	9300		col/100ml	100	--	100	-	08/29/19 16:25	23,1600	CW



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939330-03
Client ID: KLF-4-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 11:45
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	5500		col/100ml	100	--	100	-	08/29/19 16:25	23,1600	CW



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939330-04
Client ID: KLF-5-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 11:22
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	1600		col/100ml	10	--	10	-	08/29/19 16:25	23,1600	CW



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939330-05
Client ID: KLF-6-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 10:52
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	14000		col/100ml	100	--	100	-	08/29/19 16:25	23,1600	CW



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-05 Batch: WG1278421-1									
ENTEROCOCCUS	ND	col/100ml	1.0	--	1	-	08/29/19 16:25	23,1600	CW

Project Name: 1B ABSB**Lab Number:** L1939330**Project Number:** Not Specified**Report Date:** 09/06/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939330-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-02A	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-02B	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-03A	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-03B	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-04A	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-04B	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-05A	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)
L1939330-05B	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		ENTRO-MF(.33)

Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

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

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name: 1B ABSB
Project Number: Not Specified

Lab Number: L1939330
Report Date: 09/06/19

REFERENCES

- 23 Method 1600: Membrane Filter Test Method for Enterococci in Water, EPA-821-R-97-004a, May 1997.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

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

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

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

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

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

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

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

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

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

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

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

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

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

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

Mansfield Facility:

Drinking Water

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

EPA 522.

Non-Potable Water

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

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

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE _____ OF _____

8 Walkup Drive
Westboro, MA 01581
Tel: 508-698-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-622-9300

Date Rec'd in Lab: 8/29/19

ALPHA Job #: L1939330

Project Information

Project Name: **IB ABSB**
Project Location: **SWAMPSCOTT**

Report Information - Data Deliverables

ADEx EMAIL

Billing Information

Same as Client info PO #:

Client Information

Client: **Kleinfelder**
Address: **1 Beacon Suite 8100
Boston, MA**

Project #:
Project Manager:
ALPHA Quote #:

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program _____ Criteria _____

Phone:

Email: **djenkins@kleinfelder.com**

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

ANALYSIS	VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	TOTAL # BOTTLES
	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8 <input type="checkbox"/> PP13	SAMPLE INFO
	EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	
VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	<input type="checkbox"/> PCB <input type="checkbox"/> PEST	Filtration
	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	<input type="checkbox"/> Field
ENTEROCOCCUS		<input type="checkbox"/> Lab to do
		Preservation
		<input type="checkbox"/> Lab to do
		Sample Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
39330-01	KLF-1-ABSB	8/29/19	8:30		DJ
02	KLF-3-ABSB	8/29/19	10:05		DJ
03	KLF-4-ABSB	8/29/19	11:45		DJ
04	KLF-5-ABSB	8/29/19	11:22		DJ
05	KLF-6-ABSB	8/29/19	10:52		DJ

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type
Preservative

Relinquished By: <i>Dana Jones</i>	Date/Time 12:05 8/29/19 1315	Received By: <i>Mary Blum</i>	Date/Time 8/29/19 1205 8/29/19 1315
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All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



ANALYTICAL REPORT

Lab Number:	L1939440
Client:	Kleinfelder One Beacon Street Suite 8100 Boston, MA 02108
ATTN:	Doris Jenkins
Phone:	(617) 497-7800
Project Name:	IDDE ABSB
Project Number:	Not Specified
Report Date:	09/06/19

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

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

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



Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939440-01	KLF-7-ABSB	WATER	SWAMPSCOTT	08/29/19 14:06	08/29/19
L1939440-02	KLF-8-ABSB	WATER	SWAMPSCOTT	08/29/19 13:30	08/29/19

Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

Case Narrative

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

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

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

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

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

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

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

Authorized Signature:

 Lisa Westerlind

Title: Technical Director/Representative

Date: 09/06/19

INORGANICS & MISCELLANEOUS

Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939440-01
Client ID: KLF-7-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 14:06
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	1300		col/100ml	10	--	10	-	08/29/19 18:20	23,1600	CW



Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

SAMPLE RESULTS

Lab ID: L1939440-02
Client ID: KLF-8-ABSB
Sample Location: SWAMPSCOTT

Date Collected: 08/29/19 13:30
Date Received: 08/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
ENTEROCOCCUS	3100		col/100ml	100	--	100	-	08/29/19 18:20	23,1600	CW



Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-02 Batch: WG1278433-1										
ENTEROCOCCUS	ND		col/100ml	1.0	--	1	-	08/29/19 18:20	23,1600	CW

Project Name: IDDE ABSB
Project Number: Not Specified

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939440-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.5	Y	Absent		ENTRO-MF(.33)
L1939440-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.5	Y	Absent		ENTRO-MF(.33)
L1939440-02A	Bacteria Cup Na2S2O3 preserved	A	NA		3.5	Y	Absent		ENTRO-MF(.33)
L1939440-02B	Bacteria Cup Na2S2O3 preserved	A	NA		3.5	Y	Absent		ENTRO-MF(.33)

Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report



Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

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

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: Data Usability Report



Project Name: IDDE ABSB
Project Number: Not Specified

Lab Number: L1939440
Report Date: 09/06/19

REFERENCES

- 23 Method 1600: Membrane Filter Test Method for Enterococci in Water, EPA-821-R-97-004a, May 1997.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

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

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

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

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

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

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

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

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

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

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

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

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

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

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

Mansfield Facility:

Drinking Water

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

EPA 522.

Non-Potable Water

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

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

EPA 245.1 Hg.

SM2340B

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

Attachment C
Illicit Discharge and SSO
Overview Map



LEGEND

DATE

- ★ SSO Locations
- ★ Illicit Discharge Locations
- ▲ MS4 Outfall
- Catch Basin
- Drain Manhole
- Drain Culvert
- Drain Pipe
- Underdrain Manhole
- Sewer Manhole
- ⊕ Sewer Pump Station
- Sewer - Gravity
- - - Sewer - Force Main
- Under Drains

303d Listed Waters

- ▨ Fish Consumption, Not Supporting
- ▨ Shellfish Harvesting, Not Supporting
- Water Bodies
- Parcels
- ⊔ Town Borders



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	PROJECT NO. 20203446	ATTACHMENT C
	DRAWN: 2/28/2020	
	DRAWN BY: DS	EPA Consent Decree Swampscott, Massachusetts
	CHECKED BY: DTP	
	FILE NAME: Compliance Reporting	